UNIVERSITY OF CENTRAL FLORIDA
1986 • CATALOG • 1987
PEGASUS was the winged horse of the muses in Greek Mythology. He carried their hopes, their aspirations, and their poetry into the skies. PEGASUS is as futuristic as tomorrow's space exploration in our solar system and into the universe beyond. The seal also bridges the gap between the humanities and space technology.

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This public document was promulgated at an annual cost of $1.10 per copy to acquaint the student with the program of study and the cost of attending the university.
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Vice President for Research and Dean of Graduate Studies .......... Louis M. Trefonas
Associate Dean of Graduate Studies ................................ Roger Handberg
Assistant Vice President and Director for Research .................. Joan Burr
## Office of the Vice President for Student Affairs

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<td>LeVester Tubbs</td>
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<td>Assistant Vice President</td>
<td>Kenneth Lawson</td>
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<td>Carol P. Wilson</td>
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<td>Assistant Dean of Student Services</td>
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<td>Christopher McCray</td>
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<td>Loren Knutson</td>
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## Office of University Relations

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<td>Tom Watkins</td>
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<td>Patrick J. Powers</td>
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### COLLEGES, DEPARTMENTS AND PROGRAMS

#### College of Arts and Sciences

- **Dean**: Jack B. Rollins
- **Associate Dean**: TBA
- **Assistant Dean**: TBA
- **Director, OASIS**: Judith Boyte
- **Coordinator, Preprofessional Programs**: Orville Berringer
- **Chair, Art**: Maude S. Wahlman
- **Chair, Biological Sciences**: Franklin Snelson
- **Chair, Chemistry**: Guy C. Mattson
- **Chair, Communication**: Raymond W. Buchanan, Jr.
- **Chair, Computer Science**: Amar Mukherjee
- **Chair, English**: Stuart Omans
- **Chair, Foreign Languages**: Armando Payas
- **Chair, History**: Jerrell H. Shofner
- **Chair, Humanities, Philosophy and Religion**: Paul E. Riley
- **Chair, Mathematics**: Lokenath Debnath
- **Chair, Music**: Bruce A. Whisler
- **Acting Chair, Physics**: William C. Oelfke
- **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.

#### College of Business Administration

- **Dean**: Clifford L. Eubanks
- **Associate Dean**: TBA
- **Assistant Dean**: Wade R. Kilbride
- **Director, School of Accounting**: Henry R. Anderson
- **Chair, Economics**: Brian Rungeling
- **Chair, Finance**: David R. Klock
- **Chair, Hospitality Management**: Abraham Pizam
- **Chair, Management**: Halsey R. Jones
- **Chair, Marketing**: TBA
College of Education

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Assistant Dean .................................................. Patricia E. Higginbotham
Chair, Instructional Programs .............................. Robert D. Martin
Chair, Educational Services ................................. John W. Powell
Chair, Educational Foundations .............................. William K. Esler

College of Engineering

Dean .............................................................. Robert D. Kersten
Associate Dean ................................................... George F. Schrader
Assistant Dean ...................................................... Bruce E. Mathews
Assistant Dean ...................................................... J. Paul Hartman
Chair, Civil Engineering and Environmental Sciences ................................ David R. Jenkins
Chair, Computer Engineering ................................. Christian S. Bauer
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Chair, Mechanical Engineering & Aerospace Sciences ................................ Stephen L. Rice
Chair, Engineering Technology ............................... Richard G. Denning

College of Health

Dean .............................................................. Ronald M. Gerughty
Assistant Dean ...................................................... TBA
Chair, Communicative Disorders ............................. David Ratusnik
Director, Medical Record Administration .................. L. Kuyper
Director, Medical Laboratory Sciences ...................... Marilyn Kangelos
Chair, Nursing ...................................................... Jean Kijek
Director, Radiologic Sciences ................................... Thomas Edwards III
Director, Cardiopulmonary Sciences ........................... J. Stephen Lytle
SUMMER SEMESTER 1986

JANUARY 31  Last Day for receipt of applications and required supporting documents from International Students
MARCH 28  Last day for receipt of regular undergraduate and graduate applications and required supporting materials
APRIL 11  Last day for receipt of readmission applications
MAY 5 (9:00 am)  Residence Halls open for Summer Semester
MAY 5-7  Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised
MAY 6  Advisement of current and former students not pre-advised
MAY 7  *Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments.
MAY 8  Classes begin for Summer Semester
MAY 9  Registration deadline for CLAST to be given June 7, 1986 at designated locations
MAY 13  Last day to adjust class schedule (end of Add/Drop).
MAY 13  Last Day to submit Grade Forgiveness Request.
MAY 13  Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed.
MAY 13  Last day for refund.
MAY 14  Only day to submit audit request
MAY 21  Last day to apply for graduation for those completing requirements end of Summer Semester
MAY 26  Memorial Day Holiday (University-wide)
MAY 27  Classes resume
JUNE 5  Last day for removing temporary student status
JUNE 7  CLAST examination given at designated locations
JUNE 7  Graduate Record Exam (General only) (at designated examination centers).
          Registration for examination must be made 4 weeks prior to this date.
JUNE 13  Deadline for withdrawal. Last day to withdraw from a course or the University.
JUNE 20 (3:30 pm)  Residence Halls close for Summer "A" residents ("A" term residents must vacate residence halls)
JUNE 23 (9:00 am)  Residence Halls open for Summer "B" residents ("A" term residents must vacate residence halls)
JULY 4  Independence Day Holiday (University-wide)
JULY 7  Classes resume
JULY 16  Last day to remove an "I" earned last semester
AUGUST 2  Classes end for Summer Semester. Final exam given at discretion of instructor

MAY 1986
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JUNE 1986
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JULY 1986
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20 21 22 23 24 25 26
27 28 29 30 31

11
AUGUST 2 (3:00 pm) Residence Halls close (All residents must vacate residence halls)

AUGUST 2 Commencement

AUGUST 4 (NOON) Grades due in Registrar’s Office

*If you plan to register at an area campus, the registration ointment time on your appointment time card is valid. Registration hours at area campuses may differ from the Orlando Campus registration hours. Please check the schedules printed and distributed by each area campus (Brevard, Daytona Beach and South Orlando) for additional registration information related to courses offered at those sites.
### SUMMER "A" TERM 1986

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<td>Last day to apply for graduation for those completing requirements end of Summer Semester</td>
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<td>JUNE 20</td>
<td>End of Summer &quot;A&quot; Term, classes and exams</td>
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<td>JUNE 20 (3:00 pm)</td>
<td>Residence Halls close for Summer &quot;A&quot; residents (&quot;A&quot; term residents must vacate residence halls)</td>
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<tr>
<td>JUNE 23 (NOON)</td>
<td>Grades due in Registrar's Office</td>
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*If you plan to register at an area campus, the registration appointment time on your appointment time card is valid. Registration hours at area campuses may differ from the Orlando Campus registration hours. Please check the schedules printe and distributed by each area campus (Brevard, Daytona Beach and South Orlando) for additional registration information related to courses offered at those sites.
SUMMER "B" TERM 1986

MARCH 18
Last day for receipt of applications and required supporting documents from International Students

MAY 2
Last day for receipt of regular undergraduate and graduate applications and required supporting materials

MAY 23
Last day for receipt of readmission applications

JUNE 17-19
Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised

JUNE 18
Advisement of current and former students not pre-advised

JUNE 19
*Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment.

JUNE 23
Classes begin for Summer "B" Term

JUNE 23 (9:00 am)
Residence Halls open for Summer "B" Term residents

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

JUNE 25
Last day to submit Grade forgiveness Request.

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

JUNE 25
Last day for refund.

JUNE 26
Only day to submit audit request

JUNE 27
Last day to apply for graduation for those completing requirements the end of summer semester

JULY 4
Independence Day Holiday (University-wide)

JULY 7
Classes resume

JULY 11
Deadline for withdrawal for Summer "B" Term students only. Last day to withdraw from a course or the University.

JULY 16
Last day to remove an "I" earned last semester.

JULY 21
Last day for removing temporary student status

AUGUST 2
End of Summer "B" Term, classes and exams

AUGUST 2 (3:00 pm)
Residence Halls close (All residents must vacate residence halls)

AUGUST 2
Commencement

AUGUST 4 (NOON)
Grades due in Registrar's Office
*If you plan to register at an area campus, the registration appointment time on your appointment time card is valid. Registration hours at area campuses may differ from the Orlando Campus registration hours. Please check the schedules printed and distributed by each area campus (Brevard, Daytona Beach South Orlando) for additional registration information related to courses offered at those sites.
MAY 5  Last day for receipt of applications and required supporting documents from International Students
MAY 15  Last day for receipt of applications and available supporting documents from beginning freshmen and other freshmen and sophomore transfers. (Students with less than 60 semester hours)
MAY 9    Registration deadline for CLAST to be given June 7, 1986 at designated locations.
JUNE 7   Graduate Record Exam (at designated Examination Centers)
JUNE 7   CLAST examination given at designated locations
JUNE 16  Last day for receipt of application for junior and senior undergraduate and graduate applications and require supporting materials.
JULY 21  Last day for receipt of readmission applications
AUGUST 17 Residence Halls open for Fall Semester
AUGUST 18-22 Orientation and advisement for new freshmen and transfer students not pre-advised
AUGUST 18-22 Advisement of current and former students not pre-advised
AUGUST 18-22 *Registration by appointment for the following student classifications: Graduate, current undergraduate, readmitted undergraduate, new undergraduate and post-baccalaureate. Faculty and staff will register following the above appointments. Registration will close after the last appointment.
AUGUST 25 Classes begin for Fall Semester
AUGUST 26  Last day to adjust class schedule (end of Add/Drop)  Exception: Adjustments can be made for evening classes meeting first time Wed. or Thurs. (see Class Schedule)
AUGUST 26  Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed
AUGUST 28  Last day to submit Grade Forgiveness Request
AUGUST 29  Last day for refund
AUGUST 29  Registration deadline for CLAST to be given September 27, 1986 at designated locations.
AUGUST 29  Only day to submit audit request
SEPTEMBER 1 Labor Day Holiday (University-wide)
SEPTEMBER 2 Classes resume
SEPTEMBER 5  Last day to apply for graduation for those completing requirements end of Fall Semester
SEPTEMBER 26 Last day for removing temporary student status
SEPTEMBER 27  CLAST examination given at designated locations
OCTOBER 11  Graduate Record Exam (at designated examination centers). Registration for examination must be made 4 weeks prior to this date.
OCTOBER 17  Deadline for withdrawal. Last day to withdraw from a course or the University.
OCTOBER 24  Homecoming Celebration. Classes are not scheduled from 12 noon to 3:00 p.m.
OCTOBER 24-26 Homecoming Weekend

SEPTEMBER 1986 |
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NOVEMBER 11  Veterans' Day Holiday (University-wide)
NOVEMBER 12  Classes resume
NOVEMBER 21  Last day to remove an “I” earned lasts semester
NOVEMBER 27-28  Thanksgiving Holidays (University-wide)
DECEMBER 1  Classes Resume
DECEMBER 12  Classes end for Fall Semester
DECEMBER 13  Graduate Record Exam (at designated examination centers).
               Registration for examination must be made 4 weeks
               prior to this date.
DECEMBER 15-20(NOON)  Final Examination period
DECEMBER 19  Commencement
DECEMBER 19 (3:00 p.m.)  Residence Halls close (Residents must vacate residence
               halls. Returning residents may leave possessions in Spring
               Semester room assignment)
DECEMBER 22 (NOON)  Grades due in Registrar’s Office
DECEMBER 22  Christmas Holidays begin (students)
               "If you plan to register at an area campus, the registration
               appointment time on your appointment time card is valid.
               Registration hours at area campuses may differ from the
               Orlando Campus registration hours. Please check the
               schedules printed and distributed by each area campus
               (Brevard, Daytona Beach South Orlando) for additional
               registration information related to courses offered at
               those sites.

NOVEMBER 1986

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16
SPRING SEMESTER 1987

OCTOBER 3
Last day for receipt of applications and required supporting documents from International Students

NOVEMBER 14
Last day for receipt of regular undergraduate and graduate applications and required supporting materials

DECEMBER 12
Last day for receipt of readmission applications

JANUARY 1 (NOON)
Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised

JANUARY 2
*Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments.

JANUARY 5
Classes begin for Spring Semester

JANUARY 6
Last day to adjust class schedule (end of Add/Drop) Exception: Adjustments can be made for evening classes meeting first time Wed. or Thurs. (see Class Schedule)

JANUARY 6
Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed.

JANUARY 8
Last day to submit Grade Forgiveness Request

JANUARY 9
Last day for refund

JANUARY 9
Only day to submit audit request

JANUARY 19
Martin Luther King Day. Classes dismissed 11:00 a.m. to 1:00 p.m.

JANUARY 16
Last day to apply for graduation for those completing requirements end of Spring Semester

FEBRUARY 2
Last day for removing temporary student status

FEBRUARY 7
Graduate Record Exam (at designated examination centers). Registration for examination must be made 4 weeks prior to this date.

FEBRUARY 13
Registration deadline for CLAST to be given March 14, 1987 at designated locations.

FEBRUARY 27
Deadline for withdrawal. Last day to withdraw from a course or the University.

MARCH 14
CLAST examination given at designated locations

MARCH 16-20
Spring Holidays

MARCH 23
Classes resume

APRIL 6
Last day for removing an “I” earned last semester

APRIL
Graduate Record Exam (at designated examination centers). Registration for examination must be made 4 weeks prior to this date.

APRIL 22
Classes end for Spring Semester

APRIL 23-29
Final Examination period

MAY 1
Commencement

MAY 1
Academic year ends

MAY 1 (3:00 p.m.)
Residence Halls close for Spring Semester (Summer residents must move to Summer room assignment)

JANUARY 1987

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Grades due in Registrar's Office

*If you plan to register at an area campus, the registration appointment time on your appointment time card is valid. Registration hours at area campuses may differ from the Orlando Campus registration hours. Please check the schedules printed and distributed by each area campus (Brevard, Daytona Beach and South Orlando) for additional registration information related to courses offered at those sites.
SUMMER SEMESTER 1987

JANUARY 30
Last day for receipt of applications and required
supporting documents from International Students

MARCH 27
Last day for receipt of regular undergraduate and graduate
applications and required supporting materials

APRIL 10
Last day for receipt of readmission applications

MAY 4-6
Orientation and advisement for new freshmen and transfer
students, and advisement for readmitted students not
pre-advised

MAY 4 (9:00 a.m.)
Residence Halls open for Summer Semester

MAY 5
Advisement for current and former students not pre-advised

MAY 6
Registration by appointment for new and readmitted
graduate, post-baccalaureate, undergraduate students.
Student registration will close following the last
appointment. Faculty and staff will register following
the above appointments.

MAY 7
Classes begin for Summer Semester

MAY 7
Last day to adjust class schedule (end of Add/Drop)

MAY 7
Last day to submit Grade Forgiveness Request

MAY 7
Last day for late registration (late registration runs
concurrently with Add/Drop). A $25 late fee will be assessed.

MAY 7
Last day for refund

MAY 8
Registration deadline for CLAST to be given June 6, 1987 at
designated locations.

MAY 8
Only day to submit audit request

MAY 20
Last day to apply for graduation for those completing
requirements end of Summer Semester

MAY 25
Memorial Day Holiday (University-wide)

MAY 26
Classes resume

JUNE 4
Last day for removing temporary student status

JUNE 6
CLAST examination given at designated locations

JUNE 6
Graduate Record Exam (General Only) at designated
examination centers. Registration for examination must
be made 4 weeks prior to this date.

JUNE 12
Deadline for withdrawal. Last day to withdraw from a
course or the University.

JUNE 19 (3:30 p.m.)
Residence Halls close for Summer "A" residents
("A" term residents must vacate residence halls)

JUNE 22 (9:00 a.m.)
Residence Halls open for Summer "B" residents

JULY 3
Independence Day Holiday (University-wide)

JULY 6
Classes resume

JULY 15
Last day for removing an "I" earned last semester

JULY 31
Classes end for Summer Semester. Final exam given at
discretion of instructor.

JULY 31 (3:00 p.m.)
Residence Halls close (All residents must vacate
residence halls)

JULY 31
Commencement
Grades due in Registrar's Office

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SUMMER "A" TERM 1987

JANUARY 30
Last day for receipt of applications and required supporting documents from International Students

MARCH 27
Last day for receipt of regular undergraduate and graduate applications and required supporting materials

APRIL 10
Last day for receipt of readmission applications

MAY 4 (9:00 a.m.)
Residence Halls open for Summer "A" term.

MAY 4-6
Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised

MAY 5
Advisement for current and former students not pre-advised

MAY 6
*Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments.

MAY 7
Classes begin for Summer "A" Term

MAY 7
Last day to adjust class schedule (end of Add/Drop).

MAY 7
Last day to submit Grade Forgiveness Request

MAY 7
Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed.

MAY 7
Last day for refund

MAY 8
Registration deadline for CLAST to be given June 6, 1987 at designated locations.

MAY 8
Only day to submit audit request

MAY 20
Last day to apply for graduation for those completing requirements end of Summer Semester

MAY 25
Memorial Day Holiday (University-wide)

MAY 26
Classes resume

MAY 27
Deadline for withdrawal. Last day to withdraw from a course or the University.

JUNE 4
Last day for removing temporary student status

JUNE 6
CLAST examination given at designated locations

JUNE 19
End of Summer "A" Term, classes and exams

JUNE 19 (3:00 p.m.)
Residence Halls close for Summer "A" residents ("A" term residents must vacate residence halls)

JUNE 22 (NOON)
Grades due in Registrar’s Office

*If you plan to register at an area campus, the registration appointment time on your appointment time card is valid. Registration hours at area campuses may differ from the Orlando Campus registration hours. Please check the schedules printed and distributed by each area campus (Brevard, Daytona Beach South Orlando) for additional registration information related to courses offered at those sites.
SUMMER "B" TERM 1987

MARCH 13
Last day for receipt of applications and required supporting documents from International Students

MAY 1
Last day for receipt of regular undergraduate and graduate applications and required supporting materials

MAY 22
Last day for receipt of readmission applications

JUNE 16-18
Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised

JUNE 17
Advisement of current and former students not pre-advised

JUNE 18
*Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment.

JUNE 22
Classes begin for Summer "B" Term

JUNE 22 (9:00 a.m.)
Residence Halls open for Summer "B" residents.

JUNE 22
Last day to adjust class schedule (end of Add/Drop).

JUNE 22
Last day to submit Grade Forgiveness Request

JUNE 22
Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed.

JUNE 22
Last day for refund

JUNE 23
Only day to submit audit request

JUNE 26
Last day to apply for graduation for those completing requirements at the end of Summer "B" term.

JULY 3
Independence Day Holiday (University-wide)

JULY 6
Classes resume

JULY 10
Deadline for withdrawal for Summer "B" Term students only. Last day to withdraw from a course or the University.

JULY 15
Last day to remove an "I" earned last semester

JULY 20
Last day for removing temporary student status

JULY 31
End of Summer "B" Term, classes and exams

JULY 31 (3:00 p.m.)
Residence Halls close (All residents must vacate residence halls)

JULY 31
Commencement

AUGUST 3 (NOON)
Grades due in Registrar's Office

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ACADEMIC CLASSIFICATION
ACADEMIC MATTERS/COUNSELING
ACADEMIC STATUS
ADD/DROP
ADDRESS CHANGE
ADMISSIONS STANDARDS COMMITTEE
APPLICATION FOR A.A. DEGREE
AUDIT A CLASS
BOARD ROOM (President's)
BOOKS, SUPPLIES, & SUNDRY ITEMS
CAMPUS TOURS (By Appt.)
CASH A CHECK
CATALOGS
CERTIFICATION OF ENROLLMENT:
INTERNATIONAL STUDENTS
GOOD STUDENT DISCOUNT
FINANCIAL AID & LOANS
CHANGE OF MAJOR
CHECKING ACCOUNT
CLAST TEST
CLEP TEST
COOPERATIVE EDUCATION
& PLACEMENT
COUNSELING:
ADMISSIONS
CAREER
PERSONAL
RELIGIOUS
CREDIT BY EXAMINATION
DECALS (PARKING)
DISCOUNT TICKETS
EMERGENCIES:
AUTOMOBILE
MEDICAL
STUDENT LOANS
EXTENDED STUDIES
FINANCIAL AID
FLORIDA RESIDENT AFFADAVIT
FRATERNITIES
GORDON RULE
GRADE FORGIVENESS
GRADUATE ADMISSIONS-LIAISONS
GRADUATION
HANDICAPPED STUDENTS
HEALTH INSURANCE
HELP WITH READING, SPEECH
OR HEARING
"HOLD" CLEARANCES
HOUSING APPLICATION/PROBLEM
INFORMATION CONCERNING I.D. CARDS
INTENT TO GRADUATE FORMS
INTERNATIONAL STUDENTS
Registrar AD 1st Floor x2531
Academic Advisor (Degree Program Advisor) x2531
Registrar AD 1st Floor x2531
(or Academic Advisor in College) x2531
Registrar/Records (See Class Schedule
for dates for current term) x2531
Registrar/Records AD 1st Floor x2531
Admissions AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
(See catalog & class schedule) x2531
AD 3rd Floor x2531
Bookstore, Student Services x2355
Undergraduate Studies AD 210 x2231
Bookstore, Student Services x2355
Bookstore, Student Services x2355
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Present Department x2531
Credit Union AD 395 x2855
Undergraduate Studies AD 210 x2691
Counseling & Testing Center x2811
AD 145 x2811
AD 124 x2361
Admissions AD 1st Floor x2511
Counseling & Testing Center/ Placement Office AD 145 x2811
Counseling & Testing Center x2811
AD 145 x2811
Campus Ministry SC 208 x2468
Dept. Chairman within appropriate College x2468
Police Department x2422
Student Government SC 200 x2060
Student Government SC 200 x2060
Police Department x2422
Police Department x2422
Financial Aid AD 120 x2060
AD 397 x2123
AD 120 x2827
AD 397 x2123
AD 120 x2827
Admissions AD 1st Floor x2511
Student Affairs AD 282 x2177
Undergraduate Studies AD 210 x2691
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Handicapped Student Coordinator AD 282 x2371
Student Health Center x2701
Instructional Resources LIB 10 x5489
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
International Student Services AD 225 x2337
INTRAMURALS
LEISURE PROGRAMS
LIBERAL STUDIES PROGRAM
LOST AND FOUND
MEDICAL WITHDRAWAL
MINORITY STUDENT SERVICES
NAME CHANGE
ORIENTATION
OVERRIDES FOR REGISTRATION

PARKING DECALS
PAY UNIVERSITY BILL
PROBLEMS REGARDING PAYMENT
READMISSION APPLICATION
REAL ESTATE COURSE
SCHOLARSHIPS

SENIOR CITIZEN FEE WAIVER
SORORITIES
STUDENT CENTER
ROOM RESERVATIONS
STUDENT EMPLOYMENT

STUDY SKILLS
SUMMER CREDIT WAIVER
TESTING: SAT, ACT, MCAT, GRE, GMAT
TICKETS: ATHLETIC
THEATRE, ETC.
TIME SHORTENED DEGREE PROGRAM
TRAFFIC VIOLATIONS
TRANSCRIPTS:
  ACADEMIC (official & unofficial)
  FINANCIAL AID
  TRANSFER HOURS SENT TO UCF
  REQUESTS SENT FROM UCF
TRANSPORT
OUTGOING
INCUMING

VEHICLE REGISTRATION
VETERANS BENEFITS
WITHDRAWAL FROM COURSES
OR UNIVERSITY
CAN'T FIND AN ANSWER?

Recreational Services RS 101 x2408
Student Center x2117
AD 374 x2351
Student Center 198 x2117
Undergraduate Studies AD 210 x2691
AD 225 x2716
Registrar/Records AD 1st Floor x2531
Student Center x2117
Chairman of Dept. offering course and
  College designated representative
  Police Department x2422
  Cashier's Office AD 110 x2881
  Student Accounts AD 110 x2881
  Admissions AD 1st Floor x2511
  Real Estate Institute AD 398-A x2126
  Financial Aid AD 120 x2827
  or College of your major
  Registrar/Records AD 1st Floor x2531
  Student Affairs AD 282 x2177
  Student Center x2117
  Co-op & Placement AD 124 x2361
  Financial Aid AD 120 x2827
  Undergraduate Studies AD 210 x2691
  Undergraduate Studies AD 210 x2691
  Counseling & Testing AD 145 x2811
  Athletic Ticket Office x2663
  Student Government SC x2191
  Academic Affairs AD 374 x2351
  University Police PD x2424
  Registrar/Records AD 1st Floor x2531
  Financial Aid AD 120 x2827
  Admissions AD 1st Floor x2511
  Registrar/Records AD 1st Floor x2531
  Registrar/Records AD 1st Floor x2531
  Admissions AD 1st Floor x2511
  University Police PD x2424
  Veterans Affairs SC 132 x2707
  Registrar/Records AD 1st Floor x2531
  Dean of Students AD 282 x2851

24
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 local and international constituents through its quest for new knowledge, for 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. Its 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. It 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 one 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.

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

THE CAMPUS

The campus of UCF, located 13 miles east of downtown Orlando, consists of 1227 acres of land; much of which is covered with pine, palm, cypress, cedar, and oak trees. Lake Claire, covering 40 acres and Lake Lee, covering 14 acres, contribute to the natural beauty
of the campus. Since campus construction began in 1966, approximately $85 million has been invested in facilities and equipment including the library, classroom buildings, laboratories, residence halls, and student facilities. The childcare center was built with funds contributed through the Edyth Bush Charitable Foundation of Winter Park and UCF Student Government. Recreational facilities include lighted tennis and handball courts, a flag football-soccer field, a swimming pool, a golf driving range with putting greens, volleyball courts, and a baseball field. The campus currently serves approximately 16,000 students.

Residence halls can accommodate up to 900 students on campus. There are single, double, and triple room arrangements, but most of them are for double room assignments. 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 basically 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. There are laundry facilities, vending machines and common social/study lounges for resident students. About half of the resident facilities are reserved for women and half for men. For more detailed information please write to 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. (See following sections on Brevard, Daytona Beach and South Orlando Campuses.)

**UCF BREvard Campus**

Director: Robert W. Westrick
BCC/UCF Lifelong Learning Center
1519 Clearlake Road
Cocoa, FL 32922
(305) 632-4127

The University of Central Florida in Brevard is housed in a new $4.8 million 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 Degree are able to select from more than a dozen baccalaureate programs offered by the University in Brevard. All newly admitted or currently enrolled UCF students may also register in selected upper division elective courses. In addition, graduate courses are offered in a number of career areas.
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. Information concerning the campus and program offerings may be obtained by consulting the Admissions Office at the University of Central Florida Brevard.

UCF DAYTONA BEACH CAMPUS
Director: Harold E. Green
215 South Clyde Morris Boulevard
Daytona Beach, Florida 32014
(904) 255-7423

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 courses for students who have completed baccalaureate degrees in Education and Engineering. Upon completion in January, 1987, a new $3.8 million joint-use facility on the Daytona Beach Community College campus, in Daytona Beach, is scheduled to become the base of operation for UCF in Volusia County. The completion of this new facility will allow for 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, baccalaureate degree programs are available in Criminal Justice, Business Administration, Elementary Education, Vocational/Technical Education, Nursing, and Liberal Studies, plus graduate programs in Engineering and Education. In addition, newly admitted or currently enrolled UCF students may register in selected upper division courses.

For additional information consult the UCF Daytona Beach campus.
At the University of Central Florida South Orlando Campus students may choose upper or lower division required courses, as well as selected electives, in all programs of study and courses in Vocational Education and Graduate Engineering. SOC is conveniently located and easily accessible; therefore, for some students it may be possible to reach SOC in less time than the main campus. Schedules are arranged to provide opportunity for full-time enrollment and are published in the student newspaper, the FUTURE. Students may register by phone in advance of each term.

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, there are a number of scientific, professional, and academic bodies conferring accreditation in specific disciplines and groups of disciplines. Currently, the following areas have been approved by the agencies indicated. 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 level 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 Engineering and Technology (ABET). 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 of Selected Educational Institutions with the
highest level of credit acceptability. This handbook is published by the American Association of Collegiate Registrars and Admission Officers, and it lists the acceptability of transfer credits based upon the reporting institutions in the states, commonwealths, territories, and selected international institutions.

**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 10 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.

**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 a 50-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 for the advancement of the University of Central Florida and its objectives.

**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. For current submission guidelines, write to Director, UCF Press, English Dept., 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 LIBRARIES**

**Director:** Anne Marie Allison, LR 512, Phone 275-2564
**Associate Director:** Orlyn B. LaBrake, LR 512, Phone 275-2564
**Professional Staff:** Elaine T. Bazzo, Norris Bazemore, Carol Cubberley, David Feinberg, Elba Growdahl, Margaret A. Hogue, Mary Helen Howard, Phyllis J. Hudson, Betty Lawrence, Chang C. Lee, Laurie S. Linsley, Elizabeth W. Lloyd, Cheryl G. Mahan, Peter C. Rossi, Margaret Scharf, Marilyn Snow, Norbert St. Clair, June S. Stillman, Jeanette Ward.

The University Library is housed in a new facility of 200,200 square feet. A collection of over 500,000 volumes with approximately 4,400 subscriptions (journals, newspapers and other serials) is available on open shelves for students and faculty. Catalog and circulation records for these materials are available in an on-line computer system, so that library users can determine if the UCF Library owns a particular item, its location, if it is available on the shelf, or if checked out, when it's due back. Copies of the catalog are also available on microfiche.

During the school term the 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, its materials, and services. Arrangements may 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.
Special services are provided for the handicapped. The microfiche catalog is made available to mobility-impaired students attending UCF and they may check out microfiche readers for home use. Using the microfiche catalog, or computer terminal with a modem, students can determine the books they need, and a call to the library will bring books to them at a convenient location on campus. The library has a kurtzwell reading machine and will instruct students 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.

There are small collections at the University's campuses in Daytona Beach and South Orlando. Subjects covered in these collections vary depending on the courses offered at each center. Students at the Brevard Campus receive a full range of library services from the Brevard Community College library. Access to the main library collection is available from all branch campus locations through dial-up terminals and/or microfiche copies of the catalog. These catalogs and a courier service give students and faculty access to the full collections of the main library.

INSTRUCTIONAL RESOURCES
Director: Robert L. Arnold, LR 107, Phone 275-2571
Associate Director: David W. Retherford

The primary purpose of Instructional Resources is to improve instruction. To meet both the academic and administrative needs of the University, Instructional Resources provides the faculty with graphic, photographic, radio and television production; a full range of audio visual 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 and the Listening Lab, Cable TV-Channel 35, and WUCF-FM.

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.

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

UNIVERSITY BOOKSTORE
The University Bookstore, located in the Student Services Building, is a complete "one stop" facility for students to secure textbooks, supplemental books, supplies, gifts, and other items of interest to UCF students.
INTRODUCTION
We use the term "student affairs" collectively to refer to the 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-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, financial aid, health services, International student services, recreational services, cooperative education, 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.

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

HOUSING POLICY
I. Regularly enrolled single students paying registration fees for a minimum of nine (9) semester hours may apply for assignment to University residential units. Because of the limited amount of space in University housing facilities (480 spaces for females and 419 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 fifty percent (50%) 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 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 READ CAREFULLY the application before submitting it to the Housing Office along with the Letter of Acceptance to the University and the $150.00 prepayment.

II. 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.

III. Applicants have the option of choosing one of several Meal Plan programs available at the University. Specific information concerning University Meal Plans is available from SAGA Corporation, P. O. Box 26029, U.C.F., 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, U.C.F., Orlando, FL 32816.

INTERNATIONAL STUDENT SERVICES
The International Student Office serves as a clearing-house for international education affairs, and as a focal point for exchange student/scholar concerns. Its central role is to assist F-1 students and J-1 scholars in their adjustment to the changing lifestyle and study habits in order to achieve their educational goals and gain a meaningful living experience in the United States. A wide range of special services are 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 community visits. Further information may be obtained from the International Office, Administration Building Suite 225. Telephone: (305) 275-2337.

OFFICE OF AREA CAMPUS AND EVENING STUDENT SERVICES

Evening/Weekend and Area Campus Student Services is responsible for the administrative supervision of student affairs functions for all University students taking evening and weekend (Saturday) classes. The office coordinates the evening schedule for services provided by other units within the University. Information on various University services are disseminated to evening and weekend students. Counseling and referrals are utilized in assisting evening/weekend students in resolving problems and/or concerns. The office also coordinates the Area Campus programs to ensure student services are provided and communication between the campuses are maintained. The Evening/Weekend and Area Campus office (AD 282) hours are from:

8:00 am to 9:00 pm           Monday through Thursday
8:00 am to 5:00 pm           Friday
9:00 am to 12:00 noon        Saturday

STUDENT HEALTH SERVICES

In recognition of the increasing importance of lifestyle in the development of disease, the Student Health Service is extending its commitment to caring for the students of the University of Central Florida. Quality care for illness and accidents will be teamed with an aggressive health education and lifestyle enhancement program. Our goal, then, is a balanced set of priorities between medical care and health promotion leading to a healthy university community.

The Student Health Center (SHC) is staffed by medical doctors, a physician's assistant, nurses, pharmacists, technicians, and a complete support system. In addition, there is a Student Wellness Advocate Team to further enhance the health promotion efforts of the SHC.

By Board of Regents regulation, each student must have a health history form on file with the University in order to complete registration. This information is used for background
purposes in providing medical care services. 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 Compensation cases). Blood is available under most circumstances. Blood drives are held several times annually.

Medical records are naturally held in the strictest confidence. Health insurance may be purchased by students through student government. For information about options, call the SHC at 275-2701. When the SHC is not convenient, open or otherwise convenient, feel free to utilize the assistance of the University Police.

Lifestyle is a major factor in the advent of injury, accident, and illness. Therefore, caring for student health problems, the well established goal at most universities, is broadly interpreted at UCF. We believe that the best care giving is assisting students not to get hurt or become ill in the first place. Specifically, we believe in the value of enabling students to become acquainted with and enamored of a wellness lifestyle as a bonus dimension to the quality care provided for medical problems at the SHC.

The University of Central Florida cares about the health status and the health potential of its students. It is prepared to assist students to become masters of their own well being and as physically and psychologically well as possible.

**STUDENT FINANCIAL AID**

**GENERAL INFORMATION**

The Office of Financial Aid (AD 120) provides assistance to students who would otherwise be unable to attend college. Financial Aid is awarded according to each individual's need in relation to college costs. Awards may include grants, loans, scholarships and/or part-time employment.

The application process varies according to the type of aid; i.e., whether or not the program requires evidence of financial need. All students are required to complete an Institutional Aid Application. Transfer students are also required to provide a financial aid transcript for each institution previously attended. Students should apply as soon after January 1 as possible. The priority application deadline is April 1. Applications completed after April 1 are accepted contingent upon the availability of funds.

**I. PROGRAMS BASED ON FINANCIAL NEED**

- NATIONAL DIRECT STUDENT LOAN
- PELL GRANT (FORMERLY BASIC EDUCATIONAL OPPORTUNITY GRANT)
- FLORIDA STUDENT ASSISTANCE GRANT
- COLLEGE WORK-STUDY PROGRAM
- FLORIDA COLLEGE CAREER WORK-STUDY PROGRAM (STATE OF FLORIDA)
- GUARANTEED STUDENT LOAN

To qualify for these programs students must complete an Institutional Aid Application as well as an application establishing financial need. Acceptable needs applications are the American College Testing Family Financial Statement (FFS) or College Scholarship Service Financial Aid Form (FAF). Student applying for PELL GRANT ONLY may use the Federal Aid Application. A copy of the student's 1040 or appropriate tax forms should be submitted to the University Financial Aid Office.

**II. PROGRAMS NOT EXCLUSIVELY BASED ON NEED**

- OTHER PERSONAL SERVICES (part-time employment through individual departments)
- SHORT-TERM LOAN
- NON-FLORIDA TUITION WAIVERS (apply directly to the College of your major)
- INSTITUTIONAL WORK STUDY

**III. SCHOLARSHIPS**

Scholarships are awarded to individuals according to their academic achievement. Financial need may be used as an additional criterion.

Scholarships are available from community colleges, the State of Florida, and the University. Students should pursue all possibilities on an individual basis.

**IV. GRADUATE AID**

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

Programs requiring evidence of financial need will be awarded after the April 1 deadline. Student's file must be complete before awards are made. An official award notice is sent to eligible applicants indicating award amounts and terms of disbursement. The original should be signed by the recipient indicating acceptance and returned to the Financial Aid Office. The student copy should be retained by the student.

VI. FUND DISBURSEMENT

Funds for most programs are disbursed through the Net Check System. Funds due to students are credited to individual accounts, all debts are deducted and the balance due along with a summary of the transactions is forwarded to the students by mail.

For the Guaranteed Student Loans, Plus Loans, Short Term Loans are not included in the Net Checking System. Checks for these programs may be picked up at the Cashier's Office.

VII. ACADEMIC PROGRESS

Section 132 of the Federal Higher Education Amendments of 1976 requires the University to define and enforce standards for satisfactory academic progress. Students receiving aid from Federal, State or Institutional sources must conform to the University's definition of satisfactory progress, regardless of whether the student has previously received Financial Aid.

To receive and maintain financial aid, the undergraduate student must:

Maintain a UCF 2.0 grade point average.
Complete an average of 12 hours (full-time), 9 hours (three-quarter time), or 6 hours (half-time) per semester.

Complete the Bachelor's degree in the equivalent of 10 full-time semesters.
Transfer students with an Associate of Arts degree or 70 semester hours will be given 6 semesters to complete a Bachelor's degree.

To receive and maintain financial aid, the graduate student must:

Maintain a UCF 3.0 grade point average and complete at least 9 hours per semester.

Complete the Master's degree in 5 semesters (if attending full-time).

Note: Incompletes, withdrawals, and/or audits are not considered completed hours.

Failure to maintain academic progress as specified will result in permanent cancellation of the student's Financial Aid. Reinstatements are granted on the basis of extenuating circumstances. Decisions concerning academic progress are made by designated Aid Administrators and/or the Financial Aid Committee. For further information, please contact the Student Financial Aid Office.

It is the responsibility of the student to read and understand these policies.

CAREER RESOURCE CENTER

CAREER PLANNING AND PLACEMENT

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

All students are invited to take advantage of the career counseling services offered by the Center, and to avail themselves of full-time, off-campus, part-time, and summer employment opportunities. CHOICES, a computerized guidance system, is also available. This is a valuable tool to assist in making career decisions.

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

Co-op students alternate semesters of classroom study with equal periods of paid employment in government, industry, or business. The work assignments provide qualified students an opportunity to gain career experience in their major fields of study on job locations that extend not only throughout Florida but also nationwide.
For further information contact Career Resource Center, University of Central Florida, Orlando, Florida 32816, Suite 124, Administration Building. Telephone (305) 275-2361 or (305) 275-2314.

UNIVERSITY COUNSELING AND TESTING CENTER
The University Counseling and Testing Center (AD 145) offers a professional staff of psychologists and counselors to assist students in educational, vocational and career counseling; and personal, social, relationship, marriage and family counseling.

The Center administers the national testing programs: GRE, LSAT, GMAT, 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, relaxation and coping skills, marital enrichment, self-hypnosis training, consciousness growth groups, race relations and RET groups, stress reduction and assertiveness training workshops. All Center services are free to UCF students.

ACADEMIC PEER ADVISEMENT
The Academic Peer Advisement Team consists of fifty 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, Administration Building, Room 145, 275-2811.

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

STUDENT GOVERNMENT
The purpose of the Student Government is to represent student opinion; advance the cause of students both socially and academically; promote communication, cooperation and understanding among students and to administer Activity and Service fees. Student Government represents students' needs and concerns at the state and federal level.

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: executive, legislative, and judicial. The executive branch is headed by an elected student body president and vice president; the student senate (legislative branch) is composed of representatives of every college; and the Judicial Council (judicial branch) protects the rights of the Student Body. In addition to these offices, there are many openings available for appointed offices or on Student Government committees. By active participation in Student Government, or by voicing opinions and ideas through representative legislators, a student may gain valuable experience in the democratic processes—its freedoms and responsibilities. Students interested in working with the Student Government may obtain information from the Student Government offices located in the Student Center. Student Government has many services available to students including discount movie and dinner theatre tickets, babysitting referral, consumer affairs, carpool, and legal aid.

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, Veteran’s Affairs, Campus Ministries, Interfraternity Council, and Panhellenic Council.

Other facilities include three food service operations, auditorium, conference and meeting rooms, game room, information desk and lounges.

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 as necessary refer students to specialized, professional services. In addition, the Deans supervise the student disciplinary process. The Deans are the primary contact 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 are included in this handbook. Copies may be obtained from the Student Center or from the Office of the Dean of Students.

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

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

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

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

A person using a TDD (Telecommunications Device for the Deaf) can secure information from Handicapped Student Services by phoning (305) 275-2116 (TDD calls only).

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

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

CLASSROOM RESPONSIBILITY
Students are responsible for maintaining a classroom decorum appropriate to the educational environment. When the conduct of a student or group of students varies from acceptable standards to such an extent it becomes disruptive to the 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 who applies for admission to UCF and who is involved in an offense resulting in criminal charges may have circumstances of the case reviewed by the appropriate Student Affairs administrator to consider the eligibility for enrollment and the student's standing within the University if enrolled.

CONFIDENTIALITY OF STUDENT RECORDS

The practices and procedures at the University of Central Florida for the confidentiality of and access to student records are based upon State regulations and the federal Family Educational Rights and Privacy Act of 1974. Students who have questions concerning the confidentiality of records or desire to have their records held more confidential than regular procedures indicate, should check with the Office of the Dean of Students. Details of the University practices for confidentiality are presented in The Golden Rule.

OFFICE OF VETERANS' AFFAIRS

The Office of Veterans' Affairs (SC 132) is a "one stop" center for students who are utilizing VA educational benefits in order to further their education. The Office has a professional staff augmented by student veterans to assist in providing information concerning entitlements, filing claims to the Veterans Administration, and certifying enrollment at the University. The Office also provides counseling for personal and academic 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 twelve (12) semester hours for fulltime VA benefits, nine (9) semester hours for three-fourths benefits, and six (6) semester hours for half-time benefits. Five (5) 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 criteria as undergraduates. Veterans and eligible dependents who are fully accepted in a graduate degree-seeking program are required to carry six (6) semester hours in courses numbered 5000 and above for full-time benefits, four (4) to five (5) semester hours in courses numbered 5000 and above for three-fourths benefits, and three (3) semester hours in courses numbered 5000 and above for one-half time benefits.

Veterans and eligible dependents intending to dual enroll at UCF and at 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 their program of study regardless of their GPA or eligibility for graduation.

Veterans and eligible dependents on co-op status may choose to draw VA benefits for their period of eligibility as follows.

1. The Institutional
   Those selecting educational assistance in this program receive their VA benefits monthly during on-campus enrollment semesters. VA benefit eligibility ceases during off-campus co-op semesters unless concurrent credit hour enrollment is maintained.

2. The Cooperative
   Those choosing this program receive VA educational assistance at the co-op rate. This rate does not extend eligibility time, and pays approximately 80 percent of the

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entitled monthly VA benefits during both on-campus enrollment semesters and off-campus co-op semesters without concurrent credit hour enrollment. In this program, enrollment for at least 12 credit hours during on-campus semesters is required.

RECREATIONAL SERVICES

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

The services provided include intramural sports leagues and tournaments, summer co-rec leagues, organized recreation and fitness programs, unstructured open recreation, sports-related special events, and community-wide tournaments. Equipment is available for check-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 you with complete information on our programs. Stop by the Office of Recreational Services located next to the pool or call 275-2408.
ADMISSION PROCEDURES

APPLICATION FOR ADMISSION

HOW TO APPLY: An applicant should complete the State University System application for admission. A $15 non-refundable application fee must be included with the application. Official transcript(s) from each educational institution attended must be forwarded directly from each institution to the Admissions Office. Students are encouraged to apply several months in advance, and applications will be accepted up to a year prior to the start of the term desired. The application deadline for each term is approximately eight weeks prior to the start of the term. Please consult the college calendar for the exact date. Applications should be mailed to the Admissions Office, University of Central Florida, Orlando, FL 32816.

The University encourages applications from qualified applicants 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. 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 TOEFL score is 550.

3. A satisfactory conduct record.

NOTE: The 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.

It should be understood 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. Under Board of Regents policy, the University may admit students to any semester as exceptions to the minimum requirements. The Admissions Office and/or the Admissions and Standards Committee are responsible for the admission of undergraduate students under this policy.

RECORDS DEADLINE—Supporting Documents

All supporting admissions documents (e.g., transcripts and test scores not recorded on official transcripts) should be received by the Admissions Office no later than 15 days preceding the first day of classes. In some cases applicants may be allowed to register on a temporary basis (without all records) assuming it can be determined from available records or consultation with the students that they are admissible.

RECORDS—Validity of Documents

All supporting admissions documents must be received directly from the issuing institution or testing agency and if the University finds that an applicant has made a false or fraudulent statement or a deliberate omission on his application, residency affidavit, health report, or any accompanying document or statement, that applicant may be denied admission. Should the student be enrolled when such fraud is discovered, he may be immediately withdrawn (with no refund), further enrollment denied, and credit earned and any degree based upon such credit invalidated.

MEDICAL HISTORY REPORT

All new students must furnish Medical History Reports on the approved University health form before registration will be allowed. The Medical History Report form will be mailed to the applicant with receipt for the Application for Admission. The Medical History report should be returned to the Admissions Office.
FRESHMAN APPLICANTS (First College Attended)

Eligibility is subject to satisfactory receipt and review of all items requested in the admissions process. All applicants must have earned a minimum 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.

<table>
<thead>
<tr>
<th>Area</th>
<th>1986-67</th>
<th>1987 or After</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4¹</td>
<td>4¹</td>
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<tr>
<td>Mathematics³</td>
<td>3²</td>
<td>3²</td>
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<tr>
<td>Natural Science⁴</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Social Science⁵</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Foreign Language</td>
<td>0</td>
<td>2⁶</td>
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<tr>
<td>Electives⁷</td>
<td>4</td>
<td>4</td>
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<tr>
<td><strong>Total Academic Units</strong></td>
<td><strong>17</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

1. Three units in English must include substantial writing requirements.
2. At the Algebra I and above levels.
3. It is recommended that four units of mathematics be taken by students planning to pursue a major in a discipline which is based on mathematics. The fourth unit should include one of the following: Trigonometry, Solid Geometry, Analytic Geometry, Math Analysis or Calculus.
4. Two units in Natural Science must include substantial laboratory requirements.
5. Courses to be selected from History, Civics, Political Science, Economics, Sociology, Psychology, and Geography.
6. Effective August 1, 1987 (both credits must be in the same language).
7. Additional academic electives from the above five subject areas and courses recommended by the Florida Association of School Administrators, or other groups, and recommended by the Articulation Committee, and approved by the Department of Education.

**Students eligible to apply for admission**

Graduates of regionally accredited high schools who meet the following admission scale requirements for all academic subjects taken in the 9th through 12th grade may be considered for admission to the University:
The University reserves the right to limit freshman enrollment by selecting those students who are judged to have the greatest chance of academic success.

Students who meet the following requirements will be given priority in the admissions process and be admitted on a rolling admission basis:

1. Graduates of regionally accredited high schools who have a "2.6" average or above (as computed by the University) for all academic subjects taken in ninth through twelfth grades and a minimum test score of 900 (minimum of 400 on either sub-score) on the SAT or 21 (minimum of 20 on the English sub-score and 19 on the Math sub-score) on the ACT. Students with a "B" average will normally be admitted even if the test score falls below the above minimums if they have been in a college preparatory high school curriculum.

2. Graduates Possessing State High School Equivalency Diplomas based upon General Education Development testing and who have acceptable high school records for the portion attended and have a minimum score of 900 (minimum of 400 on either sub-score) on the SAT or 21 (minimum of 20 on the English sub-score and 19 on the Math sub-score) on the ACT.

Graduates Who Otherwise Meet Requirements in Category One Above, But Who Were Graduated from a Regionally Unaccredited High School will be considered individually and may be admitted on a "provisional" basis. By obtaining a 2.0 GPA (C average) or better at the end of the first term of attendance, the provisional status will be removed. Earning less than a "C" average for the first term would result in disqualification.

Graduates Who Do Not Meet These Entrance Requirements And Are Considered Borderline Admission Cases may be referred to the University Admissions and Standards Committee for review.

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, and reading may be required to take college preparatory courses prior to enrollment in college level courses in those areas. The law states that students must begin any required preparatory instruction during their first twelve hours and finish all such coursework within three semesters. New students will be notified of the need to take placement examinations during orientation, or of coursework that will be required.

COLLEGE TRANSFER APPLICANTS

An undergraduate student transferring from an accredited college or university with 2 years (90 quarter hours or 60 semester hours and/or an A.A. degree) of transferable credit must (1) have a minimum GPA of 2.0 ("C" Average) in all academic college work previously attempted, (2) be in good standing at the last institution attended, and (3) have a minimum GPA of 2.0 at the last institution attended. Refer to pages 42, 50 and 56. Re: CLAST, Gordon Rule, Repeat Policy, and Transfer Courses.

Applicants with less than 2 years (90 quarter hours or 60 semester hours) of transferable college credit must normally meet the University's freshman entrance requirements (furnish high school records and satisfactory test scores) and (1) have a minimum 2.6 GPA (A = 4 points) in all academic college work previously attempted, (2) be in good standing at the last institution attended, and (3) have a minimum GPA of 2.0 at the last institution attended.

Effective August 1, 1987, transfer students entering the University must have completed

<table>
<thead>
<tr>
<th>Academic High School GPA</th>
<th>SAT (Verbal + Quantitative)</th>
<th>ACT Composite</th>
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</thead>
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<tr>
<td>2.0</td>
<td>1050</td>
<td>24</td>
</tr>
<tr>
<td>2.1</td>
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<tr>
<td>2.2</td>
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<td>2.3</td>
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<td>2.7</td>
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</tr>
<tr>
<td>2.9</td>
<td>860</td>
<td>18</td>
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<table>
<thead>
<tr>
<th>SAT ACT Composite</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
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<td></td>
</tr>
<tr>
<td>2.9 860</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>
two years of a foreign language in high school or two semesters or the equivalent of a foreign language at an accredited undergraduate institution prior to enrollment.

Credits in which an applicant has achieved a grade of "D" or better are transferable. Refer to page 42 for "D" grade transfer policy. All grades are included in transfer GPA.

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

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

Graduates from other accredited four-year U.S. institutions who apply for admission to work toward a second undergraduate degree must meet the regular requirements of the University (See Undergraduate Degree Requirements, page 48 and Second Baccalaureate Degree, page 52). A baccalaureate degree or higher from another accredited four-year U.S. institution satisfies the Basic and Advanced General Education Program requirements.

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

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

2. Private Colleges and Out-of-State Institutions. The general education program credits of transfer applicants from private junior and senior colleges and out-of-state institutions will be evaluated on a course by course basis.

3. Unaccredited Colleges or Universities. Transfer applicants who otherwise meet all requirements, but who enter from a "regionally" unaccredited college or university, will be considered on an individual basis. Admission may be granted on a provisional, probationary and/or non-degree basis depending upon the applicant's record.

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. The uses of transfer courses toward meeting 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.

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

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

TRANSFER OF "D" GRADES

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 permanent record. Credits earned in courses transferred with "D" grades will count toward the credits
required for the baccalaureate; however, it is at the discretion of the department or college of the University offering the major as to whether courses with "D" grades in the major may satisfy requirements in the major field.

**READMISSION**

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

Readmission of a suspended (disqualified or excluded) student is never automatic. Students who have been disqualified or excluded must complete a readmission application. It is appropriate that the student write a letter of appeal to the Director of Admissions describing the particular circumstances since the time of disqualification or exclusion. When the Director of Admissions cannot make a favorable decision, cases may be referred to the Admissions and Standards Committee. Students may make a personal appearance before the Admissions and Standards Committee if they desire.

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

**REACTIVATION**

A student who has submitted an application for admission to UCF but never attended may reactivate the original application by submitting a reactivation form within two years. The deadline date for reactivation is the same as the date for new applications for admission. (See calendar.)
ACCREDITATION
For the purposes of this Bulletin "Accredited Institutions" means those institutions accredited by the six regional associations, viz:
- New England Association of Schools and Colleges
- Middle States Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education
- North Central Association of Colleges and Schools, Commission on Colleges and Universities
- Northwest Association of Secondary and Higher Schools, Commission on Higher Schools
- Southern Association of Colleges and Schools
- Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities and Accrediting Commission for Junior Colleges.
Foreign institutions are evaluated by UCF.

ENROLLMENT AS AN UPPER DIVISION STUDENT
Effective Fall Semester 1983, classification as an upper division student at the University of Central Florida requires that the student must have completed the following:
1. at least 60 semester hours of academic work
2. the requirements in English and mathematics specified by the Gordon Rule (see page 50) and
3. the College Level Academic Skills Test (CLAST) (see page 50).

DEFINITION OF LIMITED ACCESS PROGRAMS
A limited access program utilizes selective admissions to limit program enrollment. Limited access status is justified where student demand exceeds available resources (student-faculty ratios, instructional facilities, equipment or specific accrediting requirements). Criteria for selective admissions include indicators of ability, performance creativity or talent to complete required work within the program and do not discriminate against community college transfers with Associate of Arts degrees from Florida community colleges. 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.

FLORIDA RESIDENCE
To qualify as a Florida Resident for tuition purposes, you 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 twelve (12) months immediately prior to the term in which you are seeking Florida resident classification. Your residence in Florida must be as a bona fide domiciliary rather than for the purpose of maintaining a mere temporary residence or abode incident 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 you occupy as your residence.
   c. Proof that you have 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 incident 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's registration.
c. Florida vehicle registration.
d. Florida driver’s license.
e. Proof of real property ownership in Florida (e.g., deed, tax receipts).
f. Employment records or other employment-related documentation (e.g., W-2, paycheck receipts), other than for employment normally provided on a temporary basis to students or other temporary employment.
g. Proof of membership in or affiliation with community or state organizations or significant connections to the State.
h. Proof of continuous presence in Florida during periods when not enrolled as a student.
i. Proof of former domicile in Florida and maintenance of significant connections while absent.
j. Proof of reliance upon Florida sources of support.
k. Proof of domicile in Florida of family.
l. Proof of admission to a licensed practicing profession in Florida.
m. Proof of acceptance of permanent employment in Florida.
n. Proof of graduation from high school located in Florida.
o. 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 (copy of IRS tax return).

OR

Become a legal resident and be married to a person who has been a legal resident for the required twelve-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 (5) years with an adult relative who has established legal residence in Florida,

AND

Make a statement as to the length of residence in Florida and qualification under the above criteria.
TYPES OF STUDENTS

TEMPORARY STUDENTS
Any student who applied before the application deadline date and is permitted to register and attend classes without a complete admission file is granted a maximum of four weeks (first 20 class days), to furnish all required records. Incomplete records or records indicating ineligibility may result in cancellation of the student's registration.

TRANSIENT STUDENTS—CONCURRENT ENROLLMENT

UCF Students. A UCF degree-seeking student who wishes to earn credit at another college or university for transfer back into a degree program must obtain prior approval for specific courses from the Dean or Department Chairman of his respective college and the UCF Registrar. 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 cannot be used to reduce the last 30 semester hour residency requirement.

Students from Other Colleges or Universities. Students in good standing with a 2.0 overall academic average in any accredited college or university and wishing to enroll for one term at UCF may be considered for admission as a transient. Such enrollment terminates at the end of one term and does not presuppose regular acceptance by any college or department of the University. A transient form indicating the parent institution’s willingness to accept the credits and that the student is in good standing with a minimum “C” (2.0) grade point average and an official transcript are required to support the application for admission. Transient forms are available in the Admissions Office.

AUDIT STUDENTS
To audit a class, a student must file a regular application and be accepted as a degree or non-degree 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 work day following the add/drop period on a space available basis. Finance and Accounting will invoice audit classes separately from credit classes. Students registering for credit during regular or late registration, or during add/drop must remain in the course or withdraw through normal withdrawal procedures.

NON-DEGREE STUDENTS
This classification allows qualified individuals to enroll in selected courses at the University without satisfying requirements for admission to degree-seeking status. Successful completion of courses while in this classification may not provide a basis for regular admission at a later date.

Although the regular admissions procedure is not required for a non-degree seeking student, a simplified form called "Application for Registration" must be completed. This application is available from the Admissions Office. The following regulations will apply to non-degree seeking students:

1. Students are required to provide some evidence of their educational qualifications for attending classes in order to meet the intent of this enrollment classification.
2. Non-degree seeking students may register for ONE semester only. They are required to complete the Application for Registration before each term in which they plan to enroll. 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. Check the registration calendar in the Schedule of Classes or contact the Admissions Office for the appropriate registration time.
4. A maximum of 15 undergraduate semester baccalaureate hours earned as a non-degree seeking student may be applied toward a degree if a non-degree seeking student is 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.
Change of status is not automatic. Degree status must be applied for through the Admissions Office. The student's total record will then be reviewed and a decision made.

INTERNATIONAL STUDENTS

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

1. International student applications and records required for admission must be received at least three months prior to the beginning of the desired term.

2. Only those students with 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 a foreign institution(s) must provide an official course by course evaluation from the 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. 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.
DEGREE REQUIREMENTS

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

GENERAL EDUCATION PROGRAM

The General Education Program (GEP) is designed to provide insight into the major areas of knowledge at the University. It further supplies the background for making a more knowledgeable selection of major and elective courses.

Courses which fulfill the General Education Program 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 State universities in lieu of completion of the University's General Education Program.

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 should be prepared for all courses not taken at UCF and for any UCF courses which are 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.

GENERAL EDUCATION PROGRAM

(40 semester hours required)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours</th>
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<td>A. Communication Foundations</td>
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</tr>
<tr>
<td>1. *ENC 1101 English Composition I</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>2. *ENC 1102 English Composition II PR: ENC 1101</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>3. SPC 1014 Fundamentals of Oral Communication</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>B. Cultural and Historical Foundations</td>
<td>9</td>
</tr>
<tr>
<td>1. Take one of the following two semester sequences:</td>
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<tr>
<td>*EUH 2000 Western Civilization I</td>
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</tr>
<tr>
<td>*EUH 2001 Western Civilization II</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>*HUM 2211 Western Humanities I</td>
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<tr>
<td>*HUM 2230 Western Humanities II</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>*AMH 2010 U.S. History: 1492-1877</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>*AMH 2020 U.S. History: 1877-present</td>
<td>3(3,0)</td>
</tr>
</tbody>
</table>
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 2302 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 ......................................................... 6
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. **COC 1100 Introduction to Computer Science 3(3,0)
   **STA 2014 Principles of Statistics 3(3,0)

D. Social Foundations ................................................................. 9
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 .............................................................. 7
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 2050C 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 1000 Geology & Its Applications 3(3,0)
   GEO 1200 Physical Geography 3(3,0)

*A grade of “C” or better in this course satisfies 3 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 or any upper division course taught by the UCF History Dept. also satisfies 3 hours of the English composition requirement, if the course is completed with a grade of “C” or better.

**A grade of “C” or better satisfies 3 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.

THE GORDON RULE

The Gordon Rule (State rule 6A-10.30) applies to students who first enroll in any college or university in January 1983 or thereafter. Gordon Rule requirements may be satisfied by the General Education Program as follows:

The requirement of 6 semester hours of computation at the level of college algebra or higher is met by the Mathematical Foundations component of the GEP which requires 3 hours of college algebra or finite mathematics and 3 hours of statistics or computer science. Additionally, any higher level course in mathematics, statistics, or computer science can be used to meet the requirement.

The requirement of 12 semester hours of coursework in which the student must complete 24,000 words of composition is satisfied by 1) the 6 hours of English composition required in the Communication Foundations component, and 2) one 6 hour sequence of Western Civilization, U.S. History, or Western Humanities required in the Cultural and Historical Foundations component. American Literature I, English Literature I, and World Literature I are options in the Cultural and Historical Foundations elective component of the GEP and may also be used to satisfy Gordon Rule composition requirements, as may any upper division course in literature or composition taught by the UCF English Department or any upper division course taught by the UCF History Department.

EACH COURSE USED TO SATISFY COMPOSITION AND MATHEMATICS REQUIREMENTS OF THE GORDON RULE MUST BE COMPLETED WITH A GRADE OF “C” OR BETTER.

Advanced Placement, CLEP, Credit by Exam, and other forms of time-shortened degree opportunities may not be used to satisfy the writing portion of the composition requirement of the Gordon Rule. Transfer courses which would seem appropriate to the requirements of the Gordon Rule may be petitioned via the GEP petition form through the Office of Undergraduate Studies.

Exceptions and waivers to the Gordon Rule are as follows:
(a) Any student satisfying the College Level Examination Program (CLEP) requirements in mathematics shall be allowed to exempt three (3) hours of mathematics required by this rule.
(b) Any student who has satisfied CLEP requirements in mathematics and whose high school transcript shows successful completion of higher mathematics coursework, including college algebra, trigonometry and calculus, shall exempt the mathematics requirement of this rule.
(c) Any student who completes the first six (6) hours of the English coursework required by this rule with a grade point average of 4.0 may waive completion of the remaining six (6) hours until after entry into upper division.

CLAST

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. Passing CLAST is required of all students seeking an Associate of Arts or Baccalaureate degree from UCF. 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. Individuals passing three of the four CLAST subsections may be admitted to UCF or to the Upper Division for a limited period not to exceed the completion of 90 credit hours.

The CLAST examination is offered only once per term. Students must advance register at the Office of Undergraduate Studies (AD 210) or the Counseling & Testing Center (AD 145). For information regarding CLAST, consult the Office of Undergraduate Studies.

FOREIGN LANGUAGE PROFICIENCY

All undergraduates are required to demonstrate proficiency in a testable foreign language* equivalent to successful completion of one year at the college level. Students may satisfy this requirement by the successful completion of the equivalent coursework.

*A testable foreign language is a language taught at UCF (presently Spanish, French, German, Russian, Italian, Latin, Chinese and Hebrew) plus any language for which the University has obtained standardized proficiency tests. (Such tests are presently available in Arabic, Japanese, Vietnamese, Polish, Greek, Czechoslovakian, Bulgarian, Hungarian, Portuguese, Rumanian, Swedish, Norwegian, Turkish, Iranian, and Dutch.)

UNDERGRADUATE GRADUATION REQUIREMENTS

The requirements for a major and University graduation requirements must be met by each student who receives a degree from the University of Central Florida. An Intent to Graduate card must be completed in the Registrar's Office by the end of the second week of the term of graduation. The minimum bachelor degree requirements for all students are as follows:

- A minimum of 120 academic semester hours credit with at least a "C" average (2.0 GPA) for all course work attempted (both UCF and overall).
- A minimum of 60 semester hours of work taken for the bachelor's degree must be earned in a senior institution.
- A minimum of 48 semester hours of work taken for the bachelor's degree must be taken in 3000-level courses or above.
- A minimum of (and the last) 30 semester hours must be earned in residence at UCF. Credit by examination may not be used to satisfy this requirement.
- A maximum of 45 semester hours in any combination of extension, correspondence, CLEP, Time Shortened Degree and Armed Forces credits accepted by the University may be applied toward an undergraduate degree. Additional semester hour credit may be granted by examination given at UCF.
- A minimum of sixty semester hours of University credit must be earned after CLEP credit has been awarded.
- Fulfillment of the CLAST and GORDON RULE requirements listed elsewhere in the catalog.

SUMMER ATTENDANCE REQUIRED. A student entering a university in the State University System after September 1, 1976 with fewer than 60 accepted semester hours of credit upon admission must earn 9 semester hours prior to graduation by attending one or more summer semesters at a university in the State University System. A student may secure a "Request for Waiver of mandatory Enrollment" form from the Office of Undergraduate Studies.

CHOICE OF CATALOG. A student has the option of fulfilling requirements for graduation under any single UCF catalog in force during his or her most recent period of continuous enrollment. Enrollment is noncontinuous when the student does not enroll during two or more consecutive semesters excluding summer terms. Enrollment during any part of the summer term is defined to be enrollment during the summer semester. Students entering UCF during a summer semester have the choice of fulfilling the degree requirements listed in the UCF catalog for the preceeding fall and spring terms or for the subsequent fall and spring terms. The use of a combination of catalogs to fulfill degree requirements is not permitted. It is the student's responsibility to register and satisfactorily complete designated courses, listed in the catalog, for a degree program. An advisor's signature on the Trial and Advisement Schedule does not overrule requirements for the degree program shown in the catalog. The university reserves the right to discontinue course offerings at any time. Students meeting graduation requirements outlined in an
earlier catalog will be required, with prior approval by the dean, to substitute alternate courses for those no longer offered. A student who earns an Associate of Arts degree from a Florida public university or community college and transfers within one semester to UCF may use the UCF catalog in effect at the beginning of the last continuous attendance at the previous institution as long as continuous enrollment at UCF is maintained. Except for the foregoing, the Administrative and Academic Policies of the current catalog will be considered official for graduation.

DOUBLE MAJORS

Any UCF student working toward a single baccalaureate degree who satisfies all requirements for two majors will be awarded one diploma although both majors will be indicated on his permanent record. Majors under each degree are listed on page 62. For example, a student who satisfies all requirements for a major in Political Science and for a major in History would be awarded a single Bachelor of Arts degree with the two majors indicated on his/her permanent record. Similarly, if a student wishes to pursue two majors leading to different baccalaureate degrees (e.g., Psychology which leads to a Bachelor of Arts degree and Biology which leads to a Bachelor of Science degree), he/she must satisfy the requirements of both majors. Although both majors will be indicated on his/her permanent record, only one diploma will be awarded (e.g. B.A. in Psychology or B.S. in Biology, at the student’s option).

SECOND BACCALAUREATE DEGREE

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

Transfer graduates from accredited four-year 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, the University Foreign Language requirement, and the 30 semester hour residency requirement. Students holding the baccalaureate degree from an accredited U.S. institution are considered to have completed all General Education Program Requirements. Students who hold degrees from foreign institutions may be required by the Dean of the College in which they are majoring 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 granted August 25, 1978, and thereafter. 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 DEGREE REQUIREMENTS

See the University of Central Florida Graduate Catalog.
ACADEMIC POLICIES AND PROCEDURES

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

For the purpose of Financial Aid, Social Security, Military I.D. cards, bank loans, and good student discounts undergraduates must carry at least twelve (12) semester hours for full-time benefits and six (6) semester hours for half-time benefits. Graduate students must carry at least nine (9) semester hours for full-time benefits and five (5) semester hours for half-time benefits. (For Veterans admission benefits see page 37).

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 test 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.

Other student classifications are as follows:

AUDITOR: A student registered for any credit course who is not seeking credit.
CO-OP STUDENT: A student enrolled in the Cooperative Education Program remains a registered student during all off-campus assignment semesters. Furthermore, there is no lapse in continuity in the co-op school calendar: a co-op student is either on assignment or attending class during each school semester. (See Veteran's Benefits for co-ops.)

SPECIAL STUDENT: A student of demonstrated academic ability who does not meet the regular requirements for admission (Early Admission, non-degree, transient and auditor).
TEMPORARY: A student who applied on time and is permitted to register and attend class pending completion of his admissions file.
TRANSIENT: (1) A student temporarily registered (for one semester) at the University of Central Florida with the approval of some other university or college where he is regularly enrolled, or (2) a UCF student temporarily in attendance at another university or college, with the approval of UCF. 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: 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.
ACADEMIC TERMS AND ACTIONS DEFINED

All Academic Actions are shown on grade reports and transcripts. The action is generated due to course completion. To change 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, also, may be admitted on Academic Probation. Academic Probation will continue until the current term, UCF cumulative and overall GPA reach 2.0 or better.

Disqualified
(1st 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 cannot make a favorable decision, cases will be referred to the Admissions and Standards Committee.

Exclusion
(2nd 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 and who subsequently receives an A.A. degree with a "C" average (2.0 GPA) on all college work attempted from a Florida community college may be readmitted to the university with credit earned accepted in accordance with standard University policies.

A student who attends other colleges or universities following disqualification will be classified as a transfer student and his readmission will be based on his total educational record.
GRADING SYSTEM

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

GRADING SYSTEM

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

OTHER ACTIONS

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

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

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.

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.

ACADEMIC HONORS

I. President's Honor Roll Certificate

The President's Honor Roll Certificate is awarded in recognition of scholastic honors to a regular undergraduate student who registers for and completes 12 or more hours, excluding pass-fail coursework, and maintains a 4.0 GPA with no incomplete or "U" grades for the given term or who completes 15 semester hours during any two consecutive terms at UCF with no more than 11 hours in any one term, excluding pass-fail work, and maintains a 4.0 GPA for the two terms.

Hours utilized in awarding of a President's Honor Roll Certificate may not be utilized in the determination of a subsequent certificate.

II. 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.

III. 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 GPA including all college credits earned
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 student 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 twenty-four 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 stated on their transcripts. Information on admission to the honors programs and honors program requirements may be obtained from Dr. David Dees, Honors Program Director, Undergraduate Studies.

**GRADE FORGIVENESS POLICY**

Effective Fall Semester, 1981, an undergraduate student may repeat a course and have the repeated grade computed in his/her GPA in place of the original grade. The following rules apply:

1. Grade forgiveness is limited to two courses.
2. UCF does not honor grade forgiveness granted at other institutions unless it is part of an AA degree transferred to UCF from a Florida public community college. In addition, a student may not exercise grade forgiveness by repeating at UCF a course which was initially taken elsewhere, nor may a course taken at UCF be repeated at another institution for forgiveness by UCF.
3. Because of the two course limit, a student who has repeated two or more courses at a Florida public community college and included those courses in the transfer of an AA may not use the grade forgiveness again at UCF. But, any other transfer student may exercise the policy for courses taken and repeated at UCF since any forgiveness he may have been granted elsewhere will not transfer to UCF.

4. Grade forgiveness is not retroactive and, therefore, may not be used for a course repeated before Fall 1981.

5. If, however, a student who repeated a course at UCF before Fall 1981 and did not use the previous forgiveness policy 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.

6. Grade forgiveness awarded for repeated courses will not retroactively alter any previous academic action. This means, for example, that 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.

7. If a student withdraws from a course repeated under the Grade Forgiveness Policy or receives an incomplete in the course, the attempt will count as one of the two allowable attempts. However, the original grade will not be replaced with the "I" or the "W" received in the repeat attempt. The student may not petition a second time for the same course.

8. All grades will remain on the student's official transcript. The original course grades will be annotated with a "T" to indicate that the course has subsequently been repeated, and the repeat course grade will be annotated with an "A". 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 an incomplete.

9. 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.

10. 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.

GRADE FORGIVENESS PROCEDURE

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

1. Pick up a "Grade Forgiveness Request Form" from the Office of Records and Registration and complete it for each course he/she chooses to repeat.

2. If the course is a substitution for the original one (see 9 above), secure the signature of the dean of the college in which the course is offered.

3. The completed form must be turned 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 the Grade Forgiveness Policy should be directed to the Office of Undergraduate Studies, Ext. 2691.

ACADEMIC ETHICS POLICY

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

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

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

PROCEDURE

In cases of cheating or plagiarism:

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

INCOMPLETE GRADE
A grade of "I" (incomplete) is assigned by the instructor when a student is unable to complete a course due to extenuating circumstances, and when all requirements can clearly be completed in a short time following the close of regular classes. The Registrar's Office must be notified of the appropriate grade to be assigned no later than the date shown in the Academic Calendar of the term immediately following that in which the "I" was assigned. Failure to complete course requirements by that day may, at the discretion of the instructor, result in the assignment of an "F" grade. It is the student's responsibility to arrange with the instructor for the changing of the "I" grade to receive credit. Both the new grade and the letter "I" will appear on the student's permanent record. If the "I" grade is not changed by the established deadline, it becomes a part of the student's permanent record and no credit is given for the class. A student may register for a course in which an "I" was received, but no repeat "R" action will be made on his permanent record. Academic actions do not change when an incomplete grade is completed nor when a course is repeated.

WITHDRAWAL POLICY—From a Course (After Add/Drop Period) or from the University
A student may withdraw from a class 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 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 considered an acceptable reason. Students who need to petition for a medical withdrawal should consult the Office of Undergraduate Studies, Administration Building, Room 210.

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

SCHEDULE CHANGES—Add/Drop Policy
Add: A student may add a course during the official Add/Drop Period—(see calendar). After the add/drop period, no course may be added.
Drop: A student may drop a course during the official Add/Drop Period—(see calendar). The fact that the student was enrolled in a class so dropped will not appear on the permanent record. Approval of the student's faculty advisor is necessary before any course change. For withdrawal after the add/drop period, consult the Withdrawal Policy.
OTHER RELATED INFORMATION

UNDERGRADUATE STUDENT RETENTION
The State University System Student Attrition and Retention Study is completed on an annual basis. This study was based on a longitudinal student retention data base and included students who entered any of Florida's nine state universities during and since academic year 1976-77.

The annual retention study revealed that approximately 45% of the UCF first-time-in-college students graduate within 5 years and that approximately 60% graduate from the university. This study revealed that approximately 47% of the community college transfers graduate within 3 years and more than 60% graduate from the university.

The results of the State University System of Florida Institutional Student Attrition and Retention Study are located in the Office of Academic Affairs.

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 course work, the student is notified to report to the Registrar's Office.

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

1. The student must complete an "Intent to Graduate" form, available in the Registrar's Office, not later than the 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 bulletin under which the student has indicated he wishes to graduate (following the rules stated on page 51) 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.

REQUIREMENTS FOR TEACHER CERTIFICATION
Since July 1, 1980, initial certification requirements (Temporary Certificate) in Florida have included three basic components with a fourth now added as prerequisite to (Regular Certificate) full certification. The components are:

I. GENERAL PREPARATION
Courses included in this category are normally classified as general education (i.e., General Education Program). A graduate with a Bachelor's degree from an accredited institution shall be considered to have met the General Preparation requirements.

II. TEACHING SPECIALIZATION
Courses included in this category are normally classified as the major area in a 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.

III. PROFESSIONAL PREPARATION
There are two means by which students can complete a program of Professional Preparation at UCF. They are:

1. The State Approved Program of Teacher Education (i.e. a major in the College of Education) and satisfaction of state requirements for SAT or ACT scores.
2. The Basic Certification Program (i.e. a major in some other college) and admissibility to the internship phase of the program.

IV. COMPREHENSIVE EXAMINATION
Competency must be demonstrated on a written examination in the areas of Mathematics, Reading, Writing, and Professional Skills. Examinations will be administered at least three times per year throughout the State of Florida.
Beginning July 1, 1981, a Regular Florida Teacher’s Certificate may be issued to persons meeting all requirements for the Temporary Certificate and satisfactorily completing a year long internship approved by the State Board of Education.

TIME-SHORTENED DEGREE OPPORTUNITIES

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

1. Early Admission Program

Students who have demonstrated exceptional academic ability may be permitted to enroll as students at the University of Central Florida any time after completion of the junior year in high school. To be considered for Fall Semester, Early Admission, applicants must have:
   a. Superior test scores (SAT 1100 or above, ACT-27 or above).
   c. A recommendation from the student’s high school counselor.
   d. A letter of permission from parents or guardian.
   e. A campus interview to ascertain the student’s maturity and ability to adjust to collegiate responsibilities.

Qualified students may dual-enroll on a part-time basis, taking one or two courses while completing their high school programs. An interview and letters of recommendation from parents and principal are required in addition to a superior record.

Students desiring admission prior to high school graduation should contact the Admissions Office for an appointment.

2. College Level Examination Program (CLEP)

The University of Central Florida grants university credit for examinations taken under the CLEP program provided the score obtained is at the 50th percentile or above on the National Sophomore CLEP norms.

The University of Central Florida will award up to 45 semester hours of university credit under the CLEP program. (See page 61)

3. Advanced Placement Program (A.P.P.)

Students who have participated in the Advanced Placement Program in high school and received a score of three (3), four (4) or five (5) on the national examinations will receive from 2 to 3 semester hours of college credit in each of the appropriate subject areas. Consult your high school guidance counselor or write to the Educational Testing Service, Princeton, New Jersey 08540, for additional information.

4. University Course Credit by Examination

Regularly enrolled undergraduate students at the University of Central Florida may obtain credit for specific university courses through Departmental Examinations. Those who feel they have acquired the knowledge and/or skills of a specific university course should consult their advisor and the chairman of the department in which the course is offered to arrange for an examination. Degree credit will be awarded for those courses successfully completed by departmental examination. Credit by examination may not be attempted in a course in which the student has previously been 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 chairman of the department and the dean of the college in which the course is offered. Standard forms requesting university credit by examination may be obtained from the Registrar’s Office by presentation of an I.D. card.

*Excludes transient and non-degree students.

5. Time-Shortened Degree Program (TSD)

The University accepts a limited number of first-time-in-college students who have:
   A. An SAT score of 1100 or higher with minimum subscores of 500 verbal and 550 math or ACT score of 27 or higher with minimum subscores of 24 English and 26 math.
   B. A high school academic grade point average of 3.2 or better (10th - 12th grades), and
C. A grade of "B" or better in selected high school courses. Students desiring additional information should seek information in AD 374

UNIVERSITY OF CENTRAL FLORIDA CLEP POLICY

CLEP credit may be earned by the following methods—CLEP general examinations, CLEP general examination subtests and CLEP subject examinations. A student may earn a maximum of 45 semester hours of credit through this program. Successful completion of CLEP examinations means performance at or above the 50th percentile. Awarding CLEP credit is subject to the conditions listed below.

1. Credit may be awarded in the CLEP general examination area, CLEP general subtest area, or CLEP subject examination area provided the student; (a) 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, the minimum passing scaled score, the courses and other CLEP examinations which duplicate the CLEP general examination, and the CLEP usage. Information can be secured from the University Counseling and Testing Center on CLEP subject examinations for which credit may be awarded.

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

**CLEP General Examinations, Maximum Credit Hours, Minimum Passing Scaled Scores, Courses and Examinations Which Duplicate the CLEP General Examinations and Recommended CLEP Usage**

<table>
<thead>
<tr>
<th>CLEP GENERAL EXAMINATION</th>
<th>Maximum Semester Hours</th>
<th>Minimum Passing Scaled Scores</th>
<th>Courses and Examinations which duplicate the general examination test area and conversely</th>
<th>CLEP Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area</strong></td>
<td><strong>Subtest</strong></td>
<td><strong>Gen Exams</strong></td>
<td><strong>Subtest</strong></td>
<td><strong>UCF Course</strong></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td>ENC 1020: Vocabulary Study**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ENC 1101: Composition I</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compos. (with essay)**</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities*</td>
<td>Fine Arts</td>
<td>6</td>
<td>3</td>
<td>Intro to Art**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Humanities MUL 2010 Enjoyment of Music</td>
</tr>
<tr>
<td></td>
<td>Literature</td>
<td>6</td>
<td>3</td>
<td>489*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td>6</td>
<td>6</td>
<td>Intro Math**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MGF 1124: Prin. of Math</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MAE 1110: Elem School Math I</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MAT 1024: Fund Algebra**</td>
</tr>
<tr>
<td>Natural Science***</td>
<td>Biology</td>
<td>NA</td>
<td>3</td>
<td>BSC 1020C: Bio Principles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ZOO 1020: Bio. of Man</td>
</tr>
<tr>
<td></td>
<td>Physical Science</td>
<td>NA</td>
<td>3</td>
<td>Chem. &amp; Society**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OCE 1012: Oceanography &amp; Space</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PSC 1512: Physical Sci</td>
</tr>
<tr>
<td>Social Science History*</td>
<td>Social Science</td>
<td>6</td>
<td>3</td>
<td>SYG 2000: General Soc.</td>
</tr>
<tr>
<td></td>
<td>History</td>
<td>6</td>
<td>3</td>
<td>POS 2041: Am Nat Govt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ECO 2000: Econ. &amp; Man**</td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

*The minimum total score must be attained before subscores can be used for awarding credit.

**Not currently offered at the University of Central Florida.

***Students must complete General Education Science foundation laboratory requirement.

* Satisfactory completion of these examinations does not reduce the 24,000 word writing requirement.

* Prior to May 1986 the minimum passing scaled score was 410

April 1986
SCHEDULE OF FEES

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

Required fees are established by the Board of Regents and the Florida State Legislature and are subject to change without notice. It is required that all University fees be paid at or before the end of the Add/Drop registration period. Failure to pay fees on or before due date will result in cancellation of the current registration.

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

General Fees and Costs

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

B. Registration Fees per semester for campus, centers, and continuing education courses.

<table>
<thead>
<tr>
<th>Course Level</th>
<th>Cost (per hr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Division</td>
<td>$14.60</td>
</tr>
<tr>
<td>Upper Division</td>
<td>$18.50</td>
</tr>
<tr>
<td>Graduate</td>
<td>$47.74</td>
</tr>
<tr>
<td>Thesis</td>
<td>$52.15</td>
</tr>
</tbody>
</table>

Graduate courses are those numbered 5000-7999

<table>
<thead>
<tr>
<th>Course Level</th>
<th>Cost (per hr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Division</td>
<td>$28.23</td>
</tr>
<tr>
<td>Upper Division</td>
<td>$32.36</td>
</tr>
<tr>
<td>Graduate</td>
<td>$47.74</td>
</tr>
<tr>
<td>Thesis</td>
<td>$52.15</td>
</tr>
</tbody>
</table>

*Lower division courses are for those numbered 0-2999

Upper division courses are those numbered 3000-4999

Graduate courses are those numbered 5000-7999

Fall and Spring Semesters 86-87

<table>
<thead>
<tr>
<th>Course Level</th>
<th>Cost (per hr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Division</td>
<td>$28.23</td>
</tr>
<tr>
<td>Upper Division</td>
<td>$32.36</td>
</tr>
<tr>
<td>Graduate</td>
<td>$47.74</td>
</tr>
<tr>
<td>Thesis</td>
<td>$52.15</td>
</tr>
</tbody>
</table>

Thesis is course number 6970-6973

C. Room and Board (Several optional Food Service Plans are available)

<table>
<thead>
<tr>
<th>Plan</th>
<th>Cost (per semester)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$1,098.00-$1,362.00</td>
</tr>
</tbody>
</table>

D. Books and supplies (estimated) per semester $25.00

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

F. Vehicle Registration (required of everyone operating a motor-powered vehicle on campus) per calendar year for full-time, part-time students, and courtesy students from other institutions. Student's fee $13.00

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.

<table>
<thead>
<tr>
<th>Term</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall &amp; Spring</td>
<td>$24.00</td>
</tr>
<tr>
<td>Summer</td>
<td>$16.00</td>
</tr>
</tbody>
</table>

H. Intern Participation Holder $3.76/hr.

I. I.D. Card replacement $5.00

J. Athletic Fee - per semester (Fall & Spring semesters only) $15.00

Assessed to all students except those enrolled exclusively for off-campus credit courses. These fees are waived for senior citizens, for employees under the fringe benefit plan, for intern participation holders, and for students on training session under the cooperative education program that are not taking course work at UCF. Students enrolled at Brevard campus, Daytona campus or South Orlando campus campus must also be assessed the athletic fee.

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

REFUND OF FEES
A refund of fees, 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.
A. A FULL REFUND will be made when:
1. Withdrawal is made before the end of the add/drop period. Summer refunds will not be made until after Term B Registration and Drop/Add, except by written application to Student Accounts, Room 112 Administration Building.
2. The course is cancelled by the University or
3. A student is denied admission to an offered course by the University for whatever reason.
B. A partial refund (25% of the total fees paid less building and capital improvement fees) will be made when:
1. 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).
C. Refunds up to 100% of tuition and registration fees will be made upon withdrawal from one or more courses when:
1. Exceptional circumstances, as determined by the University, exist. Exceptional circumstances include, but are not limited to, sickness, death, involuntary call to military service or administrative errors created by the University.

TUITION FEE WAIVERS FOR STATE OF FLORIDA EMPLOYEES
State employees, faculty, and staff who utilize a tuition fee waiver for course work 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. It is the responsibility of the employee to register only on a space available basis, and this is only during the prescribed time as indicated above by the Registrar. In addition, the tuition fee waiver cannot be used for courses which require increased costs (as it does for such courses as Thesis, Dissertation, Directed Individual Study, etc).

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. It is the responsibility of the senior citizen, however to register only on a space available basis; and this is only during the last hour of the Add/Drop registration period prescribed by the Registrar. No academic credit shall be awarded, and the waiver cannot be used for courses which require increased costs. This would include, but not be limited to, Thesis, Dissertation, and Directed Individual Study.

APPEALS
Students who have been denied fee deferment, refund, waiver, etc. 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 & Accounting. The students must then submit their petition 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.
PAST DUE ACCOUNTS

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

INSTALLMENT FEE PAYMENT PLAN

The University has authority to accept a student's registration and tuition fees on an installment basis. The plan requires the student to pay 50% of the total fee liability by the end of the Add-Drop period, and remaining fees no later than the beginning of the ninth week of classes. To be eligible however, the student's fee liability must be in excess of $100, exclusive of any financial aid awards.

Forms to request payment of fees under the installment plan are available in the office of Student Accounts, Room 112, Administration Building. There will be a service charge of $5.00 to cover handling costs.
ACADEMIC PROGRAMS

DEGREES OFFERED

ASSOCIATE OF ARTS DEGREE

University of Central Florida students who satisfactorily complete 60 semester hours of acceptable college work may apply for an Associate of Arts degree. University requirements include achievement of an overall and UCF grade point average of 2.0 or above, fulfillment of the 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.

UNDERGRADUATE

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

College of Arts and Sciences

Bachelor of Arts (B.A.)
Major: Allied Legal Services, Anthropology, Art, Communication, Criminal Justice, Economics, English, Film (RTV), Foreign Languages (General), French, History, Humanities, Humanities and Fine Arts (lntr.), Journalism, Music, 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.)
Major: 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.)
Major: Accountancy, Economics, Finance, General Business Administration, Hospitality Management, Management, Marketing

College of Education

Bachelor of Arts (B.A.)
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.)
Major: 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

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

College of Arts and Sciences
  Doctor of Philosophy in Computer Science (Ph.D.)
  Master of Arts (M.A.)
    Applied Sociology
    Communication
    English
    History
    Political Science
  Master of Public 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
  Master of Arts (M.A.)
    Applied Economics
  Master of Business Administration (M.B.A.)
  Master of Science (M.S.)
    Accountancy

College of Education
  Master of Arts (M.A.)
  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

Allied Legal Services (BA)
Anthropology (BA)
Art (BA)
Art (BFA)

Biological Science
  Biology (BS)
  Botany (BS)
  Limnology (BS)
  Microbiology (BS)
  Zoology (BS)

Chemistry (BS)
Communication (BA)
Computer Science (BS)
Criminal Justice (BA)
Economics (BA)

English (BA)
Film (BA)
Foreign Language Combination (BA)
Forensic Science (BS)
French (BA)

History (BA)
Humanities (BA)
Journalism (BA)
Mathematics (BS)
Music (BA)

Music Education (BA)
Philosophy (BA)
Physics (BS)
Political Science (BA)
Psychology (BA)

Public Administration (BA)
Radio-Television (BA)
Social Sciences (Int.) (BS)
Social Work (BSW)
Sociology (BA)

Spanish (BA)
Speech (BA)
Statistics (BS)
Theatre (BA)

GRADUATE PROGRAMS*

Computer Science (Ph.D.)
Biological Science (MS)
Chemistry, Industrial (MS)
Communication (MA)
Computer Science (MS)

English (MA)
History (MA)
Mathematical Science (MS)

Microbiology (MS)
Physics (MS)
Political Science (MA)
Psychology, Clinical (MS)
Psychology, Industrial (MS)

Public Administration (MPA)
Sociology, Applied (MA)

Statistical Computing (MS)

OTHER PROGRAMS

Predental
Premedical
Preoptometry

Prepharmacy
Prepodiatry
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

Preprofessional Coordinator: Dr. O.M. Berringer BL 103, Phone 275-2968

The College of Arts and Sciences offers preprofessional programs in the health disciplines leading to further study in schools of dentistry, medicine, optometry, pharmacy, podiatry and veterinary medicine. They are administered through the 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

There is no preferred pattern for prelaw. Law schools accept superior students with a good liberal arts background, regardless of major field. A Bachelor of Arts or Bachelor of Science degree with approximately three-fourths of the course work representing theory content is typically required. The quality of undergraduate education for the legal profession, according to the Association of American Law Schools, is grounded in three basic skills and insights: comprehension and expression in words, critical understanding of the human institutions and values with which the law deals, and 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; etc.

Office of Academic Support and Information Services

Director: Ms. Judith Boyte, HFA 208, Phone 275-2492

The Office of Academic Support and Information Services (OASIS) assists students in the College of Arts and Sciences in matters concerning College and University require-
ments 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 HFA 208 or by calling 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.

INTERDISCIPLINARY MINOR PROGRAMS
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 ASH, HBR, REL, and WOH). For details contact Dr. Moshe Pelli, Director of Judaic Studies, HFA 438 or 443, 281-5039 or 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 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 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 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, HFA 443, ext. 2466. For further information consult any of the above mentioned departments.

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.

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 program in consultation with a faculty advisor appointed by the chairman of the major department or by the Dean of the College of Arts and Sciences.

Canadian Studies Center

A multi-disciplinary Canadian Studies minor is available to all students. This minor is one of those appropriate for adoption with the Liberal Studies and the Social Sciences majors. Students interested in Canadian Studies are advised to consult Dr. Henry Kennedy at the Canadian Studies Center, FA 404, Phone 275-2079.

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 studio art, 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 275-2224 or Dr. Robert Flick in the Department of Humanities, Philosophy and Religion (Florence Program), phone 275-2273.

DEPARTMENT OF ART
Chairman: M. Wahlman, FA 523, Phone 275-2676
Faculty: Chavda, Eyfells, Gaudnek, Lotz, Rivers, Skoglund, Wellman

The curriculum in Art provides professional preparation in art history and in the studio areas of ceramics, drawing, 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.

Visual Arts Forum Requirement:
All majors are required to attend a minimum of 75% of the Visual Arts Forum events.

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. 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 minor consisting of a minimum of 24 semester hours. Required courses are: ARH 2050, 2051, ART 2201, 2202, and twelve semester hours of Art Specialization at the 3000-4000 level.

BACHELOR OF ARTS: ART
Degree Requirements
1. University graduation requirements
   (See pages 46-51)
2. Special college and/or department requirements
   A student must achieve at least a "C" grade point average (2.0) in the courses of his or her major.
   (See page 70)
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

I. Art History
   A. Required Courses
      ARH 2050, 2051,  
      ART 2201C, 2202C,  
      Visual Arts Forum  
      ARH 4906  
      History of Art I, II  
      Design Fundamentals I, II  
      Senior Research  
      6 hours  
      6 hours  
      3-6 hours
B. Restricted Electives
1. Any one:
   - ARH 4800  Theory and Criticism (3)
   - ARH 3820  Arts Administration (3)
   - PHI 3800  Aesthetics (3)
C. Specialization
   - 3000 and 4000 level Art History courses
D. Foreign Language
   - 2 years of college level courses.
E. Comprehensive Art History Examination
   - Total Semester Hours in Art and other courses 45-48
   - Total Semester Hours Required 120

II. Art
A. 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 Art History Courses 6 hours
B. Area Specialization
   - 3000-4000 level courses from: Ceramics, Drawing, Graphic Design, Painting, Printmaking, Photography, and Sculpture, or combinations.
C. Restricted Electives
   - 3000-4000 level courses from at least 3 areas outside the area of specialization: Art History, Ceramics, Drawing, Fibre and Fabrics, Film, Graphic Design, Painting, Printmaking, Photography, Sculpture and Special Topics.
D. Portfolio Requirement
   - Seniors are required to submit a portfolio of representative work in the student’s area of specialization, for review by faculty.
   - Total Semester Hours in Art and 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. University graduation requirements.
   - A student must achieve at least a “C” grade point average (2.0) in the courses of her or his major.
   - (See pages 48-51)
2. Special college and/or department requirements
   - (See page 70)
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 9 hours
   - Area Specialization 3000-4000 level courses from: Ceramics, Drawing, Graphic Design, Painting, Printmaking, Photography, and Sculpture or combinations. 15-21 hours
4. Restricted Electives
   - 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. 12 hours
The Department of Biological Sciences offers a Bachelor of Science in Biological Science with options in biology, botany, limnology, microbiology, and zoology, a minor in Biology, as well as the Master of Science in Biological Science and Microbiology. In an age when new discoveries are reported daily on both celestial and molecular levels, the study of living organisms has gained new importance among the sciences. Students in the life sciences find themselves in demand in teaching and many phases of research. The Core Curriculum required of all Biological Sciences majors provides a background in the chemical and mathematical sciences in addition to Biology, thus allowing career opportunities for graduates in areas outside their major. In addition, an increasing number of graduates are furthering their education in professional or graduate schools. Through the judicious selection of electives in consultation with a faculty advisor, a subspecialty, such as physiology, may be emphasized in one or more of the options outlined below.

MINOR
The Department of Biological Sciences offers a minor in Biology consisting of a minimum of 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 course(s) designed for majors in Biological Sciences, exclusive of those listed in Groups I and II.
To be eligible for a minor in biology, a student must have a GPA of at least 2.0 in all biological science courses subject to the following constraints:
A. No CLEP or TSD credits may be used.
B. No D grades from other institutions will be accepted.
C. To receive credit for a biological sciences course, students must pass both the lecture and lab components.

BACHELOR OF SCIENCE: BIOLOGICAL SCIENCE
Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 70 and 75)
To be eligible for a major in any of the biological sciences, a student must have a GPA of at least 2.0 in all biological science courses subject to the following constraints: A. No CLEP or TSD credits may be used; B. No D grades from other institutions will be accepted. 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 lab 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.
3. Required Courses
   BOT 2010C General Botany 3 hours
   BSC 2010C General Biology 4 hours
   CHM 2045, 2046 Chemistry Fundamentals I, II 7 hours
   CHM 2046L Chemistry Fundamentals Laboratory 1 hour
   CHM 3210, 3211 Organic Chemistry I, II 6 hours
CHM 3211L  Organic Laboratory Techniques  2 hours
MCB 3013C  General Microbiology  5 hours
MGB 4404C  Microbial Metabolism  3-4 hours

or
PCB 3023  Cell Physiology  4 hours
PCB 3043  Principles of Ecology/with Lab  4 hours
PCB 3063  Genetics/with Lab  4 hours
PHY 2050C, 2051C  College Physics I and II  8 hours
STA 3023  Statistical Methods I  3 hours
ZOO 2010C  General Zoology  4 hours

4. Restricted Electives
All restricted electives in the respective Areas of Specialization must be approved by the Student's faculty advisor.
(See specialization requirement listed below.)

MATHEMATICS
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. 6 hours

5. Electives

Total Semester Hours Required  128

AREAS OF SPECIALIZATION
(Students desiring to specialize in the areas identified below shall include the following courses in completing degree requirements.)
1. Biology
   Restricted Electives  Biology, Botany, Microbiology, or Zoology, to be selected with student's advisor from courses number 3000 or above. Up to 6 hours of formal course work in chemistry, 3000-level or above, may also be applied.

2. Botany
   BOT 4223C  Plant Anatomy  4 hours
   BOT 4303C  Plant Kingdom  5 hours
   BOT 4503C  Plant Physiology  4 hours
   BOT 4713C  Plant Taxonomy  5 hours
   Restricted Electives  Biology, Botany, Chemistry, Microbiology, or Zoology. To be selected with student's advisor from courses numbered 3000 or above; including at least 4 hours of Botany.

3. Limnology
   COP 1110  Computer Programming  3 hours
   PCB 4302C  Limnology I  4 hours
   PCB 4303C  Limnology II  4 hours
   ZOO 4880C  Fisheries Management  4 hours
   Restricted Electives  Biology, Botany, Chemistry, Computer Science, Microbiology, Physics, Statistics or Zoology courses numbered 3000 or above approved by the student's advisor.

4. Microbiology
   BCH 4053, 4054  Biochemistry I, II  6 hours
   CHM 3121C  Analytical Chemistry  5 hours
   MCB 3203, 3203L  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

5. Zoology
   PCB 4723  Animal Physiology  4 hours
   ZOO 3303C  Vertebrate Zoology  4 hours
   ZOO 3713C  Comparative Vertebrate Anatomy  5 hours
   ZOO 4203C  Invertebrate Zoology  4 hours
   Restricted Electives  ZOO courses numbered 3000 or above approved by the student's advisor  8 hours

DEPARTMENT OF CHEMISTRY

Chairman: G. Mattson, CH 117, Phone 275-2246
Faculty: Baker, Clausen, Cunningham, Elsheimer, Gupton, Hampton, Hartel, Juge, Kujawa (Geology), Madsen, 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 opportunities 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 3121C.
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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 70)
3. Required Courses
   - CHM 2045, 2046: Chemistry Fundamentals I, II 7 hours
   - CHM 2046L: Chemistry Fundamentals Laboratory 1 hour
   - CHM 3210, 3211: Organic Chemistry I, II 6 hours
   - CHM 3211L, 3212L: Organic Laboratory Techniques I, II 5 hours
   - CHM 3121C: Analytical Chemistry 5 hours
   - CHM 3410, 3411: Physical Chemistry I, II 7 hours
   - CHM 3411L: Physical Chemistry Laboratory 3 hours
   - CHM 4610: Inorganic Chemistry 3 hours
   - CHM 4130C: Advanced Analytical Laboratory Technique 4 hours
   - CHM 4912: Undergraduate Research 4 hours
   - CHM 4932: Chemistry Seminar 1 hour
   - ENC 3241: Technical Report Writing 3 hours
   - MAC 3311, 3312, 3313: Calculus with Analytic Geometry I, II, III 12 hours
   - PHY 3048, 3048L, 3049, 3049L: Physics for Engineers & Scientists 8 hours
   - STA 3023: Statistical Methods I 3 hours
4. Restricted Electives
   a. Biological Sciences (minimum of 7 hours)
      - BSC 2010C: General Biology 4 hours
      - Approved electives restricted to those biological science courses not listed as designed for non-majors.
   b. Minimum of 3 hours
      - COP 1110: Computer Programming 3 hours
      - COP 2510: Programming I 3 hours
      - COP 3215: Programming and Numerical Methods 3 hours
   c. Minimum of 3 hours
      - PHY 3752C: Physics of Scientific Instruments 4 hours
      - CDA 4012: Computer Interfacing for Scientists 3 hours
      - CET 3123C: Microprocessor Electronics 3 hours
      - EEL 3341C: Introduction to Digital Circuits 3 hours
      - EEL 3342C: Intro to Digital Circuits and Systems 4 hours
   d. Minimum of 6 hours
      - BCH 4053: Biochemistry I 3 hours
      - BCH 4054: Biochemistry II 3 hours
      - CHM 4220: Advanced Organic Chemistry I 3 hours
      - CHM 4221: Advanced Organic Chemistry II 3 hours
      - CHM 4580: Advanced Physical Chemistry 3 hours
      - CHM 5710: Chemical Structure I 2 hours
      - CHS 3531: Forensic Analysis 3 hours
      - CHS 4110C: Nuclear and Radio Chemistry 3 hours
      - CHS 4200: Concepts in Industrial Chemistry 3 hours
      - CHS 5250: Chemical Synthesis I 2 hours
5. Electives
   Two years of German is recommended for those students intending to pursue graduate studies.
   Total Semester Hours Required 128
FORENSIC SCIENCE PROGRAM
Director: W.W. McGee, CH 221, Phone 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 70)
3. Required Courses
   BSC 2010C General Biology 4 hours
   CHM 2045, 2046 Chemistry Fundamentals I, II 7 hours
   CHM 2046L Chemistry Fundamentals Laboratory 1 hour
   CHM 3210, 3211 Organic Chemistry I, II 6 hours
   CHM 3211L Organic Laboratory Techniques I 3 hours
   CHM 3121C Analytical Chemistry 5 hours
   CHS 3501 Introduction to Forensic Science 3 hours
   CHS 3505 Forensic Microscopy 3 hours
   CHS 3531 Forensic Analysis of Controlled Substances 3 hours
   CHS 4591 Forensic Science Internship 6 hours
   COP 1110 Computer Programming 3 hours
   ENC 3241 Technical Report Writing 3 hours
   CHM 3410 Physical Chemistry I 4 hours
   CHM 4130C Advanced Analytical Chemistry 4 hours
   MAC 3253, 3254 Applied Calculus I, II 6 hours
   PHY 2050C, 2051C College Physics I, II 8 hours
   STA 3023 Statistical Methods I 3 hours

4. Restricted Electives
   The intent of the restricted electives is to provide the major with an opportunity to select in consultation with his/her advisor, a minimum of 13 hours of coursework which will complement the student's specialized program of study in the major field. These courses will include BOT 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

   Total Semester Hours Required 120

DEPARTMENT OF COMMUNICATION
Chairman: R. Buchanan, FA 534, Phone 275-2681
Faculty: Arnold, Bledsoe, J. Butler, Davis, Decker-Amos, Fedler, Grasty, Hall, Hoglin, Johnson, Kissel, 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 will be required to attain a satisfactory score on a departmental grammar proficiency test encompassing grammar, punctuation, and word usage. Additional information is available from faculty advisors. Generally, students may not substitute lower division courses taken at community colleges for upper division courses in the communication major. See an academic advisor for more 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 JOU 3600 (4).

2. General Communication
   COM 3311 (3) and 15 semester hours selected from the following courses: SPC 3425 (3), SPC 4440 (3), SPC 3445 (3), SPC 45401 (3), COM 3110 (3), COM 3120 (3).

3. Organizational Communication
   COM 3110 (3), SPC 3445 (3), SPC 3301 (3), SPC 4253 (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), JOU 3200L (0), MMC 4200 (3), MMC 4602 (3) or JOU 3003 (3), plus JOU elective (writing course) (3 hrs.).

6. Radio-TV
   RTV 3000 (3), RTV 4700 (3); RTV 3200 (4); Choose one - RTV 3300 (4), RTV 3501 (4).

7. Speech Communication
   COM 3311 (3) and 15 semester hours from the remaining courses; ORI 3001 (3), SPC 3511 (3), SPC 3601 (3), SPC 3250 (3), SPC 3301 (3), SPC 4330 (3), SPC 425 (3).

Prerequisite of Departmental Grammar proficiency test required.

BACHELOR OF ARTS: COMMUNICATION

Degree Requirements

1. University graduation requirements
   (See pages 48-51)

2. Special college and/or department requirements
   (See pages 70 and 80)

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 3003 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
- SPC 3250 Speech 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

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 70 and 80)
3. Required Courses
   - COM 3311 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
   - JOU 3600 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

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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (see pages 70 and 80)
3. Required Courses
   - COM 3311 Communication as a Behavioral Science 3 hours
   - JOU 3100 News Reporting 4 hours
   - MMC 4200 Legal Responsibilities of the Mass Media 3 hours

81
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 3200\(^1\) News Editing 4 hours
   JOU 3200L News Editing Lab 0 hours
   JOU 4104\(^1\) Public Affairs Reporting 4 hours
   MMC 4602 Contemporary Media Issues 3 hours
   JOU 3003 History of American Journalism 3 hours
   JOU 4300\(^1\) Feature Writing 4 hours
   JOU 3600 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
   PUR 4000 Principles of Public Relations 3 hours
   ADV 4000 Principles of Advertising 3 hours
   ADV 4003 Ad Layout and Prep. 3 hours
   ADV 4101 Ad Copy and Campaigns 3 hours
   ADV 4103 Radio-TV Advertising 3 hours
   COM 3110 Business & Prof. Communication 3 hours
   JOU 3600 Photojournalism I 3 hours
   ADV/PUR Practicum (4941) 3-6 hours
   or
   PUR 4800 Public Relations Campaign 3 hours

   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.

1Prerequisite of Departmental Grammar proficiency test required.

BACHELOR OF ARTS: RADIO-TELEVISION
Degree Requirements
1. University graduation requirements
   (See pages 49-51)

2. Special college and/or department requirements
   (See pages 70 and 80)

3. Required Courses
   COM 3311\(^1\) Communication as a Behavioral Science 3 hours
   RTV 3200 Broadcast Techniques 4 hours
   RTV 3000 Foundations of Broadcasting 3 hours
   RTV 4403 R/TV and Society 3 hours
   RTV 4700 Broadcast Regulations 3 hours
   RTV 4800 Broadcast Management 3 hours
   RTV 3300\(^1\) Broadcast Newswriting 4 hours
   RTV 3501\(^1\) Broadcast Copywriting 4 hours

4. Restricted Electives:
   Production—Choose one course
   RTV 3210 Radio Production 4 hours
BACHELOR OF ARTS: SPEECH

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 70 and 80)
3. Required Courses
   
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
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<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>SPC 3250</td>
<td>Speech 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>
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</table>

4. Restricted Electives:
   Select 6 hours from research area:
   
<table>
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<tr>
<th>Course Code</th>
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<td>Leadership</td>
<td>3</td>
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<tr>
<td>SPC 4440</td>
<td>Group Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>SPC 4540</td>
<td>Attitudes and Communication</td>
<td>3</td>
</tr>
<tr>
<td>SPC 4350</td>
<td>Listening</td>
<td>3</td>
</tr>
<tr>
<td>COM 4918</td>
<td>Research Planning</td>
<td>3</td>
</tr>
<tr>
<td>COM 4463</td>
<td>Communication and Courtroom Advocacy</td>
<td>3</td>
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</tbody>
</table>

   Select 5-6 hours from Rhetoric:
   
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<tr>
<td>SPC 4633</td>
<td>Rhetoric of Social and Political Action</td>
<td>3</td>
</tr>
<tr>
<td>ORI 3001</td>
<td>Interpretation I</td>
<td>3</td>
</tr>
<tr>
<td>SPC 3410</td>
<td>Parliamentary Procedure</td>
<td>2</td>
</tr>
<tr>
<td>LIN 3200</td>
<td>Phonetics</td>
<td>4</td>
</tr>
<tr>
<td>SPC 5200</td>
<td>Evolution of Communication Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

5. Electives
   Student must select six (6) additional hours from Communication Department offerings.
   Total Semester Hours Required 120

1 Prerequisite of Departmental Grammar proficiency test required.

DEPARTMENT OF COMPUTER SCIENCE

Chairman: A. Mukherjee, CCII 218, Phone 275-2341

Faculty: Adams, Bassiouni, Brigham, Cottrell, Driscoll, Dutton, Frederick, Gerber, Gomez, Guha, Hagen, Hughes, Isner, Lang, Leeson, Lindholm, Malik, Mosher, Noll, Orooji, Segami, Srinidhi, Workman.

Limited Access Program. Computer Science is a limited access program for which there are specific eligibility requirements. Interested individuals should consult the department for information.

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 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 130'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.

1. Computer Science Minor for Business Majors
   Required courses (15 hours): CAP 3001, 3002, 3006, 3007, COP 3120. Restricted electives (3 hours minimum): ACG 3701, ACG 5346, CIS 4112, 4323, COP 1110, 2510, 2511, 3402C, ECO 4412, FIN 3453, MAC 3233, 3311, 3312, 3313, MAN 4722, 4724, MAR 3613, MAS 3113, STA 4102, 4163.

2. General Computer Science Minor

BACHELOR OF SCIENCE: COMPUTER SCIENCE

Degree Requirements

1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 71)
3. Required courses:
   4. Restricted Electives
   5. 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>
<th>Course</th>
<th>Code</th>
<th>Description</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CDA 4142 (A, P)</td>
<td>*CNM 4110 (S)</td>
<td>ACG 3023</td>
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</tr>
<tr>
<td>CDA 4143 (A)</td>
<td>STA 4163 (P)</td>
<td>FIN 3403</td>
<td>3</td>
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<tr>
<td>CDA 4144 (A)</td>
<td>MAC 3313 (S)</td>
<td>MAN 3025</td>
<td>3</td>
</tr>
<tr>
<td>*CIS 4112 (D, P)</td>
<td>MAP 3302 (S)</td>
<td>MAN 3011</td>
<td>3</td>
</tr>
<tr>
<td>CIS 4323 (D)</td>
<td>MAS 3113 or 3103</td>
<td>MAR 3023</td>
<td>3</td>
</tr>
<tr>
<td>CIS 4324 (D)</td>
<td>MHF 3104</td>
<td>EEL 4701C</td>
<td>3</td>
</tr>
</tbody>
</table>

*Required for admittance into the Computer Science Graduate Program.

### BACHELOR OF ARTS: ECONOMICS

**Contact Person:** J. Boyte, FA 208, Phone 275-2492

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

#### Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 70)
3. Required courses
   - ECO 2013 Principles of Economics I 3 hours
   - ECO 2023 Principles of Economics II 3 hours
   - ECO 3101 Intermediate Price Theory 3 hours
   - ECO 3203 Aggregate Economic Conditions Analysis 3 hours
   - ECO 3411 Quantitative Methods and Business Decision Analysis 3 hours
4. Restricted Electives
   a. Select Six Courses:
      - 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
      - EGS 4003 Comparative Economic Systems 3 hours
      - ECS 4013 Economic Development 3 hours
   b. Twenty-seven hours of additional courses, including the completion of a minor from one of the following areas: Computer Science, Mathematics, Statistics, or the Social and Behavioral Sciences.
5. Electives
   Toal Semester Hours Required 120

### DEPARTMENT OF ENGLISH

**Chairman:** S. Omans, FA 432, Phone 275-2212

**Faculty:** Adicks, Barnes-Crocitto, Brain, Donnelly, Grove, Halle, Hemschemeyer, Higgins-Young, Jaffe, Jones, Keller, Marmaduke, McCown, Price, Rushin, Schiffhorst, Sommer, Stap, 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 language.
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 Lab and also publishes The Florida Review.

MINOR
The Department of English offers the following minors:

- 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.

- Technical Writing and Editing Minor: Twenty-two semester hours, as follows: ENC 2290, 3210 or 3241, 3310 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. University graduation requirements
   (See pages 48-51)
2. Special College and/or department requirements
   (See page 70)
   Foreign Language Requirement Proficiency in one modern foreign language must be shown in one of the following ways: passing a proficiency exam; presenting four years of high school credit in one language; completing 12 semester hours in one language; completing 6 semester hours in one language (in which case an additional 6 semester hours of upper-level English courses are required).
3. Required courses
   Foundation (for all concentrations)
   - LIT 3000 Literary Analysis 3 hours
   - ENL 2010 English Literature I 3 hours
   - ENL 3021 English Literature II 3 hours
   - AML 2011 American Literature I 3 hours
   - AML 3020 American Literature II 3 hours
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:
   - CRW 2000 Principles of Creative Writing 3 hours
   - ENL 4330 Shakespeare 3 hours
   - ENL 4311 Chaucer 3 hours
   or
   - ENL 4341 Milton 3 hours
   - LIN 4100 History of English Language 3 hours
   or
   - LIN 4341 Modern English Grammar 3 hours
   Choose Four of:
   - ENL 4533 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

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2. Creative Writing

Required:
- CRW 2000 Principles of Creative Writing 3 hours
- ENL 4330 Shakespeare 3 hours
- ENL 4311 Chaucer 3 hours
- ENL 4341 Milton 3 hours
- CRW 2100 Introduction to Fiction Writing 3 hours
- CRW 2300 Introduction to Verse Writing 3 hours
- LIN 4100 History of English Language 3 hours
- LIN 4341 Modern English Grammar 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 3 hours
- ENC 3310 Magazine Writing I 3 hours
- ENC 3311 Advanced Expository Writing 3 hours
- ENC 3341 Magazine Writing II 3 hours
- ENC 3210 Business Report Writing 3 hours
- ENC 3241 Technical Report Writing 3 hours

Choose Two of:
- CRW 4940 Advanced Writer Workshop I 3 hours
- CRW 4941 Advanced Writer Workshop II 3 hours
- LIN 5932 Teaching Creative Writing 3 hours

3. Technical Writing

Required:
- ENC 2290 Careers in Writing 1 hour
- ENC 3210 Business Report Writing 3 hours
- ENC 3241 Technical Report Writing 3 hours
- ENC 3311 Advanced Expository Writing 3 hours
- ENC 3341 Magazine Writing II 3 hours
- LIN 4100 History of English Language 3 hours
- LIN 4341 Modern English Grammar 3 hours

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 3 hours
- ENC 3283 Science and Lay Reader 3 hours
- ENC 4254 Technical Writing & Imagination 3 hours

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

4. Linguistics

Required:
- LIN 3010 Principles of Linguistics 3 hours
- LIN 4100 History of English Language 3 hours
- LIN 4341 Modern English Grammar 3 hours
- CRW 2000 Principles of Creative Writing 3 hours

Choose Five of:
- LIN 5137 Linguistics 3 hours
- LIN 3710 Foundations of Language 3 hours

15 hours
Language studies in the College of Arts and Sciences provide instruction in French, German, Hebrew, Chinese, 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 a literature course for the conversation course (3241 (SPN) - 3244 (FRE)). Also, a native or near-native French speaker must substitute a French literature 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 70)
3. Required courses for French or Spanish Major
   3244 (FRE), 3241 (SPN) 3 hours
   3420 3 hours
   3100 3 hours
   3101 3 hours
   or
   3130 3 hours
   3131 3 hours
   French Majors
   FRE 4780 3 hours
   or
   FRE 3955 3 hours
   4. Restricted Electives
   Students are also required to choose two of the following:
   LIN 4906 3 hours
   LIN 4341 3 hours
   LIN 3010 3 hours
   5. Electives
   Total Semester Hours Required 120

BACHELOR OF ARTS: FOREIGN LANGUAGE COMBINATION

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 70 and 89)
3. Required Courses for Combined Major in Foreign Languages

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<thead>
<tr>
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<th>Course Title</th>
<th>Hours</th>
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<td>3244 (FRE)</td>
<td>Conversation</td>
<td>3</td>
</tr>
<tr>
<td>3241 (SPN)</td>
<td>Conversation</td>
<td>3</td>
</tr>
<tr>
<td>3420</td>
<td>Composition</td>
<td>3</td>
</tr>
<tr>
<td>3100</td>
<td>Survey of Literature I</td>
<td>3</td>
</tr>
<tr>
<td>3101</td>
<td>Survey of Literature II</td>
<td>3</td>
</tr>
<tr>
<td>FRE 4780</td>
<td>French Phonetics and Diction</td>
<td>3</td>
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<tr>
<td>or FRE 3955</td>
<td>Corrective Phonetics &amp; Vocabulary Building</td>
<td>3</td>
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4. Restricted Electives

15 credits in first language
6 credits in second language

Students are required to choose two of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>LIN 4906</td>
<td>Articulatory Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>LIN 4341</td>
<td>Modern English Grammar</td>
<td>3</td>
</tr>
<tr>
<td>LIN 3010</td>
<td>Principles of Linguistics</td>
<td>3</td>
</tr>
</tbody>
</table>

5. Electives

Total Semester Hours Required 120

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 1986. 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. 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 to the subject in its complexity and 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.

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, contact Professor Jose B. Fernandez, FA 551, phone 275-2224.

3. 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 ASH, HBR, REL, and WOH. For details contact Dr. Moshe Pelli, Director of Judaic Studies, HFA 438 or 443, phone 281-4039 or 275-2466.

DEPARTMENT OF HISTORY

Chairman: J. Shofner, FA 551-B, Phone 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. Contact 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 70)
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

Chairman: P. Riley, FA 463, Phone 275-2273
Faculty: Booth, 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, with an optional specialization in religion; minors in humanities, philosophy or religion; a variety of courses in humanities, philosophy and religion for students in other areas who do not seek a major or minor.

The humanities major provides a rich background in the liberal arts. It is well suited for those students who see the college experience as a means toward fulfillment and preparation for living, and not merely as preparation for earning a living. Yet a liberal education, as provided by this major, is still considered excellent preparation, by many employers, for careers in personnel management, communications, planning, administration, labor relations, public relations, writing, editing, politics, and civil service. The philosophy major, by emphasizing a critical awareness of thought, language, and experience, provides the opportunity to engage systematically in problem clarification and resolution, to develop one's ability to discover unnoticed possibilities, and thus to deepen one's understanding of philosophical problems. The religion concentration permits one to combine a minimum program in philosophy with a selection of courses in religion.

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

MINORS

The Department of Humanities, Philosophy and Religion offers minors consisting of 22-24 semester hours. For specific requirements, students should see an advisor in Humanities, Philosophy, or Religion.
BACHELOR OF ARTS: HUMANITIES

Degree Requirements
1. University graduation requirements
(See pages 48-51)
2. Special college and/or department requirements
(See pages 70 and 92)
The department requires one year of a foreign language.
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 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 drama development 3 hours

BACHELOR OF ARTS: PHILOSOPHY

Degree Requirements
1. University graduation requirements
(See pages 48-51)
2. Special college and/or department requirements
(See pages 70 and 92)
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

AREA OF SPECIALIZATION
1. RELIGION
   Students may meet requirements for the Bachelor of Arts in Philosophy by completing
   the following alternate required courses and restricted electives.
   a. Required courses
      PHI 1100 Critical Thinking 3 hours
      PHI 2010 Introduction to Philosophy 3 hours
      PHH 3100 Ancient Philosophy 3 hours
      PHI 3600 Ethics 3 hours
      PHI 3700 Philosophy of Religion 3 hours
      REL 3203 Hebrew and Christian Heritage 3 hours
      REL 3314 Religions of China & Japan 3 hours
      REL 3342 Hinduism 3 hours
      REL 3353 Islam 3 hours
   b. Restricted electives
      Four elective courses in religion or philosophy 12 hours

DEPARTMENT OF MATHEMATICS
Chairman: L. Debnath, CC II 221, Phone 275-2585
Faculty: Andrews, Anthony, Armstrong, Barr, Brigham, Caron, Heinzer, Hurst, Jones,
Kaminski, Malik, Mikusinski, Mohapatra, Norman, O'Hara, Pettifrezzo, Rautenstrauch,
Richardson, Rodriguez, Salzmann, Sherwood, Shivamoggi, M. 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 Mathemati­
cal Science. (See the Graduate Studies catalog for a description of the M.S. in Mathemati­
cal 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 STA 6447, 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 U.C.F.

BACHELOR OF SCIENCE: MATHEMATICS
Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. 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 U.C.F. or must be approved by the Mathematics Department Standards Committee.

3. Required Courses

<table>
<thead>
<tr>
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<th>Course Name</th>
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<tbody>
<tr>
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<tr>
<td>COP 2510</td>
<td>Programming I</td>
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<tr>
<td>COP 2511</td>
<td>Programming II</td>
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<tr>
<td>MAA 4226</td>
<td>Advanced Calculus I</td>
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<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>
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</tr>
<tr>
<td>MAC 3313</td>
<td>Calculus with Analytic Geometry III</td>
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<tr>
<td>MAP 3302</td>
<td>Differential Equations</td>
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<tr>
<td>MAP 4363</td>
<td>Applied Boundary Value Problems I</td>
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<tr>
<td>MAS 3103</td>
<td>Linear Algebra</td>
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<tr>
<td>MHF 2300</td>
<td>Logic and Proof in Mathematics</td>
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<tr>
<td>PHY 3048</td>
<td>Physics for Engineers &amp; Scientists I</td>
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<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>
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</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
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<tr>
<td>STA 4321</td>
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One course selected from

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<th>Hours</th>
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<tbody>
<tr>
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<td>Technical Report Writing</td>
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</tr>
<tr>
<td>ENC 3310</td>
<td>Magazine Writing I</td>
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</tr>
<tr>
<td>ENC 3311</td>
<td>Advanced Expository Writing</td>
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</table>

4. AREA OF SPECIALIZATION

a. Mathematics

<table>
<thead>
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<th>Course Name</th>
<th>Hours</th>
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<tr>
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<td>Advanced Calculus II</td>
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<tr>
<td>MAS 4301</td>
<td>Algebraic Structures</td>
<td>3</td>
</tr>
<tr>
<td>MTG 4302</td>
<td>Introduction to Topology</td>
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<tr>
<td>STA 4322</td>
<td>Statistical Theory II</td>
<td>3</td>
</tr>
</tbody>
</table>

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

b. Applied Mathematics

<table>
<thead>
<tr>
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<th>Hours</th>
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<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>
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</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>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 5142 or COT 4001. (MAC 3233, 3253, 3254, MAE 3817 and MHF 4404 may not be used.) Two courses selected from an area of application of mathematics taught outside the Department of Mathematics. These courses must be approved by the mathematics Department Standards Committee.

5. Electives

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

Total Semester Hours Required: 120
DEPARTMENT OF MUSIC
Chairman: B. Whisler, FA 105A, Phone 275-2867
Part-time Faculty: Ault, Beck, Evans, Groves, A. Mascaro, J. Mascaro, McQuinn, Micarelli, Petta, Schwab, Somerville, Threatte, Townes.

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 in performance as evidenced by his ability to perform compositions representing a variety of musical periods. Memorization is required for pianists and vocalists. Accompanists for vocalists will be furnished only upon request prior to the audition. Each candidate must bring music for the compositions he intends to perform. The College will provide large instruments such as the tuba, string bass, or 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.

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. Music majors must earn 8 hours of major ensemble credit to graduate. Music education majors must similarly earn 7 hours in their degree program. No more than one major ensemble may be used to satisfy this requirement in any given semester, although a student may participate in more than one ensemble if he/she so desires. Major ensembles which fulfill this requirement are chorus, symphony orchestra, concert band, marching band and wind ensemble.
2. Music education majors in winds, strings, and percussion are required to participate in
the University Chorus for a minimum of two semesters during their degree program. The minor ensemble requirement will be reduced by two hours in order to accommodate this requirement. Vocal music education majors may elect to substitute 1 hour of band or orchestra for 1 hour of the minor ensemble provided they have sufficient facility on an appropriate instrument.

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

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

POLICY REGARDING MINOR ENSEMBLE PARTICIPATION

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

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, sight-singing, ear training, and music theory. Music Education students may not give a recital during their senior student teaching.

POLICY REGARDING MUSIC FORUM

Music and Music Education students are required to satisfactorily complete the Music Forum requirement during each semester that they register for a major instrument or voice unless they are student teaching. Failure to do so will result in an incomplete grade being assigned for the applied music.

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 of credit to include the following or their equivalent:
   - Theory IA and IB (6 hours), MUL 2010 (3 hours), four consecutive semesters of a major performing organization (4 hours), two semesters of Performance Level I (4 hours) and two 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. 4.0 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. University graduation requirements
   (See pages 48-51)

2. Special college and/or department requirements
   (See pages 70 and 96)

3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MUS 1010</td>
<td></td>
</tr>
<tr>
<td>MUT 2111, 2112, 3116, 3117, 4561</td>
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<tr>
<td>MUL 1241, 1242, 2246, 2247, 3248</td>
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<tr>
<td>MVK/MVS, MVW/MVB, MVP/MVV</td>
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<tr>
<td>MUN</td>
<td></td>
</tr>
<tr>
<td>MUN</td>
<td></td>
</tr>
<tr>
<td>MUH 4211, 4212</td>
<td></td>
</tr>
<tr>
<td>MUG 3101</td>
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<tr>
<td>PHS 3805</td>
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<td>Music Electives</td>
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<td>Music Forum (8 semesters)</td>
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<tr>
<td>Music Theory</td>
<td>10</td>
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<tr>
<td>Ear Training and Sight Singing</td>
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<tr>
<td>Performance (8 semesters)</td>
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<tr>
<td>Major Ensemble (8 semesters)</td>
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<tr>
<td>Minor Ensemble</td>
<td>8</td>
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<tr>
<td>*Music History</td>
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<tr>
<td>Basic Conducting</td>
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<tr>
<td>Physical Basis of Music</td>
<td>3</td>
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<tr>
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</table>

BACHELOR OF ARTS: MUSIC

Degree Requirements

1. University graduation requirements
   (See pages 48-51)

2. Special college and/or department requirements
   (See pages 70 and 96)

3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MUS 1010</td>
<td></td>
</tr>
<tr>
<td>MUT 2111, 2112, 3116, 3117, 4561</td>
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<tr>
<td>MUL 1241, 1242, 2246, 2247, 3248</td>
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<td>MVK/MVS, MVW/MVB, MVP/MVV</td>
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<td>PHS 3805</td>
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<tr>
<td>Music Electives</td>
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<tr>
<td>Music Forum (8 semesters)</td>
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<tr>
<td>Music Theory</td>
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<tr>
<td>Ear Training and Sight Singing</td>
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<tr>
<td>Performance (8 semesters)</td>
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<tr>
<td>Major Ensemble (8 semesters)</td>
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<td>Minor Ensemble</td>
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<tr>
<td>*Music History</td>
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<tr>
<td>Basic Conducting</td>
<td>2</td>
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<tr>
<td>Physical Basis of Music</td>
<td>3</td>
</tr>
<tr>
<td>*</td>
<td>10</td>
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</tbody>
</table>
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 Majors take Piano Literature (MUL 3400, 3401) for 4 hours; Voice Majors 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; Piano Pedagogy Majors take Piano Literature (MUL 3400, 3401) for 4 hours, Piano Pedagogy (MVK 4640, 4641) for 2 hours, and Studio Teaching (MUS 4401) for 2 hours, for a combined total of 8 hours.

4. Restricted Electives
   None

5. Electives

   Total Semester Hours Required
   4 hours
   120

*Three semester hours of coursework 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.
3. Two faculty-approved public recitals: a junior recital of 30 minutes length, and a senior recital of 45 minutes length. Students who select the Piano Pedagogy option will perform two faculty-approved thirty-minute recitals.
4. Any student who graduates from UCF with a major in music must complete his/her last two semesters of required performance and his senior recital while in attendance at UCF.
5. A GPA of 2.0 is required for all music courses attempted.

BACHELOR OF ARTS: MUSIC EDUCATION

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 70, 96 and 129)
3. Required Courses

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<td>Music Forum (6 semesters)</td>
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<td>MUT 1241, 1242, 2246,2247,3248</td>
<td>Ear Training and Sight Singing</td>
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<td>MVB/MVK/MVP</td>
<td>Performance (6 semesters including 2 semesters of level III)</td>
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<td>MVS/MVV/MVW</td>
<td>Music History</td>
<td>6</td>
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<td>MUN</td>
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<tr>
<td>MUH 4211, 4212</td>
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<td>MUG 3101</td>
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<td>MVP 1210</td>
<td>Class Percussion</td>
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<tr>
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<td>MVW 1210</td>
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<td>EDF 3603</td>
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<td>EDF 4214</td>
<td>Classroom Learning Principles</td>
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<td>Application of Technology in Education</td>
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<td>EDG 4324</td>
<td>Teaching in the Schools</td>
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<td>EDG 4321</td>
<td>Teaching Strategies</td>
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<td>EDE 3943</td>
<td>Junior Year Student Teaching</td>
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<td>Senior Year Student Teaching</td>
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<td>MUE 4311</td>
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<td>MUE 4360</td>
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### Program A - Instrumental Music Education Specialization

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<tr>
<td>MVV 1211</td>
<td>Class Voice</td>
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<tr>
<td>MVK</td>
<td>Class Piano I-IV</td>
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</tr>
<tr>
<td>MVB/MVK/MVP/</td>
<td>Performance IV</td>
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</tr>
<tr>
<td>MVS/MVV/MVW</td>
<td>Class Brass</td>
<td>1 hour</td>
</tr>
<tr>
<td>MVB 1210</td>
<td>Class Woodwinds</td>
<td>1 hour</td>
</tr>
<tr>
<td>MVV 1210</td>
<td>Instrumental Conducting</td>
<td>2 hours</td>
</tr>
<tr>
<td>MUG 3302</td>
<td>Seminar in Music Arranging</td>
<td>1 hour</td>
</tr>
<tr>
<td>MUE 4460</td>
<td>Marching Band Techniques</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

### Program B - Choral Music Education Specialization

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVK 1111-1141</td>
<td>Class Piano I-IV (Not required of Piano Majors)</td>
<td>4 hours</td>
</tr>
<tr>
<td>MVV 1211</td>
<td>Class Voice (Not required of Voice Majors)</td>
<td>2 hours</td>
</tr>
<tr>
<td>MVS 1216</td>
<td>Secondary Guitar</td>
<td>1 hour</td>
</tr>
<tr>
<td>MUG 3202</td>
<td>Choral Conducting</td>
<td>2 hours</td>
</tr>
<tr>
<td>MVB/MVK/MVP/</td>
<td>Performance IV</td>
<td>2 hours</td>
</tr>
<tr>
<td>MVS/MVV/MVW</td>
<td>Diction</td>
<td>3 hours</td>
</tr>
<tr>
<td>ITA 1005, FRE 1005, GER 1005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Program C - Elementary School Music Education Specialization

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVK 1111-1141</td>
<td>Class Piano I-IV (Not required of Piano Majors)</td>
<td>4 hours</td>
</tr>
<tr>
<td>MVV 1211</td>
<td>Class Voice (Not required of Voice Majors)</td>
<td>3 hours</td>
</tr>
<tr>
<td>MVS 1216</td>
<td>Secondary Guitar</td>
<td>1 hour</td>
</tr>
</tbody>
</table>
4. Restricted Electives
None.
5. Electives
None.

*Minimum Total Semester Hours Required 134-139

*Eleven hours of courses required in music and education also meet General Education Program requirements.

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).
3. Any student who graduates from UCF with a major in music education must complete his last two semesters of required performance; his recital, if required; and, his senior year student teaching while in attendance at UCF.
4. A GPA of 2.0 is required for all upper courses attempted.

DEPARTMENT OF PHYSICS
Acting Chairman: W. Oelfke, EN 312, Phone 275-2325
Faculty: Bolemon, Bolte, Brennan, Caldwell, Chow, Chowdhury, Llewellyn, Noon

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 astrophysics, atmospheric electricity, gravity, instrumentation and measurement of fundamental constants, lasers, mathematical modeling, Mossbauer Spectroscopy, molecular and atomic spectroscopy, nuclear physics, optics, physics education, plasmas, and solar energy.

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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 70)
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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 2010C</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>CHM 2045, 2046, 2046L</td>
<td>Chemistry Fundamentals</td>
<td>8</td>
</tr>
<tr>
<td>MAC 3311, 3312, 3313</td>
<td>Calculus with Analytic Geometry</td>
<td>12</td>
</tr>
<tr>
<td>PHY 3048, 3048L</td>
<td>Physics For Engineers &amp; Scientists 1 &amp; II</td>
<td>8</td>
</tr>
<tr>
<td>PHY 3101</td>
<td>Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3503</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>MAP 3302</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3044</td>
<td>Electricity, Magnetism &amp; Electromagnetic Waves</td>
<td>3</td>
</tr>
<tr>
<td>COP 3215</td>
<td>Programming and Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>PHS 3151</td>
<td>Computer Methods in Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHY 3752C</td>
<td>Physics of Scientific Instruments</td>
<td>4</td>
</tr>
<tr>
<td>PHY 4043</td>
<td>Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 4604</td>
<td>Wave Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 4424</td>
<td>Optics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3722C</td>
<td>Physics Laboratory-Electronics</td>
<td>3</td>
</tr>
<tr>
<td>STA 3032</td>
<td>Probability and Statistics for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3802L</td>
<td>Intermediate Physics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>PHY 4803L</td>
<td>Advanced Physics Laboratory</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives

Upper division PHY courses or those to be used in partial fulfillment of the requirements of a double major 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 6 hours

Total Semester Hours Required 127

DEPARTMENT OF POLITICAL SCIENCE

Chairman: J. Lilie, FA 426, Phone 275-2608

Faculty: Bledsoe, Davison, Handberg, Johnson-Freese, Kennedy, S. Lilie, Morales, 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 advisors according to their interests and career objectives.

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

Although there are no formal language requirements for a political science major, it is strongly recommended that majors planning to continue their education at the graduate level or to pursue a career in international fields 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 15 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. University graduation requirements
   (See pages 48-51)
   Only two courses (6 semester hours) from a two-year institution will be accepted toward completion of major requirements.

2. Special college and/or department requirements
   (See page 70)

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 course from area B 6 hours
   Two course 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 course from area A 6 hours
   Two course 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:
   *POS 4603 American Constitutional Law I 3 hours
   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
   Two courses from area B if area A is chosen above 6 hours
   One course from area C 3 hours

5. Electives
   Total Hours in Major 36 hours
   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
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: Dr. Robert Bledsoe, Dr. Joan Johnson-Freese, or Dr. Philip Pollock, FA 426, Phone 275-2608.

1. Some suggested electives include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACG 2001</td>
<td>Principles of Accounting I</td>
</tr>
<tr>
<td>ACG 2011</td>
<td>Principles of Accounting II</td>
</tr>
<tr>
<td>BUL 3111</td>
<td>Legal Environment of Business</td>
</tr>
<tr>
<td>ENC 3210</td>
<td>Business Report Writing</td>
</tr>
<tr>
<td>EUH 2095</td>
<td>Introduction to Anglo-American Law</td>
</tr>
<tr>
<td>LEA 3011</td>
<td>Legal Research and Writing</td>
</tr>
<tr>
<td>PHI 2130</td>
<td>Formal Logic I</td>
</tr>
<tr>
<td>PHI 3131</td>
<td>Formal Logic II</td>
</tr>
<tr>
<td>MHF 2300</td>
<td>Logic and Proof in Mathematics</td>
</tr>
<tr>
<td>LIN 4341</td>
<td>Modern English Grammar</td>
</tr>
</tbody>
</table>
INTERNERNSHIP PROGRAM: POLITICAL SCIENCE
For students who excel, a limited number of internships may be available each semester for 3 to 9 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. Philip Pollock.

DEPARTMENT OF PSYCHOLOGY
Chairman: R. Tucker, PH 317, Phone 275-2216
Faculty: Abbott, Blau, Brophy, Burr, Burroughs, Connally, Fisher, Guest-Houston, Jensen, McGuire, Rollins, Shirkey, Tell, Thomas, Turnage, 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. University graduation requirements
   (See pages 49-51)
2. Special college and/or department requirements
   (See page 70)
3. Required Courses
   - PSY 2013 General Psychology 3 hours
   - PSY 2023 Careers in Psychology 1 hour
   - PSY 3214 Research Methods 4 hours
   - PSY 3204 Statistical Methods in Psychology 4 hours
   - EXP 3404 Basic Learning Processes 4 hours
   - PSB 3002 Physiological Psychology 4 hours
4. Restricted Electives (any two)
   - CLP 3143 Abnormal Psychology 3 hours
   - DEP 3004 Developmental Psychology 3 hours
   - PPE 3003 Personality Theory 3 hours
   - SOP 3004 Social Psychology 3 hours
5. Electives
   A total of 12 semester hours in other courses offered by the Psychology Department taken in accordance with the student’s interests and career goals and with the consent of the advisor.
   Total Hours Required in Major 38
   Total Semester Hours Required 120

DEPARTMENT OF PUBLIC SERVICE ADMINISTRATION
Chairman: R. Shapak, PH 336, Phone 275-2603
Faculty: Becker, Brenneman, Colby, Cook, Duffey, Holten, Kimmitt, Korstad, Lawther, Pyle, Slaughter

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

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

BACHELOR OF ARTS: ALLIED LEGAL SERVICES

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 70)
3. Required Courses (32 semester hours)
   - LEA 3001 Law and the Legal System 4 hours
   - LEA 3011 Legal Research and Writing 4 hours
   - LEA 3101 Civil Practice and Procedure 4 hours
   - LEA 3201 Property and Real Estate Law 4 hours
   - LEA 4211 Estates and Trusts 4 hours
   - LEA 4301 Contracts and Agency 4 hours
   - LEA 4312 Partnerships and Corporations 4 hours
   - LEA 4501 Domestic Relations Law 4 hours
4. Restricted Electives
   a. Eight (8) additional semester hours of Allied Legal Services Coursework.
   b. Eight (8) semester hours of supporting courses selected from other disciplines or departments with the approval of the student's advisor. Courses may be selected from among, but not necessarily limited to offerings in accounting, communication, criminal justice, history, political science, public administration, social work, and sociology.
5. Electives
   Total Semester Hours Required 120

CRIMINAL JUSTICE

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

BACHELOR OF ARTS: CRIMINAL JUSTICE

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 70)
3. Required Courses (16 semester hours)
   - CCJ 3020 Criminal Justice System 4 hours
   - CCJ 3010 Crime in America 4 hours
   - CCJ 3290 Prosecution and Adjudication 4 hours
   - CCJ 3300 The Corrections and Penology 4 hours
4. Restricted Electives
   a. 20 additional semester hours of CCJ coursework.
   b. 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, allied legal services, sociology, statistics, and psychology.
5. Electives
   Total Semester Hours Required 120

PUBLIC ADMINISTRATION

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

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 70 and 105)
3. Required Courses (32 semester hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD 3003</td>
<td>Introduction to Public Administration</td>
<td>4</td>
</tr>
<tr>
<td>PAD 4034</td>
<td>Public Policy Administration</td>
<td>4</td>
</tr>
<tr>
<td>PAD 4104</td>
<td>Administrative Theory</td>
<td>4</td>
</tr>
<tr>
<td>PAD 4204</td>
<td>Fiscal Management</td>
<td>4</td>
</tr>
<tr>
<td>PAD 4414</td>
<td>Public Personnel Administration</td>
<td>4</td>
</tr>
<tr>
<td>POS 2041</td>
<td>American National Government</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>COC 1100</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CAP 3001</td>
<td>Computer Fundamentals for Business Application</td>
<td>3</td>
</tr>
<tr>
<td>STA 2014</td>
<td>Principles of Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>a course in social science research with an emphasis on statistical methods</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives
   a. Sixteen (16) additional semester hours of Public Administration coursework (may include internship)
   b. Ten (10) semester hours in an allied public service field. This field and the corresponding courses are selected with and approved by the student’s advisor. Among such supporting fields are accounting, allied legal services, communication, computer science, criminal justice, economics, political science, social work, sociology and statistics.

5. Electives

Total Semester Hours Required 120

BACHELOR OF SCIENCE: SOCIAL SCIENCES

Contact Person: J. Boyte, FA 208, Phone 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. University graduation requirements (See pages 48-51)
2. Special college and/or department requirements (See page 70)
3. Required Courses
   None
4. Restricted Electives
   a. Choose one
      | Course Code | Course Title                                | Hours |
      |-------------|---------------------------------------------|-------|
      | POS 3703    | Scope and Methods of Political Science      | 3     |
      | PSY 3214    | Research Methods (Psychology)               | 3     |
      | SYA 3300    | Research Methods (Sociology)                | 3     |
      |             | a. 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     |
      | COM 3311    | Communication as a Behavioral Science       | 3     |
      | Economics |                                |       |
      | ECO 2013    | Principles of Economics I                   | 3     |
      | ECO 2023    | Principles of Economics II                  | 3     |
      | Political Science |                                |       |
      | POS 2041    | American National Government                | 3     |
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 320 or Law and the Legal System 4 hours
LEA 3001
Sociology
SYG 2000 General Sociology 3 hours
ANT 2003 General Anthropology 3 hours

Electives
Total Semester Hours Required 120

DEPARTMENT OF SOCIAL WORK
Chairman: K.J. Kazmerski, FA 404, Phone 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, 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. University graduation requirements
(See pages 48-51)
2. Special college and/or department requirements
(See page 70)
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
SYA 3301 Social 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 4620 Social Work with Minorities 3 hours
SOW 4510 Field Education 9 hours
SOW 4522 Field Education Seminar 3 hours

4. Restricted Electives (9 hours)
These upper level electives may be taken from any department and are to be consistent with the objectives of the Department of Social Work and are to be selected with the student’s faculty advisor. A concentration in child welfare, gerontology, or health services will meet this requirement.

5. Electives

Areas of Concentration
Students desiring to concentrate their studies in an area must satisfy the requirements of
the basic curriculum while concurrently completing a minimum of 21 hours in the concentration.

1. Child Welfare Concentration
   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 169, Office of Undergraduate Studies

3. Health Services Concentration
   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

Chairman: D. Fabianic, FA 402, Phone 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.

BACHELOR OF ARTS: SOCIOLOGY

Degree Requirements
The Sociology curriculum is designed to give students the perspective, competencies,
and experience needed to work effectively in areas concerning organizational and human
resources, problems and planning, social processes, and social research. A minimum of 41
semester hours is required for a major. In addition a course in statistics is also required.

1. University graduation requirements
   (See pages 49-51)

2. Special college and/or department requirements
   (See pages 70 and 109)

3. Required Courses (23 semester hours)
   SYG 2000  General Sociology  3 hours
   SYO 3000  Modern Sociology  3 hours
   SYA 3110  Development of Social Thought  3 hours
   or
   SYA 3120  Modern Sociological Thought  3 hours
   SYA 3300  Research Methods  4 hours
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<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>
</tr>
<tr>
<td>SYA 4450</td>
<td>Data Analysis (PR: A 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

4. Restricted Electives

Two courses from each of the two following groups (12 hours) plus 6 additional hours from either of the groups below.

1. Social Problems and Deviance

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYD 3700</td>
<td>Race &amp; Ethnic Minorities in the U.S.</td>
<td>3</td>
</tr>
<tr>
<td>SYG 3010</td>
<td>Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>SYO 3410</td>
<td>Sociology of Mental Illness</td>
<td>3</td>
</tr>
<tr>
<td>SYP 3510</td>
<td>Sociology of Deviant Behavior</td>
<td>3</td>
</tr>
<tr>
<td>SYP 3520</td>
<td>Criminology</td>
<td>3</td>
</tr>
<tr>
<td>SYP 3530</td>
<td>Juvenile Delinquency</td>
<td>3</td>
</tr>
<tr>
<td>SYP 3551</td>
<td>Sociology of Alcoholism</td>
<td>3</td>
</tr>
<tr>
<td>SYP 4550</td>
<td>Sociology of Drug Abuse</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Social Processes, Organizations and Institutions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYD 3410</td>
<td>Urban Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SYD 3800</td>
<td>Sex Roles in Modern Society</td>
<td>3</td>
</tr>
<tr>
<td>SYD 4020</td>
<td>Population</td>
<td>3</td>
</tr>
<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>
</tr>
<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>
<tr>
<td>SYO 4400</td>
<td>Medical Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SYP 3300</td>
<td>Collective Behavior</td>
<td>3</td>
</tr>
<tr>
<td>SYP 3400</td>
<td>Social Change</td>
<td>3</td>
</tr>
<tr>
<td>SYP 4730</td>
<td>Sociology of Aging</td>
<td>3</td>
</tr>
</tbody>
</table>

Special Courses: Qualified students may apply for an internship in Field Experience and/or Social Research Practicum (SYA 4350 usually 6 hours)

5. Electives

Total Semester Hours Required 120

**BACHELOR OF ARTS: ANTHROPOLOGY**

**Degree Requirements**

Anthropology offers the Bachelor of Arts and Bachelor of Science degrees. In keeping with the holistic nature of the discipline, students are required to pursue a course of study which leads to a comprehension of all subfields of Anthropology. The four recognized subfields of Anthropology are: Cultural Anthropology, Archaeology, Physical Anthropology, and Linguistics. Area studies dealing with North American Indians, Mesoamerican Civilization, and Latin American Culture are available to the student. The Program also provides for interested majors or minors with the proper background course work to participate in ongoing archaeological excavations dealing 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. University graduation requirements
   (See pages 48-51)

2. Special college and/or department requirements
   (See pages 70 and 109)

3. Required Courses (27 semester hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT 3000</td>
<td>Human Origins (Anthropology I)</td>
</tr>
<tr>
<td>ANT 3410</td>
<td>Cultural Anthropology (Anthropology II)</td>
</tr>
<tr>
<td>ANT 3511</td>
<td>The Human Species (Anthropology III)</td>
</tr>
</tbody>
</table>

110
ANT 3034 History of Anthropological Ideas
ANT 3145 Archaeology of Complex Societies
ANT 3422 Peoples of the World
ANT 3610 Language and Culture
ANT 3940 The Profession of Anthropology
ANT 4084 Anthropological Method and Theory

4. Restricted Electives (18 hours)
Area Studies (Select two)
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

Specialized Studies (Select four)
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

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
ANT 5479 Comparative Cultural Analysis
ANT 5937 Proseminar in Anthropology

Total Semester Hours Required 120

DEPARTMENT OF STATISTICS
Chairman: L. Malone, BL330, Phone 275-2289
Faculty: Cutchins, A. Dutton, Franklin, Gan, Kraemer, Ostle, J. Schott, S. Schott, 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.

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. University graduation requirements
   (See pages 48-51)
2. 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 U.C.F. 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 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 2050C
   - PHY 2051C

   (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.)

3. Required Courses
   - STA 3023 Statistical Methods I 3 hours
   - STA 3664 Statistical Quality Control 3 hours
STA 4102  Computer Processing of Statistical Data  3 hours
STA 4163  Statistical Methods II  3 hours
STA 4164  Statistical Methods III  3 hours
STA 4222  Sample Survey Methods  3 hours
STA 4321  Statistical Theory I  3 hours
STA 4322  Statistical Theory II  3 hours
STA 4502  Nonparametric Statistical Methods  3 hours
CNM 4110  Numerical Calculus  3 hours
COP 2510  Programming I  3 hours
COP 2511  Programming II  3 hours
MAC 3311  Calculus with Analytic Geometry I  4 hours
MAC 3312  Calculus with Analytic Geometry II  4 hours
MAC 3313  Calculus with Analytic Geometry III  4 hours
MAS 3103  Linear Algebra  4 hours
or
MAS 3113  Matrices  4 hours
COT 3000  Introduction to Discrete Structure  3 hours
or
MHF 2300  Logic and Proof in Mathematics  3 hours
ENC 3241  Technical Report Writing  3 hours

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.)

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 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. Performance track students are expected to audition for productions; technical track students are expected to serve on crews for 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. University graduation requirements
   (see pages 48-51)
2. Special college and/or department requirements
   (see page 70)
3. Required Courses (28 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  3 hours
   TPP 2110  Acting I  3 hours
   TPP 3310  Directing I  3 hours

AREAS OF CONCENTRATION

113
Program 'A' Performance

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE 3305</td>
<td>Drama Analysis</td>
<td>3</td>
</tr>
<tr>
<td>THE 3925</td>
<td>Theatre Practicum II</td>
<td>2</td>
</tr>
<tr>
<td>TPP 3111</td>
<td>Acting II</td>
<td>3</td>
</tr>
<tr>
<td>TPP 4150</td>
<td>Scene Study and Character Dev.</td>
<td>3</td>
</tr>
<tr>
<td>TPP 4260</td>
<td>Acting III</td>
<td>3</td>
</tr>
<tr>
<td>TPP 4311</td>
<td>Directing II</td>
<td>3</td>
</tr>
</tbody>
</table>

Suggested Electives: Theatre and Related Courses 12 hours

Program "B" Technical Theatre & Design

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE 3260</td>
<td>Theatrical Costume History and Design</td>
<td>3</td>
</tr>
<tr>
<td>THE 3925</td>
<td>Theatre Practicum II</td>
<td>2</td>
</tr>
<tr>
<td>TPA 2082</td>
<td>Stage Properties</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3060</td>
<td>Scene Design I</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3220</td>
<td>Stage Lighting</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3221</td>
<td>Lighting Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Suggested Electives: Theatre and Related Courses 12 hours

Program "C" Film

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE 3251</td>
<td>History of Motion Picture</td>
<td>3</td>
</tr>
<tr>
<td>THE 4072</td>
<td>Principles of Motion Picture Art</td>
<td>3</td>
</tr>
<tr>
<td>THE 4073</td>
<td>Film Production</td>
<td>3-6</td>
</tr>
<tr>
<td>TPA 3060</td>
<td>Scene Design</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3220</td>
<td>Stage Lighting</td>
<td>3</td>
</tr>
</tbody>
</table>

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

PREPROFESSIONAL PROGRAMS/PRE-HEALTH PROFESSIONS ADVISEMENT OFFICE

Preprofessional Coordinator: O.M. Berringer, BL 103, Phone 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. 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 predental 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 preprofessional student is urged to pursue a degree granting program not only to become more competitive for admission, but also to prepare for an alternate career in the event admission to a professional school is denied. Any degree granting program offered by the University may be selected as a major;
however, those programs within the sciences will generally lend themselves most ade-
quately 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, applica-
tions, 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 Sciences, see College of Health section, page 156.
COLLEGE OF
BUSINESS ADMINISTRATION

UNDERGRADUATE PROGRAMS
- Accounting (BSBA)
- Economics (BSBA)
- Finance (BSBA)
- General Business Administration (BSBA)
- Hospitality Management (BSBA)
- Management (BSBA)
- Marketing (BSBA)

GRADUATE PROGRAMS*
- Accounting (MS)
- Applied Economics (MA)
- Business Administration (MBA)

*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 3233, STA 3023, and CAP 3001. Students who otherwise meet the University admission requirements, such as entering freshmen and transfer students, will be classified as "provisional" Business Administration majors 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
- Economics
- Finance
- Hospitality Management
- General Business Administration
- Management
- Marketing
COMMON BODY OF KNOWLEDGE

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACG 2001</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACG 2011</td>
<td>Principles of Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>ACG 3023</td>
<td></td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>BUL 3111</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>ENC 3210</td>
<td>Business Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>MAC 3223</td>
<td>Concepts of Calculus</td>
<td>3</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 3411</td>
<td>Quant. Methods &amp; Bus. Decisional Anal.</td>
<td>3</td>
</tr>
<tr>
<td>CAP 3001</td>
<td>Comp. Fund. for Business App.</td>
<td>3</td>
</tr>
<tr>
<td>FIN 3403</td>
<td>Business Finance</td>
<td>3</td>
</tr>
<tr>
<td>MAN 3025</td>
<td>Management of Organizations</td>
<td>3</td>
</tr>
<tr>
<td>MAR 3023</td>
<td>Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MAN 3504</td>
<td>Production/Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>GEB 4351</td>
<td>Business in the International Environment</td>
<td>3</td>
</tr>
<tr>
<td>MAN 4720</td>
<td>Business Policies</td>
<td>3</td>
</tr>
</tbody>
</table>

Students in the College of Business Administration cannot receive credit for the following courses: MAN 3705, GEB 3004, 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 chairperson of their major area.

COMMUNITY/JUNIOR COLLEGE TRANSFERS

Community/Junior College students who plan to transfer to the College of Business Administration at the University of Central Florida are advised to:

1. Complete the entire university-parallel program at the Community/Junior College (the Associate of Arts Degree) including:
   A. the general education requirements prescribed by the Community/Junior College.
   B. the one-year accounting and economics sequences (sophomore years).
   C. a course in College Algebra
2. Professional courses should not be taken at a community/junior college in the areas of Management, Marketing, Real Estate, or Finance. These professional areas are third and fourth year course areas in the College of Business Administration and cannot be satisfied with community/junior college courses.

MINOR (not open to Business Majors)

The College of Business Administration offers a minor consisting of 24 semester hours. (9 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 and MAN 3705 may not be used as the business course elective. Nine (9) semester hours must be taken at UCF.

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.
SCHOOL OF ACCOUNTING

Director: H. Anderson, PH 417, Phone 275-2463
Faculty: Aldina, Avery, Bandy, Campbell, Clark, Danese, Grierson, Hunt, W. Johnson, Kaminsky, Kellhfer, Klintworth, Phillips, Robertson, J. Salter, M. Salter, Savage, Veit, D. Welker, R. Welker

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 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 118)
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, a State of Florida CPA Law went into effect. It 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
Chairman: B. Rungeling, PH 444, Phone 275-2465
Faculty: Day, Euzent, Fritz, D. Hosni, Kilbride, Martin, McHone, Penland, 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 118 and 121)
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
Chairman: D. Klock, PH 436, Phone 275-2525
Faculty: Atkinson, Cheney, Dewitt, Graham, Madura, Modani, Neustel, Reiff, Scott, Spudek, Veit

The program in finance is designed to provide the student with a broad knowledge in the areas of business finance, investments, financial institutions, insurance, 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 118)
3. Required Courses
   a. Business College Common Body of Knowledge
   b. FIN 3502 Investments 3 hours
      FIN 3453 Financial Models 3 hours
      FIN 3233 Money and Banking 3 hours
c. Select one of the following:
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 4303 Real Estate Investment Analysis 3 hours
REE 4303 Principles of Risk and Insurance 3 hours

5. Electives
Total Semester Hours Required 120

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 3015 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 Comm 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 118)
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
Chairman: A. Pizam, PH 347, Phone 275-2188
Faculty: Ashley, Chandrasekar, McCool

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, county 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 BUSINESS ADMINISTRATION: HOSPITALITY MANAGEMENT

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 118 and 124)
3. Required Courses
   a. Business College Common Body of Knowledge EXCEPT:
      BUL 3111  Legal Environment of Business
      ENC 3210  Business Report Writing
      CAP 3001  Computer Fundamentals for Business Applications
      (These requirements are met through the required Hospitality Management courses.)
   b. HFT 1000  Introduction to the Hospitality & Tourism Industry
      HFT 2252  Rooms Division Management
      FSS 2202C  Food Production Techniques
      HFT 3420  Managerial Accounting for the Hospitality Industry
      FSS 3223  Quantity Food Management
      HFT 3603  Legal Environment of the Hospitality & Tourism Industry
      HFT 3444  Management Information Systems for the Hospitality Industry
      HFT 3930  Guest Lecture Series
      HFT 4503  Hospitality & Tourism Marketing
      HFT 4700  Travel & Tourism Administration
   c. Practical Industry Experience
      Eight hundred hours of travel industry work experience are required of all students.
      This experience must be in some aspect of the industry in which the student is particularly interested. This experience has to be approved by the departmental work experience coordinator.
4. Restricted Electives
   Hospitality Management majors will be required to take four (4) electives from the following courses for a total of twelve (12) hours beyond the required courses.
   HFT 3313  Hospitality Property Management
   FSS 3120  Quantity Food Purchasing
   HFT 4717  Tourism Planning and Development
   HFT 4753  Conference and Convention Planning
   HFT 4932  Current Topics in Hospitality Management
   HFT 4860  Beverage Management
   AVM 4510  Airline Management
   HFT 4722  Travel Agency Management
   MCB 3930  Microbiology and Sanitation in Food Service Operations
   5. Electives
      Total Semester Hours Required  120 - 121

DEPARTMENT OF MANAGEMENT
Chairman: H. Jones, PH 343, Phone 275-2376
Faculty: Berry, Bogumil, Bondurant, Burnette, Callarman, Comish, Eubanks, Fernald, Goodman, Hollis, T. Jones, Martin, McCartney, A. Schou, C. Schou, 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 118 and 125)
3. Required Courses
   a. Business College Common Body of Knowledge
   b. MAN 3301 Personnel Management 3 hours
      MAN 4201 Organization Theory 3 hours
      MAN 4120 Business and Society 3 hours
      MAN 4722 Information Systems Analysis 3 hours
4. Restricted Electives (Select a minimum of 3 courses)
   a. MAN 4150 Human Relations in Management 3 hours
   b. MAN 4854 Management Science 3 hours
   c. MAN 4310 Personnel Management Issues 3 hours
   d. MAN 4401 Labor Relations Management 3 hours
   e. MAN 4420 Service Organization Management 3 hours
   f. MAN 4590 Procurement Management 3 hours
   g. MAN 4724 Implementing Information Systems 3 hours
5. Electives
   Total Semester Hours Required 120

DEPARTMENT OF MARKETING
Chairman: TBA, PH 404, Phone 275-2108
Faculty: Conley, Davis, Fuller, Gillett, Joyce, Morris, 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 118)
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 4722 Marketing Management 3 hours
      MAR 4713 Marketing Strategy 3 hours
4. Restricted Electives
   Minimum of 3 courses
   a. MAR 3303 Advertising Management 3 hours
   b. MAR 3403 Sales Management 3 hours
   c. MAR 4123 Product Management 3 hours
   d. MAR 4153 Retailing Management 3 hours
   e. MAR 4203 Marketing Channel Systems 3 hours
   f. MAR 4243 International Marketing 3 hours
   g. MAR 4453 Industrial Marketing 3 hours
   h. MAR 4703 Contemporary Marketing Issues 3 hours
   i. MAR 4941 Internship 3-6 hours
5. Electives
   Total Semester Hours Required 120
COLLEGE OF EDUCATION

UNDERGRADUATE PROGRAMS
Art Education (BA)
Business Education (Comprehensive) (BA)
Educational Media Specialist (BA)
Elementary Education (BA)
English Language Arts Education (BA)
Exceptional Child (BA)
Foreign Language Education (BA)
Mathematics Education (BA)
Physical Education (BA)
Science Education (BA)
Social Science Education (BA)
Speech Education (BA)
Technical/Vocational Education (BA)

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 Specialist (MA) (M.Ed)
Elementary Education (MA) (M.Ed)
English Language Arts Education (MA) (M.Ed)
Exceptional Child (MA) (M.Ed)
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 Programs
Administration & Supervision (Ed.D) (Ed.S)
Curriculum and Instruction (Ed.D) (Ed.S)

*See the Graduate catalog for information
Students who are planning a career in teaching in the elementary or secondary schools should enroll in this College. Programs are offered leading to the Bachelor of Arts, Master of Education and Master of Arts degree in Education.

The professional program is concerned primarily with the interrelated and interdependent areas of Specialized Preparation and Professional Preparation.

In general, specialized preparation in subject matter areas for secondary education majors is offered by the other colleges, while specialized elementary education content courses are offered by the College of Education.

The professional sequence, a responsibility of the College of Education, is designed for developing:

A. Insights into the processes of school curriculum and organization.
B. Understanding of how learning takes place with methods and procedures needed for successful teaching.
C. An understanding of the society in which a school functions.
D. An awareness in the individual of his relationship with students and the community.
E. A realization of the challenges and responsibilities in the field of education and a basic philosophy of education.

Considerable emphasis is given to providing all education majors with an opportunity to have cooperatively planned learning experiences in a laboratory setting which are specifically designed to blend realistic practical experience with theoretical knowledge. Public elementary and secondary schools in Central Florida serve as educational laboratories for the College of Education.

UNDERGRADUATE CAREER TEACHING PROGRAM

Students are encouraged to designate the College of Education as their intended major college as early as this becomes their clear intent. Junior transfer students should enter Phase I of the professional education sequence during their initial term in attendance.

As a prerequisite to formal admission to the State Approved Program of Teacher Education students must: 1) score at or above the 40th percentile of all college bound persons tested on the American College Testing Program (ACT, Score 17) or the Scholastic Aptitude Test (SAT, score 835) and have this score recorded as part of their official university academic record, 2) have an overall and UCF academic average (G.P.A.) of 2.0 or above, 3) have satisfactorily completed Phase I, 4) have passed the College Level Academic Skills Test (CLAST) and 5) submit a formal junior student teaching application to the college Student Internships Office.

All UCF Teacher Education Programs provide for two semesters of student teaching--one at the junior level and one at the senior level.

The Career Teacher Program consists of three distinct phases:

PHASE I-EXPLORATION

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.

PHASE II-DEVELOPMENTAL

Junior Student Teaching 6 hours

EDE 3942 Junior Student Teaching-Elementary OR
EDE 3943 Junior Student Teaching-All K-12 majors OR
ESE 3940 Junior Student Teaching-Secondary

Laboratory experience in Phase II is jointly planned by public school personnel and university faculty and conducted in approved Student Teaching Centers. Experience is
provided at different grade levels 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.

Application Deadline—An application for Phase II (junior) student teaching must be submitted. Applications are due at least one semester (summer excluded) prior to registration.

PHASE III-APPLICATION
Senior Year Student Teaching
EDE 4943 Senior Student Teaching-Elementary OR
ESE 4943 Senior Student Teaching-Secondary

In Phase III the student applies the fundamentals of teaching and academic knowledge previously attained under the supervision of a selected teacher; the student is responsible for developing and executing plans. A full semester is devoted to student teaching. To be admitted to Phase III, a student must have satisfied the requirements for Phase I and Phase II; have a 2.2 average in his area of academic specialization; have a 2.0 UCF and overall academic average; be recommended by his department and be accepted by the Student Internships office.

Application Deadline—An application for Phase III Student Teaching must be submitted at least one semester (summer excluded) prior to registration. Application deadlines will be published and followed.

CERTIFICATION FOR TEACHING
All College of Education undergraduate curricula academically fulfill State of Florida certification requirements for a Bachelor’s Degree Florida Teaching Certificate. There is an “interstate” agreement with several states for College of Education graduates who desire to teach outside Florida. Persons who complete a Florida State Approved Program are certifiable upon completed application in any of the participant states (post degree requirements excluded, i.e., state exam.)

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.
STUDENT INTERNSHIPS PROGRAM
Director: Jack H. Armstrong, ED 214, Phone 275-2401

The UCF program for students planning a career in teaching is considered innovative and functional because of early and continuous field experience which attempts to blend theoretical consideration with the practical. Cooperative planning and articulation with school personnel assures appropriate activities in education settings. A full year of internship is an integral part of each program and consists of one junior and one senior semester along with appropriate support courses.

DEPARTMENT OF EDUCATIONAL FOUNDATIONS
Chairman: William K. Esler, ED 243, Phone 275-2426
Faculty: Barr-Johnson, Beadle, Blume, Dzibian, Harlacher, Harrow, Hiett, Hoover, Kysilka, Lange, Manning, McLain, Miller, Olson, Sciortino, Sullivan, Wood

PROFESSIONAL PREPARATION
The Educational Foundations Department conducts professional preparation courses that include topics and skills required by all teachers. The twenty-three generic teaching competencies as defined by the Florida Department of Education are included. State teacher certification requirements (Professional Preparation) include the following:

EDF 4285 Application of Technology in Education 3 hours
EDG 4321 Teaching Strategies 4 hours
EDG 4324 Teaching in the Schools 3 hours
EDF 3603 Analysis of Educational Foundations 3 hours
EDF 4214 Classroom Learning Principles 3 hours
EDE 3942, 3943 or
ESE 3940 Junior Year Student Teaching 6 hours
EDE 4943 or
ESE 4943 Senior Year Student Teaching 12 hours

Teaching Strategies, EDG 4321, is the preferred entry course for the Exploratory portion (Phase I) of the teacher education program. Courses to fulfill the Special Methods and Specialization certification requirements are offered by other departments within the college and university.

DEPARTMENT OF EDUCATIONAL SERVICES
Chairman: J. Powell, ED 318, Phone 275-2047
Faculty: Baumbach, Bell, Bollet, Bozeman, Clark, Cleland, Cornell, Crocitto, Gergley, Haughee, Hernandez, Higginbotham, Hunter, Marowitz, Martin, Mealor, Miller, Midgett, Olson, Orwig, Platt, Renner, Rohter, Rothberg, Shadgett, Tubbs

The focus of the Department of Educational Services is to provide training for specialists in school and non-school environments. Undergraduate academic major programs leading to bachelor's degrees and K-12 certification are offered in Educational Media, Exceptional Child Education, and Physical Education. Separate elementary and secondary certification programs are offered in Physical Education. In addition, minors, certification programs and masters level (M.A., M.S., or M.Ed.) graduate programs are available in the following areas: Administration & Supervision, Educational Media, Exceptional Child Education, Counselor Education, Physical Education, and School Psychology. An affiliated doctoral program is available in the areas of Administration and Supervision leading to the Specialist and Doctorate of Education degrees.

BACHELOR OF ARTS: EXCEPTIONAL CHILD EDUCATION
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 128 and 129)
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
or ELD 4011 Introduction to Specific Learning Disabilities 4 hours
or EMR 4011 Introduction to the Mental Retardation 4 hours
EED 4212 Curriculum and Program Adaptations, E.H. 4 hours
or ELD 4242 Program Planning for Specific Learning Disabilities 4 hours
or EMR 4372 Curriculum Method and Materials for Retarded Persons 4 hours

4. Restricted Electives
5. Electives
None

Minimum Total Semester Hours Required 120

BACHELOR OF ARTS: PHYSICAL EDUCATION

1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 128 and 129)
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 & Rhythmics 3 hours
   PET 3041 Games for the Elementary School PE Program 3 hours
   RED 3012 Basic Foundations of Reading 2 hours
   or LAE 4314 Language Arts in the Elementary School 3 hours
   MUE 3210 Music in the Elementary School 3 hours
   or ARE 4313 Art in the Elementary School 3 hours
   Total Hours 38

131
II. Secondary Physical Education (6-12)

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 4622C  Human Injuries  3 hours
PET 4312  Biomechanics  3 hours
PET 4382  Fitness Assessment & Exercise Intervention  3 hours

PEP 3201  Gymnastics  2 hours
DAE 3300  Dance Techniques  3 hours
PET 3453  Coaching and Officiating  3 hours
PEO 3005  Advanced Sports Analysis  3 hours
PEO 3031  Individual Sport Activities  3 hours

Total Hours  36

4. Restricted Electives
None

5. Electives
None

Minimum Total Semester Hours Required  120

BACHELOR OF ARTS: EDUCATIONAL MEDIA SPECIALIST

1. University graduation requirements
(See pages 48-51)

2. Special college and/or department requirements
(See pages 128 and 129)

3. Required Courses

Specialization

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIS 3016</td>
<td>Introduction to Media Services</td>
<td>3</td>
</tr>
<tr>
<td>LIS 3412</td>
<td>Media for Children and Young Adults</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4310</td>
<td>Production of Materials for the Media Center</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4422</td>
<td>Administration and Operation of the Media Center</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4428</td>
<td>Utilization of Educational Media</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4453</td>
<td>School Media Services</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4510</td>
<td>Development of Media Services</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4540</td>
<td>Interactive Techniques in Media Services</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4601</td>
<td>Reference Sources and Services</td>
<td>3</td>
</tr>
<tr>
<td>LIS 4731</td>
<td>Organization of Media and Information</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives
To be chosen in consultation with advisor

5. Electives
Minimum Total Semester Hours Required  120

DEPARTMENT OF INSTRUCTIONAL PROGRAMS

Chairman: R. Martin, ED 346, Phone 275-2939
Faculty: Anderson, Armstrong, Bird, Brumbaugh, Clarke, Cox, Green, Gurney, Hall, Hopkins, Hudson, Hynes, Joels, McGee, Miller, Palmer, Paugh, Sanford, Siebert, Sorg, Thompson, Weidenheimer, 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, reading/language arts, mathematics, music, physical education, science and social studies; and (3) professional study which
includes planned laboratory activities with children in schools identified as Teacher Education Centers.

Early Childhood Education (nursery and kindergarten). In combination with preparation to teach grades one through six, requirements may be met for preparation/certification to teach Kindergarten (6 semester hour minimum).

Secondary Education
Career programs are available for prospective teachers who have an interest in working with adolescent students in a specific academic area at the middle, junior, or high school levels. Specializations are available in Biology, Chemistry, English, Foreign Language, Mathematics, Physics, Social Science, and Speech.

Art/Music
Two programs are designed to prepare specialists to function at both the elementary and secondary levels (K-12). A major in 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.

Business Education
A bachelor's degree comprehensive curriculum is planned for students who desire to specialize in Business Education.
BACHELOR OF ARTS: ART EDUCATION

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 128 and 132)
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 4165C 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 4441 Graphics Instructional Materials 3 hours
   ART 5109C Crafts Design 3 hours
   4. Restricted Electives (select one)
      ARH 2050 or 2051 or 4700. 3 hours
   5. Electives
      None

Minimum Total Semester Hours Required 120

BACHELOR OF ARTS: BUSINESS EDUCATION

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 128 and 132)
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
   Special Methods
   BTE 3391 Business Instructional Analysis I 2 hours
   BTE 4393 Business Instructional Analysis III 2 hours
   4. Restricted Electives
      Select two of the following (6 semester hours)
      ACG 3103 Financial Accounting I 3 hours
      CAP 3002 Business Application Programming 3 hours
ECP 4403  Business Gov. & Ind. Organizations  3 hours
ECS 4003  Com. Economic Systems  3 hours
MAN 3301  Personnel Management  3 hours
MAN 4150  Human Relations Management  3 hours

5. Electives
None

Minimum Total Semester Hours Required  120

BACHELOR OF ARTS: ELEMENTARY EDUCATION

Degree Requirements
1. University graduation requirements
(See pages 48-51)
2. Special college and/or department requirements
(See pages 128 and 132)
3. Required Courses
Specialization
ARE 4313  Art in the Elementary School  3 hours
HLP 4460  Teaching Elementary School Health/Physical Education  3 hours
LAE 3414  Literature for Children  3 hours
LAE 4314  Language Arts in the Elementary School  3 hours
MAE 4326  How Children Learn Mathematics  4 hours
MUE 3210  Music in the Elementary School  3 hours
SCE 3310  Teaching Science in the Elementary School  4 hours
SSE 3312  Teaching Social Science in the Elementary School  4 hours

Special Methods
RED 3012  Basic Foundations of Reading  3 hours
RED 4519  Diagnostic and Corrective Reading Strategies  3 hours

4. Restricted Electives
Ten semester hours in science are required for majors: GEO 1200, BSC 201OC 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
None

Minimum Total Semester Hours Required  121

BACHELOR OF ARTS: ENGLISH LANGUAGE ARTS EDUCATION

Degree Requirements
1. University graduation requirements
(See pages 48-51)
2. Special college and/or department requirements
(See pages 128 and 132)
3. Required Courses
Lower Division
ENC 1101  Composition I  3 hours
ENC 1102  Composition II  3 hours
SPC 1014  Fundamentals of Oral Communication  3 hours

Literature
ENL 2010  English Literature I: Beowulf to 1660  3 hours
ENL 3021  English Literature II: From 1660 to 1870  3 hours
AML 2011  American Literature I  3 hours
AML 3020  American Literature II  3 hours
AML 4321  Modern American Literature OR Modern British Literature  3 hours
ENL 4373  Modern British Literature  3 hours
ENL 4330  Shakespeare  3 hours
LIT 3000  Literary Analysis  3 hours

135
Composition
ENC 3310 Magazine Writing I 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 ARTS: SPEECH EDUCATION
Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. 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
   Language and Composition
   ENC 3310 Magazine Writing I 3 hours
   LIN 4341 Modern English Grammar 3 hours
   Speech
   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 ARTS: FOREIGN LANGUAGE EDUCATION
Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 128 and 132)
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
   FRW 3100 Survey of French Literature I 3 hours
   FRW 3101 Survey of French Literature II 3 hours

136
Spanish Language
FLE 3063  | Foreign Language as Human Behavior | 2 hours
SPN 1120  | Elementary Language and Civilization I | 4 hours
SPN 1121  | Elementary Language and Civilization II | 4 hours
SPN 2230  | Intermediate Language and Civilization I | 4 hours
SPN 2231  | Intermediate Language and Civilization II | 4 hours
SPN 3241  | Spanish Conversation | 3 hours
SPN 3420  | Spanish Composition | 3 hours
SPW 3100  | Survey of Spanish Literature I | 3 hours
SPW 3101  | Survey of Spanish Literature II | 3 hours

Special Methods
FLE 3333  | Foreign Language Instructional Analysis | 4 hours

4. Restricted Electives
Select upper division courses in Area of Specialization.
LIN 3010 or 4801  | Language and Meaning | 3 hours
ANT 3410  | Cultural Anthropology | 3 hours

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 ARTS: MATHEMATICS EDUCATION

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 128 and 132)
3. Required Courses
   Specialization
   MAC 1104  | College Algebra | 3 hours
   MAC 1114  | College Trigonometry | 3 hours
   MAC 3311  | Calculus w/Analytic Geometry I | 4 hours
   MAC 3312  | Calculus w/Analytic Geometry II | 4 hours
   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 ARTS: SCIENCE EDUCATION

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 128 and 132)
3. Required Courses
   Biology Specialization
   CORE
   BSC 2010C  | General Biology | 4 hours
   CHM 1034  | General Chemistry | 3 hours
   CHM 2205  |Intro to Organic and Biochemistry | 5 hours
   BOT 2010C  | General Botany | 3 hours
   BOT 4303C  | Plant Kingdom | 5 hours
### 4. Restricted Electives

Select one: BOT 3800, MCB 3013C, PCB 3703C, 4302C  

3-4 hours

### 5. Electives

Select in consultation with advisor.

| Minimum Total Semester Hours Required | 120 |

### Chemistry Specialization

**CORE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 2045</td>
<td>Chemistry Fundamentals I</td>
<td>4</td>
</tr>
<tr>
<td>CHM 2046</td>
<td>Chemistry Fundamentals II</td>
<td>3</td>
</tr>
<tr>
<td>CHM 2046L</td>
<td>Chemistry Fundamentals Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>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 Laboratory Techniques I</td>
<td>2</td>
</tr>
<tr>
<td>BCH 4053</td>
<td>Biochemistry I</td>
<td>3</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>SCE 3330</td>
<td>Science Instructional Analysis</td>
<td>4</td>
</tr>
</tbody>
</table>

**Mathematics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course 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 Geometry I</td>
<td>4</td>
</tr>
</tbody>
</table>

### 4. Restricted Elective

Select two: BCH 4054, MCB 3013C, PCB 3063, PHY 2051C  

6-8 hours

### 5. Electives

Select in consultation with Advisor.

| Minimum Total Semester Hours Required | 120 |

### Physics Specialization

**CORE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 2050C</td>
<td>College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2051C</td>
<td>College Physics II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 3048</td>
<td>Physics for Engineers &amp; Scientists I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3048L</td>
<td>Physics Lab for Engineers &amp; Scientists I</td>
<td>1</td>
</tr>
<tr>
<td>PHY 3101</td>
<td>Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3752C</td>
<td>Physics of Scientific Instruments</td>
<td>4</td>
</tr>
<tr>
<td>PHY 4942C</td>
<td>Practicum in Physics</td>
<td>3</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>SCE 3330</td>
<td>Science Instructional Analysis</td>
<td>4</td>
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</tbody>
</table>

**Mathematics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course 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 Geometry I</td>
<td>4</td>
</tr>
<tr>
<td>MAC 3312</td>
<td>Calculus with Analytic Geometry II</td>
<td>4</td>
</tr>
</tbody>
</table>

### 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.

| Minimum Total Semester Hours Required | 120 |

---

**BACHELOR OF ARTS: SOCIAL SCIENCE EDUCATION**

### Degree Requirements

1. University graduation requirements  
(See pages 48-51)

2. Special college and/or department requirements  
(See pages 128 and 132)
3. Required Courses

Specialization (52 hours)

Lower Division Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2013</td>
<td>Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>EUH 2000</td>
<td>Western Civilization I</td>
<td>3</td>
</tr>
<tr>
<td>EUH 2001</td>
<td>Western Civilization II</td>
<td>3</td>
</tr>
<tr>
<td>AMH 2010</td>
<td>U.S. History 1492-1877</td>
<td>3</td>
</tr>
<tr>
<td>AMH 2020</td>
<td>U.S. History 1877-Present</td>
<td>3</td>
</tr>
<tr>
<td>POS 2041</td>
<td>American National Government</td>
<td>3</td>
</tr>
<tr>
<td>SYG 2000</td>
<td>General Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

Upper Division Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPO 3103</td>
<td>Comparative Politics</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3370</td>
<td>Resources Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3470</td>
<td>World Political Geography</td>
<td>3</td>
</tr>
<tr>
<td>AMH 4231</td>
<td>U.S. History 1914-1945</td>
<td>3</td>
</tr>
<tr>
<td>AMH 4270</td>
<td>U.S. History 1945-Present</td>
<td>3</td>
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</table>

Special Methods:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>SSE 3333</td>
<td>Social Science Instr. Analysis</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Restricted Electives (9 hours)

American History (select one)

<table>
<thead>
<tr>
<th>Course</th>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>AMH 3370</td>
<td>American Economic History</td>
<td>3</td>
</tr>
<tr>
<td>AMH 4130</td>
<td>American Revolution</td>
<td>3</td>
</tr>
<tr>
<td>AMH 4170</td>
<td>Civil War &amp; Reconstruction</td>
<td>3</td>
</tr>
</tbody>
</table>

European History (select one with approval by advisor)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>POS 3122</td>
<td>State Government &amp; Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>POS 3273</td>
<td>Voting &amp; Elections</td>
<td>3</td>
</tr>
<tr>
<td>INR 3002</td>
<td>International Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

5. Electives

None

Minimum Total Semester Hours Required 120

---

**BACHELOR OF ARTS: TECHNICAL/ VOCATIONAL EDUCATION**

**Degree Requirements**

1. University graduation requirements

(See pages 48-51)

2. 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**

<table>
<thead>
<tr>
<th>Exploration</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVT 3371</td>
<td>Essential Teaching Skills in VOED</td>
<td>3</td>
</tr>
<tr>
<td>EDF 4214</td>
<td>Classroom Learning Principles</td>
<td>3</td>
</tr>
</tbody>
</table>

**Phase II Developmental**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDF 4285</td>
<td>Application of Technology in Education</td>
<td>3</td>
</tr>
<tr>
<td>EVT 3365</td>
<td>Methods of Teaching in VOED Subjects</td>
<td>4</td>
</tr>
<tr>
<td>EVT 3367</td>
<td>Evaluation of Vocational Instruction</td>
<td>3</td>
</tr>
<tr>
<td>EVT 3562</td>
<td>Special Needs of Vocational Students</td>
<td>3</td>
</tr>
<tr>
<td>EVT 3815</td>
<td>Management of Vocational Classroom &amp; Laboratory OR</td>
<td>3</td>
</tr>
<tr>
<td>EVT 3311</td>
<td>Preparation for Clinical Teaching in VOED</td>
<td>3</td>
</tr>
<tr>
<td>EVT 3062</td>
<td>Professional Role of the Vocational Teacher</td>
<td>3</td>
</tr>
<tr>
<td>EVT 4066</td>
<td>Principles and Practices of VOED</td>
<td>3</td>
</tr>
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</table>

**Phase III Application**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDG 4941</td>
<td>Directed Field Experience</td>
<td>12</td>
</tr>
</tbody>
</table>

**AREAS OF SPECIALIZATION**

Health Occupations 30 hours

Students must complete a specialization in the Health Occupations area by meeting the licensure/registration requirements for teacher certification set forth in the Florida Accredita-
tion 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:

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Test Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Mechanic</td>
<td>Automotive Technician</td>
</tr>
<tr>
<td>Air Conditioning &amp; Refrigeration</td>
<td>Industrial Electrician</td>
</tr>
<tr>
<td>Architectural Drafting</td>
<td>Machine Drafting</td>
</tr>
<tr>
<td>Audio-Visual Communication</td>
<td>Machine Trades</td>
</tr>
<tr>
<td>Automotive Body &amp; Fender</td>
<td>Masonry</td>
</tr>
<tr>
<td>Brick Masonry</td>
<td>Printing</td>
</tr>
<tr>
<td>Cabinet Making &amp; Millwork</td>
<td>Plumbing</td>
</tr>
<tr>
<td>Carpentry</td>
<td>Power Sewing</td>
</tr>
<tr>
<td>Cosmetology</td>
<td>Quantity Food Preparation</td>
</tr>
<tr>
<td>Commercial Art</td>
<td>Sheet Metal</td>
</tr>
<tr>
<td>Diesel Engine</td>
<td>Small Engine Repair</td>
</tr>
<tr>
<td>Electrical Installation</td>
<td>Tool &amp; Die Making</td>
</tr>
<tr>
<td>Electronics Communication</td>
<td>Welding</td>
</tr>
</tbody>
</table>

(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 (BET)
  Design Technology (BET)
  Electronics Technology (BET)
  Information Systems Technology (BET)
  Operations Technology (BET)

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 (MSESM)

*See the Graduate Studies Catalog for information
COLLEGE OF ENGINEERING

Dean: R. Kersten, CB 107, Phone 275-2156
Associate Dean: G. Schrader, CB 107, Phone 275-2156
Assistant Dean: P. Hartman, CB 281, Phone 275-2455
Assistant Dean: B. Mathews, CB 281, Phone 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 University requirements. A total of 3½ units is required in mathematics, including advanced algebra, geometry, and trigonometry. Calculus is recommended. The laboratory sciences chosen must include at least one unit in physics and one in chemistry. One unit of biology is strongly recommended.

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 module of the student's choice, leads to the degree of Bachelor of Engineering Technology. Technology graduates may also
seek a wide variety of careers in private practice, industry, and government. Programs of study are applications oriented and are designed to assist the student in the attainment of his or her career objectives.

Students who wish to be admitted to the engineering technology program must 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.

CERTIFICATE PROGRAM: ENGINEERING, TECHNOLOGY, AND SOCIETY

Contact Person: J. Paul Hartman, CB 281, Phone 275-2455

The College of Engineering offers a certificate program to interested students within the University of Central Florida in the programmatic area of Engineering, Technology, and Society (ETS). The program is primarily intended for students not enrolled in the College of Engineering. To meet the requirements, the students must complete a minimum of 14-15 semester hours as follows:

Four or five of the following courses (12 hours minimum)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGN 4033</td>
<td>Technology and Social Change</td>
</tr>
<tr>
<td>EGN 4811</td>
<td>Engineering and Technology in Canada</td>
</tr>
<tr>
<td>EGN 4814</td>
<td>Engineering and Technology in History</td>
</tr>
<tr>
<td>EGN 4815</td>
<td>Historical Architecture</td>
</tr>
<tr>
<td>EGN 4818</td>
<td>Engineering and Technology in America</td>
</tr>
<tr>
<td>EGN 4824</td>
<td>Energy and Society</td>
</tr>
<tr>
<td>EGN 4825</td>
<td>Environment and Society</td>
</tr>
<tr>
<td>EGN 4832</td>
<td>Computers, Cybernetics and Society</td>
</tr>
<tr>
<td>EGN 4844</td>
<td>Man and Machine</td>
</tr>
</tbody>
</table>

An Independent Study or Research Project (2-3 hours)

EGN 4906 or EGN 4912

The Independent Study or Research Project will generally be done after the student has completed at least 3 of the specified courses and has developed an appropriate project under the guidance of one of the instructors.
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 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 REQUIREMENTS

The engineering core consists of basic and professional subject matter that is common to all options. Because this requirement is a substantial part of the Bachelor's degree program, it gives the student time to become adjusted and to choose a field of specialization for which he or she is best suited.

BASIC PHASE

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 2013</td>
<td>Principles of Economics I</td>
<td>3 hours</td>
</tr>
<tr>
<td>COP 3215</td>
<td>Programming and Numerical Methods</td>
<td>3 hours</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EGN 3210</td>
<td>Engineering Analysis and Computation</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 1111C</td>
<td>Engineering Graphics</td>
<td>2 hours</td>
</tr>
<tr>
<td>CHS 1440</td>
<td>Fundamentals of Chemistry For Engineers</td>
<td>4 hours</td>
</tr>
<tr>
<td>PHY 3048</td>
<td>Physics For Engineers and Scientists</td>
<td>3 hours</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>PHY 3049</td>
<td>Physics For Engineers and Scientists II</td>
<td>3 hours</td>
</tr>
<tr>
<td>PHY 3048L or PHY 3049L</td>
<td>or CHM 2046L</td>
<td></td>
</tr>
<tr>
<td>EGN 3311</td>
<td>Laboratory Elective²</td>
<td>1 hour</td>
</tr>
<tr>
<td>EGN 3363C</td>
<td>Engineering Analysis-Statics</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 3613</td>
<td>Structure and Properties of Materials</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 3704</td>
<td>Engineering Economic Analysis</td>
<td>2 hours</td>
</tr>
<tr>
<td>MAC 3311, 3312, 3313</td>
<td>Calculus and Analytic Geometry</td>
<td>12 hours</td>
</tr>
<tr>
<td>Biological or Earth Science Electives²</td>
<td>3 hours</td>
<td></td>
</tr>
</tbody>
</table>

¹Includes portions of the General Education Program.
²Consult Department Chairman for specific course required in option.
³Students without one secondary school unit of Chemistry should enroll in CHM 1034 and CHM 2046L prior to taking CHS 1440.
⁴Students without one secondary school unit of Physics should enroll in PHY 2050C prior to taking PHY 3048.

**PROFESSIONAL PHASE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGN 3321</td>
<td>Engineering Analysis-Dynamics</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 3331C</td>
<td>Mechanics of Materials</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 3343</td>
<td>Thermodynamics</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 3353C</td>
<td>Fluid Mechanics</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 3373</td>
<td>Principles of Electrical Engineering</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 3375C</td>
<td>Electrical Devices and Systems</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 4703</td>
<td>Systems Analysis and Control⁵</td>
<td>3 hours</td>
</tr>
<tr>
<td>or EGN 4714</td>
<td>Linear Control Systems⁵</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 4624</td>
<td>Engineering Administration</td>
<td>3 hours</td>
</tr>
<tr>
<td>EGN 4634</td>
<td>Operations Research</td>
<td>2 hours</td>
</tr>
<tr>
<td>MAP 3302</td>
<td>Differential Equations</td>
<td>3 hours</td>
</tr>
<tr>
<td>PHY 3101</td>
<td>Modern Physics⁶</td>
<td>3 hours</td>
</tr>
<tr>
<td>STA 3032</td>
<td>Probability and Statistics for Engineers</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

⁵Consult Department Chairman for specific course required in option.
⁶Or approved science course - see option
The Department of Civil Engineering and Environmental Sciences offers an option in Environmental Engineering and an option in Civil Engineering. The Environmental Engineering option is concerned primarily with the interaction of man and his environment, and the planning, design, and control of systems for environmental quality management, with emphasis on the water environment. The Civil Engineering option is primarily concerned with fundamental civil engineering design and analysis skills in such areas as structures, soil mechanics, sanitary engineering and transportation. Environmental and civil engineers are responsible for research, development, planning, design, and construction of structures and processes that form the basis of contemporary civilization.

Programs of study are available within these options which enable the student to pursue an integrated sequence of courses in major fields. These include not only basic and fundamental civil and environmental engineering disciplines, but also specialized support courses in areas of hazardous wastes and water resources, structures and geotechnical engineering, and transportation and urban systems engineering, and construction management. 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. University graduation requirements
   (See pages 48-51)

2. Special college and/or department requirements
   (See page 142)

3. Required Courses
   - CES 4124
   - CES 4605
   - CES 4704
   - ECI 4305C
   - ENV 4404C
   - ENV 4504
   - TTE 4004

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 chairman. 6 hours

5. Electives
   None

Total Semester Hours Required 132

**BACHELOR OF SCIENCE IN ENGINEERING:**

**ENVIRONMENTAL ENGINEERING**

**Degree Requirements**

1. University graduation requirements
   (See pages 48-51)

2. Special college and/or department requirements
   (See page 142)

3. Required Courses
   - EES 4202C
   - EES 4204C
   - ENV 4119

Chemical Process Control 3 hours
Biological Process Control 3 hours
Air Pollution 3 hours

146
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENV 4355</td>
<td>Solid and Hazardous Wastes</td>
<td>3</td>
</tr>
<tr>
<td>ENV 4403C</td>
<td>Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>ENV 4404C</td>
<td>Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>ENV 4433</td>
<td>Water Resources Design</td>
<td>2</td>
</tr>
<tr>
<td>ENV 4434</td>
<td>Environmental Engineering Systems Design</td>
<td>2</td>
</tr>
<tr>
<td>ENV 4504</td>
<td>Environmental Engineering Process Design</td>
<td>4</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 chairman. 3 hours

5. Electives
None

Total Semester Hours Required 132

DEPARTMENT OF COMPUTER ENGINEERING
Chairman: C. Bauer, CB 207, Phone 275-2236
Faculty: Gatt, Klee, Linton, 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 solution of complex technical problems. Many of our 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 only be carried out effectively through the use of modern, high speed computer facilities. The computer has become an indispensable 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 Engineering will enjoy a broad spectrum of challenging opportunities.

The option is inter-disciplinary and allows considerable flexibility in tailoring programs to fit individual student interest. The 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 142 and 147)
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  Modeling & 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
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 chairman.  3 hours
5. Electives

   None

Total Semester Hours Required  132

DEPARTMENT OF ELECTRICAL ENGINEERING AND COMMUNICATION SCIENCES
Acting Chairman: R. Walker, CB 407, Phone 275-2786
Faculty: Alsaka, Belkerdid, Boreman, Brown, Christodoulou, Erickson, Harden, Harris, Lane, Litka, Malocha, Mathews, R. Martin, R. Miller, Petrasko, R. Phillips, Radloff, Richie, Towle, Wahid-Saddiqi, Walters

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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 142)
3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEL 3122</td>
<td>Electrical Networks</td>
<td>3</td>
</tr>
<tr>
<td>EEL 3307C</td>
<td>Electronic Engineering</td>
<td>4</td>
</tr>
<tr>
<td>EEL 3470</td>
<td>Electromagnetic Fields</td>
<td>3</td>
</tr>
<tr>
<td>EEL 3342C</td>
<td>Logical Component Design</td>
<td>4</td>
</tr>
<tr>
<td>EEL 3552C</td>
<td>Signal Analysis and Communications</td>
<td>4</td>
</tr>
<tr>
<td>EEL 4309C</td>
<td>Active Circuits</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td>EEL 4701C</td>
<td></td>
</tr>
</tbody>
</table>

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 chairman, and must include one additional design course. 8 hours

5. Electives

None

Total Semester Hours Required 132

DEPARTMENT OF INDUSTRIAL ENGINEERING & MANAGEMENT SYSTEMS

Chairman: W. Swart, CB 381, Phone 275-2204
Facuity: Biegel, Brooks, Hosni, Lee, Morse, Schrader, Sepulveda, Whitehouse

The option in Industrial Engineering is concerned primarily with the design, improvement and installation of integrated systems of men, materials, and equipment for operations through the application of the principles of the engineering, mathematical, physical, and behavioral sciences.

The program of study available within this option enables the student to pursue an integrated series or sequence of courses in the major field which includes not only basic and fundamental courses but specialized courses as well, in the areas of management standards development, 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 the digital computer in appropriate courses.

There is a growing tendency on the part of industry, government and institutions to select engineering personnel for managerial positions. Because of this the IEMS courses are oriented to systems management principles and concepts so as to enable the 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 142)
3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>APA 3471</td>
<td>Accounting for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>EIN 3315C</td>
<td>Work Measurement and Design</td>
<td>3</td>
</tr>
<tr>
<td>EIN 4118</td>
<td>Industrial Engineering Applications</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>ESI 4314</td>
<td>Quantitative Techniques in Industrial</td>
<td>3</td>
</tr>
<tr>
<td>ESI 4234</td>
<td>Engineering Reliability and</td>
<td>3</td>
</tr>
<tr>
<td>EIN 4142C</td>
<td>Industrial Engineering Senior</td>
<td>3</td>
</tr>
</tbody>
</table>

Design Project 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 chairman, and must include one additional design course.

5. Electives
None

Total Semester Hours Required 132

DEPARTMENT OF MECHANICAL ENGINEERING
AND AEROSPACE SCIENCES
Chairman: S. Rice, CB 307, Phone 275-2416
Faculty: Anderson, J. Beck, Bishop, Desai, Eno, Gunnerson, Hagedoorn, Henry, Hosler, Kitis, Metwalli, Minardi, Mosleh, Nuckolls, W. Smith, Ventre

The Department of Mechanical Engineering and Aeroscpace 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 the energy. When dealing with problems of this nature, the engineer must consider the economic constraints and the social implications of the 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, 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 this broad theme. Primary emphasis is given to the departmental subdisciplines of measurement systems engineering, mechanical systems design and control, energy conversion and power systems, thermal sciences, materials science, bioengineering and tribology.

Both programs are specifically designed to give the student a broad-based undergraduate engineering sciences 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 the department 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. University graduation requirements

   (See pages 48-51)

2. Special college and/or department requirements

   (See pages 142 and 150)

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
   - EML 4142  Heat Transfer  3 hours
   - EML 4222  Vibration Analysis  3 hours
   - EML 4505  Engineering Design  3 hours
   - EML 4709  Intermediate Fluid Mechanics  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 chairman, and must include one additional design course.

5. Electives

   None

   Total Semester Hours Required  132

**BACHELOR OF SCIENCE IN ENGINEERING: MECHANICAL ENGINEERING**

**Degree Requirements**

1. University graduation requirements

   (See pages 48-51)

2. Special college and/or department requirements

   (See pages 142 and 150)

3. Required Courses

   - EML 3106  Thermodynamics of Mechanical Systems  3 hours
   - EML 3262  Kinematics of Mechanisms  3 hours
   - EML 3502  Machine Design and Analysis  3 hours
   - EML 4142  Heat Transfer  3 hours
   - EML 4222  Vibration Analysis  3 hours
   - EML 4412C  Experimental Design  3 hours
   - EML 4505  Engineering Design  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 chairman, and must include one additional design course.

5. Electives

   None

   Total Semester Hours Required  132

**DEPARTMENT OF ENGINEERING TECHNOLOGY**

Chairman: R. Denning, CB 207, Phone 275-2268

Faculty: Bullard, Byers, Debo, Dehler, Dixon, Gregg, Griffith, Osborne, Uspenski, Worbs

The Engineering Technology Degree Program at UCF includes only the upper division (junior and senior years) and is designated primarily for the student who has completed an Associate degree in Engineering Technology or an equivalent program at a community college.
The community college two-year associate degree program is designed to provide the student with the training necessary to become an engineering technician. The upper division Bachelor of Engineering Technology (BET) program at the University of Central Florida is designed to advance the engineering technician to the engineering technologist level or the computer systems programmer to the systems analyst level.

The four-year engineering technology graduate will provide a vital link in the engineering-fabrication/construction-facility operations chain. He or she will be practice and applications oriented while at the same time possess a broad and comprehensive education in the field. As such he or she will be a key individual in teams of technical specialists dealing with the environment today. Completion of the required curriculum will prepare qualified individuals to make significant contributions to society and will allow them to progress into responsible technical and management positions.

Principal areas of study in the engineering technology curriculum, building on a sound base attained through the AS degree, will include mathematics and communications. In addition, substantial additional work will be taken in the technical sciences and technical specialty. The courses will include theory and practical laboratory experience. Hence they will provide a sound technical base for subsequent work. For assistance in planning a program, each student will be assigned an advisor to assist in selecting the best course sequence to meet career objectives.

The areas of specialization (modules) in Engineering Technology are concerned principally with the details of design, maintenance, operation, and the fabrication/construction functions. The work of the technologist is in direct support of the engineer and the emphasis is on material results and details as constructed, within the broader conceptual and systems processes of the engineer.

Five Engineering Technology options are offered. The Design, Electronics, and Operations options are accredited by the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET). The Computer Technology and Information Systems Technology options are newly implemented programs.

BACHELOR OF ENGINEERING TECHNOLOGY

Degree Requirements
1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
(See pages 142 and 151)
3. Required Courses
   A. Transferred from Community College
      Lower Level Technical Specialty 28 hours
      General Education Program (includes Science & Math) 36 hours
      TOTAL (Maximum transfer credit) 64 hours
      'Includes college algebra, trigonometry, English, speech, humanities and social sciences. At least one course each in chemistry, college physics and computer programming (Fortran) should be completed at the Community College. Credit shown is maximum transferable under this program.

B. Course work at UCF
   Engineering Technology Core
   CET 3123C Microprocessor Electronics 3 hours
   EET 3035C Electricity and Electronics 4 hours
   or
   EET 3716 Electrical Network Analysis 4 hours
   ETG 3510 Applied Mechanics 4 hours
   ETL 3421C Materials and Processes 3 hours
   ETI 3671 Technical Economic Analysis 2 hours
   ETT 4310 Applied Thermodynamics and Fluid Mechanics 4 hours
   MAC 3253, 3254 Applied Calculus I, II or 6 hours
   MAC 3311, 3312 Calculus & Anal. Geometry I, II 8 hours
   MAP 3401 Problem Analysis 3 hours
   STA 3023 Statistical Methods I 3 hours
   BIOL or Earth Science elective 3 hours
   SUBTOTAL 35 hours
   Additional General Education and other requirements 9 hours

4. Restricted Electives
   Area of Specialization (see below) 20 hours

5. Electives
   TOTAL MINIMUM HOURS REQUIRED
   (Community College 64, UCF 64) 128

AREAS OF SPECIALIZATION
1. Computer Technology
   The specialization in Computer Technology is designed to present hardware analysis and applications of mini/micro-computers in electronics, industrial, and business environments. Typical community college 2 year programs used for entrance into UCF's Computer Technology program include associate degrees in Engineering Technology, Electronics, and Computer Technology. A minimum of 12 semester hours of Computer Systems or Computer Technology coursework must be included in the community college program.
   Required Courses (12 hours)
   CET 3144C Applied Microprocessor Technology 4 hours
   CET 3303C Microcomputer Electronics 4 hours
   CET 4333C Applied Computer Systems I 4 hours
   Upper Level Technical Electives (8 hours)
   Technical electives are to be courses consistent with module objectives and are chosen with the approval of the student's faculty advisor and department chairman.

2. Design Technology
   The specialization in Design Technology will present the student with the knowledge and skills needed for application to problems concerning specifications, calculations, and procedures involving the design, redesign, testing and operations of mechanical parts, units and assemblies. Typical community college associate degree programs used for entrance to UCF's Design Technology specialization are Mechanical, Drafting Design, Civil, and Air Conditioning Technologies.
   Required Courses (13 hours)
   ETG 4530 Strength of Materials 3 hours
   CET 4131C Microprocessor Electronics II 4 hours

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3. Electronics Technology

The specialization in Electronics Technology is designed to present the electronics principles beyond the first two years of study that are essential for installation, operation, maintenance and design support of electrical/electronics equipment and facilities. Typical community college associate degree programs used for entrance to UCF's Electronics Technology specialization are Electronic, Electrical and Instrumentation Technologies. A minimum of 15 semester hours of DC/AC circuit analysis, electronic devices/circuits and digital devices/circuits must be included in the Community College Degree program.

Required Courses (12 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET 3303C</td>
<td>Microcomputer Electronics</td>
<td>4</td>
</tr>
<tr>
<td>EET 4329C</td>
<td>Electronic and Digital Communications</td>
<td>4</td>
</tr>
<tr>
<td>EET 4732</td>
<td>Feedback Control</td>
<td>4</td>
</tr>
</tbody>
</table>

Upper Level Technical Electives (8 hours)

Technical electives are to be courses consistent with module objectives and are chosen with the approval of the student's faculty advisor and department chairman.

4. Information Systems Technology

The specialization in Information Systems Technology is designed to present the organizing, designing, writing, documenting, and putting into operation large-scale programs from general specifications supplied by the engineer or professional manager. The curriculum is designed to build on the computer programming skills studied in the first two years. A minimum of 15 semester hours of computer programming including COBOL, FORTRAN, Assembler, and a high level structured language (Pascal, PL/I, C, etc.) must be included in the Community College Degree Program.

Required Courses (12 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET 3323</td>
<td>Computer Organization Technology</td>
<td>4</td>
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<tr>
<td>CET 3383</td>
<td>Applied Systems Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>CET 4345</td>
<td>Minicomputer Applications in Technology</td>
<td>2</td>
</tr>
<tr>
<td>CET 4505</td>
<td>Applied Microcomputer Operating Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Upper Level Technical Electives (8 hours)

Technical electives are to be courses consistent with module objectives and are chosen with the approval of the student's faculty advisor and department chairman.

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 skill. AS Degree programs with emphasis on Architectural, Building Construction, Aerospace, Automotive Services, Civil, Computer, Fire Control, Drafting and Graphics, Industrial Management or Supervision, Quality Control and Surveying Technologies are normally acceptable.

Required Courses (10 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
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<tr>
<td>CET 4131C</td>
<td>Microprocessor Electronics II</td>
<td>4</td>
</tr>
<tr>
<td>ETI 3651</td>
<td>Computer Methods in Industry</td>
<td>3</td>
</tr>
<tr>
<td>ETI 4650</td>
<td>Process Planning and Estimating</td>
<td>4</td>
</tr>
</tbody>
</table>

Upper Level Technical Electives (9 hours)

Technical electives are to be courses consistent with module objectives and are chosen with the approval of the student's faculty advisor and department chairman.
COLLEGE OF HEALTH

UNDERGRADUATE PROGRAMS
   Communicative Disorders (BA)
   Medical Record Administration (BS)
   Medical Technology (BS)
   Nursing (BSN)
   Radiologic Sciences (BS)
   Respiratory Therapy (BS)

GRADUATE PROGRAM*
   Communicative Disorders (MA)
   Health Sciences (MS)

OTHER PROGRAMS
   Pre-Occupational Therapy
   Pre-Physical Therapy

*See the Graduate Studies catalog for information.
To meet the needs of students and the community, the College of Health was established in 1978. Included in the College are programs in Communicative Disorders, Medical Record Administration, Medical Laboratory Sciences, Nursing, Radiologic Sciences, and Cardiopulmonary Sciences. In addition to the six degree programs the College offers a core area of Health Sciences to broaden the student’s understanding of the health care system as well as provide counseling in pre-physical and pre-occupational therapy. The College believes that through a liberal arts education and an intensive study in a specific health related area the graduate will be a valuable asset to health care in the nation as well as Florida.

**General Requirements for the Bachelors Degree**

All 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/chairman 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 grade point average of 2.5 and a minimum grade of C in the major and in prerequisite courses are required for admission to and continuation in a College of Health program.

In addition to University and program requirements, each student in a College of Health program is required to complete the following:

1. HSC 3122 U.S. Health Care Systems
2. HSC 4550 Pathophysiologic Mechanisms

*Human Physiology, PCB 3703, and Human Anatomy, ZOO 3733C, are prerequisites for Pathophysiologic Mechanisms, HSC 4550. Medical Laboratory Sciences students will be allowed to substitute MCB 3203, Pathogenic Microbiology, for ZOO 3733C, Human Anatomy.

**DEPARTMENT OF COMMUNICATIVE DISORDERS**

**Chairman:** D. Ratusnik, EN 113, Phone 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, industrial settings, and a mobile diagnostic unit 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.

**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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See page 156)
3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>LIN 3710</td>
<td>Foundations of Language</td>
<td>3</td>
</tr>
<tr>
<td>LIN 3710L</td>
<td>Foundations of Language Lab</td>
<td>1</td>
</tr>
<tr>
<td>SPA 3001</td>
<td>Introduction to Communicative Disorders</td>
<td>3</td>
</tr>
<tr>
<td>SPA 3052</td>
<td>Clinical Observation &amp; Practice</td>
<td>1</td>
</tr>
</tbody>
</table>

(Taken in Fall & Spring of Senior year)
SPA 3101 Physiological Bases of Speech and Hearing 3 hours
SPA 3112 Basic Phonetics 3 hours
SPA 3112L Basic Phonetics Lab 1 hour
SPA 3550 Clinical Methods 3 hours
SPA 3550L Clinical Methods Lab 1 hour
SPA 4030 Basic Audiology 4 hours
SPA 4011 Speech & Hearing Science 3 hours
SPA 4201 Communicative Disorders-Articulation 3 hours
SPA 4201L Communicative Disorders-Articulation Lab 1 hour
SPA 4222 Non-Organic Speech Disorders 3 hours
SPA 4222L Non-Organic Speech Disorders Lab 1 hour
SPA 4250 Organic Speech Disorders 3 hours
SPA 4250L Organic Speech Disorders Lab 1 hour
SPA 4323 Aural Habilitation-Rehabilitation 4 hours
SPA 4402 Communicative Disorders-Language 3 hours
SPA 4402L Communicative Disorders-Language Lab 1 hour
SPA 4336 Augmentative Communication Systems 3 hours

4. Restricted Electives
To be selected from the following:
DEP 3212 Psychological Approaches to Mental Retardation 3 hours
DEP 3202 Psychology of Exceptional Children 3 hours
EAB 3703 Principles of Behavior Modification 4 hours
STA 3023 Statistical Methods I 3 hours
STA 4163 Statistical Methods II 3 hours

5. Electives
Students who wish to obtain a Teachers Certificate for the State of Florida must include necessary coursework as electives.

Total Semester Hours Required 128

PROGRAM IN HEALTH SCIENCES

Director: T. Mendenhall, EN 123, Phone 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, 4180, and HSC 3110; HUN 3011; 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, EN 216, Phone 275-2359

The Medical Record Administrator is the professional member of the modern health care team responsible for: (1) the acquisition and supervision of complete medical records on each patient, (2) design and management of health information systems which collect, process, store, retrieve, and release health information and statistics, (3) assistance to administration, other health professionals and medical staff in developing quality assurance programs by abstraction of medical data, preparation of statistical reports, and analysis of information, and (4) assistance in collection and analysis of data for public health services planning.

The curriculum of the Medical Record Administration program is approved by the Committee on Allied Health Education and Accreditation of the American Medical Associa-
tion in collaboration with the Council on Education of the American Medical Record Association.

Before applying to the professional phase of the program, students are required to have completed courses in biology with lab, anatomy with lab, physiology with lab, statistics, and an introduction to data processing. Microbiology is a recommended prerequisite.

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 cumulative grade point average of 2.5 or better and a minimum grade of C in the prerequisite courses is required for admission to the upper division MRA program. A personal interview is also a requirement. A minimum grade of C in all prerequisite, pre-professional, and professional courses is required for continuation in the program.

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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 156 and 157)
3. Required Courses
   - APB 3600 Introduction to Pharmacology 3 hours
   - COM 3110 Business and Professional Communication 3 hours
   - ENC 3210 Business Report Writing 3 hours
   - HSC 3640 Health Law 2 hours
   - HSC 3531 Medical Terminology 3 hours
   - HSC 4550 Pathophysiologic Mechanisms 3 hours
   - MAN 3025 Management of Organizations 3 hours
   - MAN 3301 Personnel Management 3 hours
   - MAN 4722 Information Systems Analysis 3 hours
   - MRE 3000 Introduction to Medical Records 4 hours
   - MRE 3110 Medical Record Organization & Management 3 hours
   - MRE 3202 Coding Procedures 4 hours
   - MRE 3800 Directed Practice I 1 hour
   - MRE 3810 Directed Practice II 1 hour
   - MRE 4102 Medical Word Processing & Transcription 2 hours
   - MRE 4206 Health Data Processing 3 hours
   - MRE 4304 Medical Record Department Management 2 hours
   - MRE 4312 Analysis of Medical Record Department Operations 3 hours
   - MRE 4400 Health Care Delivery Systems 4 hours
   - MRE 4402 Fundamentals of Medicine 4 hours
   - MRE 4420 Health Legislation 2 hours
   - MRE 4500 Health Information Retrieval Systems 3 hours
   - MRE 4830 Directed Practice III 1 hour
   - MRE 4832 Directed Practice IV 1 hour
   - MRE 4850 Medical Record Research 2 hours
   - MRE 4835 Management Affiliation 5 hours

4. Restricted Electives
5. Electives: None

Total Semester Hours Required 132

PROGRAM IN MEDICAL LABORATORY SCIENCES

Director: M. Kangelos, EN 216, Phone 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. An applicant must meet the following requirements to be considered for this upper division program: (1) a minimum overall grade point average of 2.5, on a 4.0 scale, (2) a minimum grade of C in all major and prerequisite courses, and (3) 60 semester hours of appropriate courses. A minimum grade of C in all major courses is required for continuation in the program. 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. University graduation requirements
   (See Pages 48-51)

2. Special college and/or department requirements
   (See pages 156 and 159)

3. Required Courses
   
   Prerequisites for professional phase admission
   
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BSC 2010C</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>MCB 3013C</td>
<td>General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>MCB 3203</td>
<td>Pathogenic Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>PCB 3703C</td>
<td>Human Physiology</td>
<td>4</td>
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<tr>
<td>CHM 2045, 2046</td>
<td>Chemistry Fundamentals I &amp; II</td>
<td>7</td>
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<tr>
<td>CHM 2046L</td>
<td>Chemistry Fundamentals laboratory</td>
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<td>CHM 3121C</td>
<td>Analytical Chemistry</td>
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<td>MAC 1104</td>
<td>College Algebra</td>
<td>3</td>
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<td>STA 3023</td>
<td>Statistical Methods I</td>
<td>3</td>
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<tr>
<td>CAP 3001</td>
<td>Computer Fundamentals for Business Applications I</td>
<td>3</td>
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   Upper Division Professional Phase
   
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PCB 3233</td>
<td>Immunology</td>
<td>3</td>
</tr>
<tr>
<td>CHM 2205</td>
<td>Introduction to Organic &amp; Biochemistry</td>
<td>5</td>
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<tr>
<td>MLS 3220C</td>
<td>Techniques in Clinical Microscopy</td>
<td>2</td>
</tr>
<tr>
<td>MLS 3305</td>
<td>Hematology</td>
<td>4</td>
</tr>
<tr>
<td>MLS 4830C, 4831C, 4832C, 4833C, 4834C</td>
<td>Clinical Practice I, II, III, IV, V</td>
<td>20 hours</td>
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<tr>
<td>MLS 4405</td>
<td>Clinical Pathogenic Microbiology</td>
<td>4</td>
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<tr>
<td>MLS 4625C, 4630C</td>
<td>Advanced Clinical Chemistry I &amp; II</td>
<td>8</td>
</tr>
<tr>
<td>MLS 4334C</td>
<td>Hemostasis</td>
<td>2</td>
</tr>
<tr>
<td>MLS 4550</td>
<td>Clinical Immunohematology</td>
<td>4</td>
</tr>
<tr>
<td>MLS 4420C</td>
<td>Clinical Mycology</td>
<td>1 hour</td>
</tr>
<tr>
<td>MLS 4431C</td>
<td>Clinical Parasitology</td>
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<td>MLS 4511</td>
<td>Immunodiagnostics</td>
<td>5</td>
</tr>
<tr>
<td>MLS 4910</td>
<td>Clinical Research Project</td>
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<tr>
<td>MLS</td>
<td>Medical Technology Seminars</td>
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<tr>
<td>HSA 4180</td>
<td>Organization &amp; Management for Health Agencies</td>
<td>3</td>
</tr>
<tr>
<td>HSC 4243</td>
<td>Analysis of Instruction in Health Professions</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives: None
5. Electives: None

Total Semester Hours Required: 140

**NURSING DEPARTMENT**

Chairperson: J.C. Kijek, EN 410, Phone 275-2744

Faculty: Chapell, Chase, Dorner, Douglas, Eldredge, Guarda, Koch, Murray, Peterson, Richards, Rowe, Smith

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 Department of Nursing prior to February 1st. R.N.'s and minority applicants receive special consideration. Completion of the A.A. degree or General Education Program is strongly recommended. A minimum grade point average of 2.5 and a C in all prerequisite courses is required prior to admission. A minimum grade of C in all nursing courses is required for continuation of the upper division nursing major. 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 challenge examinations for selected courses.

**BACHELOR OF SCIENCE: NURSING**

**Degree Requirements**

1. University graduation requirements; General Education Program
   (See pages 48-51)

2. Special college and or department requirements
   (See pages 156 and 160)

3. Required Courses

   **Prerequisites to Nursing Major**

   Note: Courses must be completed with a grade of "C" or better prior to beginning upper division nursing courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 2010C</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>MCB 3013C</td>
<td>General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>ZOO 3733C</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>PCB 3703C</td>
<td>Human Physiology</td>
<td>4</td>
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<tr>
<td>CHM 1034</td>
<td>General Chemistry</td>
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<tr>
<td>CHM 2205</td>
<td>Introduction to Organic/Biochemistry</td>
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<tr>
<td>MAC 1104</td>
<td>College Algebra</td>
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<td>MGF 1202</td>
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<tr>
<td></td>
<td>Finite Mathematics</td>
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<tr>
<td>or</td>
<td>STA 2014</td>
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<tr>
<td></td>
<td>Principles of Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>SOW 3104</td>
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<tr>
<td></td>
<td>Assessing Human Development</td>
<td>3</td>
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<tr>
<td>or</td>
<td>DEP 3004</td>
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<tr>
<td></td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>HUN 3011</td>
<td></td>
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<tr>
<td></td>
<td>Human Nutrition</td>
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**Upper Division Professional Phase**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>NUR 3119</td>
<td>Introduction to Baccalaureate Nursing</td>
<td>2</td>
</tr>
<tr>
<td>*NUR 3748C</td>
<td>Concepts Basic to Nursing Practice</td>
<td>9</td>
</tr>
<tr>
<td>NUR 3066</td>
<td>Health Assessment</td>
<td>2</td>
</tr>
<tr>
<td>*NUR 3749C</td>
<td>Scientific Theories of Nursing I</td>
<td>11</td>
</tr>
<tr>
<td>*NUR 3795</td>
<td>Nursing Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>*NUR 3755C</td>
<td>Scientific Theories of Nursing II</td>
<td>6</td>
</tr>
<tr>
<td>*NUR 3796</td>
<td>Nursing Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>NUR 3166</td>
<td>Critical Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>NUR 4756C</td>
<td>Scientific Theories of Nursing III</td>
<td>11</td>
</tr>
<tr>
<td>NUR 4797</td>
<td>Seminar III</td>
<td>1</td>
</tr>
<tr>
<td>NUR 4799C</td>
<td>Complex Nursing Problems</td>
<td>3</td>
</tr>
<tr>
<td>NUR 4757C</td>
<td>Scientific Theories of Nursing IV</td>
<td>7</td>
</tr>
<tr>
<td>NUR 4798</td>
<td>Seminar IV</td>
<td>1</td>
</tr>
<tr>
<td>NUR 4941</td>
<td>Selected Nursing Practicum</td>
<td>4</td>
</tr>
</tbody>
</table>

    *(4 hrs. required for senior students)*

4. Restricted Electives: One course in nursing

5. Electives: None

Total Semester Hours Required: 133

*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. Additional areas of specialization planned are: Nuclear Medicine Technology; Medical Sonography; and Advanced Imaging Procedures including Computed Tomography, Digital Vascular Imaging and Magnetic Resonance Imaging.

An extension study program for registered technologists is offered through the Brevard Center, Cocoa, Florida.

Radiographers are integral members of a team dedicated to patient care. Their primary role is to perform the technical procedures in producing X-ray studies for the diagnosis and treatment of disease and injury.

The Radiography specialization is designed to provide the graduate with Radiography skills, extended in-depth education in the Radiologic Sciences, and management and instructional skills. Graduates are capable of assuming leadership roles in the community as Radiographers and with experience advance to positions of Radiologic educators, program directors, departmental managers, and quality assurance coordinators.

Radiation Therapy technologists work closely with the physician to plan and deliver radiation treatment to patients diagnosed with cancer. Their primary role is to deliver radiation to the cancer site and monitor the patients progress throughout the treatment.

The program works in conjunction with Halifax Medical Center, Daytona; Florida Hospital, Altamonte Springs; Central Florida Regional Hospital, Sanford; and Waterman Memorial Hospital, Eustis, and is approved by the Committee on Allied Health Education and Accreditation of the American Medical Association. Graduates are eligible to take the national certifying examination administered by the American Registry of Radiologic Technologists.

Application deadline is February 1 for acceptance into the upper division limited access phase which begins with the Summer semester.

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 2050C, PHY 2051C, STA 3023, COC 1100. 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. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 156 and 162)
3. Required courses

**Prerequisites**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 2010C</td>
<td>General Biology</td>
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<tr>
<td>COC 1100</td>
<td>Introduction to Computer Science</td>
<td>3</td>
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<tr>
<td>MAC 1104</td>
<td>College Algebra</td>
<td>3</td>
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<tr>
<td>PCB 3703C</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2050C</td>
<td>College Physics I</td>
<td>4</td>
</tr>
<tr>
<td>ZOO 3733C</td>
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**Professional Phase**

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<tr>
<td>PHY 2051C</td>
<td>College Physics II</td>
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<tr>
<td>RTE 3002</td>
<td>Fundamentals of Radiologic Technology</td>
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<tr>
<td>RTE 3832L</td>
<td>Clinical Education Orientation</td>
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<tr>
<td>RTE 3806</td>
<td>Clinical Education II</td>
<td>4</td>
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<tr>
<td>RTE 3816</td>
<td>Clinical Education III</td>
<td>4</td>
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<tr>
<td>RTE 3826</td>
<td>Clinical Education IV</td>
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<tr>
<td>RTE 3528C</td>
<td>Radiographic Procedures I</td>
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</tr>
<tr>
<td>RTE 3549</td>
<td>Radiographic Procedures II</td>
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<tr>
<td>RTE 3412C</td>
<td>Principles of Radiographic Exposure I</td>
<td>2</td>
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<tr>
<td>RTE 3457C</td>
<td>Principles of Radiographic Exposure II</td>
<td>2</td>
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<tr>
<td>RTE 3720</td>
<td>Anatomy for the Medical Imager</td>
<td>3</td>
</tr>
<tr>
<td>RTE 3566</td>
<td>Advanced Imaging Modalities</td>
<td>3</td>
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<tr>
<td>HSC 4550</td>
<td>Pathophysiologic Mechanisms</td>
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<tr>
<td>RTE 3156</td>
<td>Pathophysiology</td>
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</tr>
<tr>
<td>RTE 3684C</td>
<td>Physics of Image Production</td>
<td>2</td>
</tr>
<tr>
<td>RTE 3387C</td>
<td>Medical Physics</td>
<td>2</td>
</tr>
<tr>
<td>RTE 4876</td>
<td>Clinical Education V</td>
<td>5</td>
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<tr>
<td>RTE 4843</td>
<td>Clinical Education VI</td>
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<td>RTE 4865L</td>
<td>Clinical Education VII</td>
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<td>RTE 4362</td>
<td>Radiobiology</td>
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<td>RTE 3564</td>
<td>Radiologic Sciences Seminar</td>
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</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
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4. Restricted Electives
5. Electives: None

**Total Semester Hours Required**

**AAREAS OF SPECIALIZATION** (Select one course of study)

1. Radiography
   **Option I: Management**
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>RTE 4569</td>
<td>Quality Assurance</td>
<td>2</td>
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<tr>
<td>RTE 4205C</td>
<td>Quality Assurance Management</td>
<td>3</td>
</tr>
<tr>
<td>ACG 2001</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>MAN 3025</td>
<td>Management of Organization</td>
<td>3</td>
</tr>
<tr>
<td>RTE 4207</td>
<td>Methods in Radiology Management</td>
<td>3</td>
</tr>
<tr>
<td>RTE 4209</td>
<td>Radiological Administrative Practice</td>
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   **Option II: Education**
<table>
<thead>
<tr>
<th>Course</th>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>RTE 4569</td>
<td>Quality Assurance</td>
<td>2</td>
</tr>
<tr>
<td>RTE 4205C</td>
<td>Quality Assurance Management</td>
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</tr>
<tr>
<td>EVT 3062</td>
<td>Professional Role of the</td>
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<td></td>
<td>Vocational Teacher</td>
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<tr>
<td>EVT 3371</td>
<td>Essential Teaching Skills in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vocational Education</td>
<td>3</td>
</tr>
</tbody>
</table>
DEPARTMENT OF CARDIOPULMONARY SCIENCES
PROGRAM IN RESPIRATORY THERAPY

Chairman: J. Stephen Lytle, EN 350, Phone 275-2214
Medical Director: L. Acierno
Faculty: Core, Crittenden, Douglass, Worrell

The Department of Cardiopulmonary Sciences currently encompasses two academic areas: the undergraduate curriculum leading to the Bachelor of Science Degree in Respiratory Therapy 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).

Respiratory Therapy is one of the newest and fastest growing of the health professions. Over the past thirty years it has grown from the days of oxygen tents and iron lungs to the high level technology that modern respiratory therapists see today. Today's respiratory therapist provides a variety of services within the hospital. Emergency resuscitation using external heart massage and artificial respiration is one of the therapist's most important functions. The therapist serves as an important medical team member in such emergencies as heart attacks, near-drownings, shock, and automobile accidents. The therapist may also perform diagnostic pulmonary function tests and arterial blood gas analysis to aid the
physician in his diagnosis of respiratory disease. Oxygen administration, the delivery of aerosol medications, humidity therapy, administration of positive pressure breathing, and rehabilitation of patients with chronic respiratory diseases are also among the duties of the respiratory therapist. One of the therapist’s most challenging roles involves working with the critically ill patient. With the advent of sophisticated medical research, surgical techniques, and technology, the need for qualified respiratory therapists has grown tremendously. Therapists are also actively involved in the care of premature infants with respiratory diseases.

Acceptance at the University does not constitute admission to the upper division limited access program. Separate application must be made directly to the program office prior to February 1 of the year in which the prerequisites have been met, to be considered an applicant. A minimum grade point average of 2.5 and a minimum grade of a C in the major and prerequisite courses is required for admission and continuation in the upper division. Students must complete the prerequisite coursework before entering the upper division program in the Fall of the junior year.

During the course of the program, students are evaluated in a variety of ways. Traditional lecture, laboratory, and clinical examinations are administered in addition to an entry level qualifying exam for admission to the senior year and an exit examination administered prior to graduation. Students must pass both of these exams before the degree is certified.

The Respiratory Therapy Program is accredited by the American Medical Association in collaboration with the Joint Review Committee for Respiratory Therapy Education.

**BACHELOR OF SCIENCE: RESPIRATORY THERAPY**

**Degree Requirements**

1. University graduation requirements
   (See pages 48-51)
2. Special college and/or department requirements
   (See pages 156 and 164)
3. Required Courses

   **Prerequisites**
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>BSC 2010C</td>
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<td>MCB 3013C</td>
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<td>CHM 1034</td>
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   **Upper Division Professional Phase**

   **FALL**
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HSC 4550</td>
<td>Pathophysiologic Mechanisms</td>
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</tr>
<tr>
<td>RET 3026C</td>
<td>Intro to Respiratory Therapy</td>
<td>4</td>
</tr>
<tr>
<td>PCB 3233</td>
<td>Immunology</td>
<td>3</td>
</tr>
<tr>
<td>APB 3263C</td>
<td>Cardiopulmonary Physiology</td>
<td>4</td>
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<tr>
<td>HSC 3122</td>
<td>U.S. Health Care Systems</td>
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   **SPRING**
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<tr>
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</thead>
<tbody>
<tr>
<td>RET 3874</td>
<td>Clinical Practice I</td>
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</tr>
<tr>
<td>RET 3264C</td>
<td>Mechanical Ventilation</td>
<td>3</td>
</tr>
<tr>
<td>APB 4650</td>
<td>Pharmacology</td>
<td>4</td>
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<tr>
<td>RET 3244C</td>
<td>Life Support Systems</td>
<td>2</td>
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<tr>
<td>RET 4932</td>
<td>Health Data Management</td>
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   **SUMMER**
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<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tr>
<td>RET 4714</td>
<td>Pediatric Respiratory Care</td>
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</tr>
<tr>
<td>RET 4414C</td>
<td>Pulmonary Function Studies</td>
<td>4</td>
</tr>
<tr>
<td>RET 4503</td>
<td>Chest Medicine</td>
<td>4</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Statistics</td>
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<tr>
<td>RET 3483</td>
<td>R.T. Disease Assessment</td>
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   **Total Hours:** 16
### FALL
- **RET 3875**: Clinical Practice II (10 hours)
- **RET 4284C**: C.P. Diagnostics I (3 hours)
- **RET 4616**: Cardiopulmonary Services (3 hours)
- **RET 4034**: Problems in Pt. Mgmt. (1 hour)

Total Semester Hours Required: 17 hours

### SPRING
- **RET 4876**: Clinical Practice III (10 hours)
- **RET 4285C**: C.P. Diagnostics II (3 hours)
- **RET 4040**: R.T. Education Systems (2 hours)
- **RET 4933**: Medical Research Seminar (1 hour)

Total Semester Hours Required: 16 hours

4. Restricted Electives
5. Electives: None

**Total Semester Hours Required**: 140

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**COLLEGE OF EXTENDED STUDIES**

**Dean**: John B. O'Hara, AD 397, Phone 275-2123  
**Assistant Dean**: Jennie L. Loudermilk, AD 397A, Phone 275-2123

The College of Extended Studies was established to develop, coordinate and implement University programs of extension, outreach and continuing education. Toward this objective, as an alternative to regular credit courses, the College of Extended Studies offers opportunities to learners wishing to continue their education. Such courses may be offered for academic credit, professional and personal growth and enrichment at off campus locations and centers. The primary purpose is to provide lifelong opportunities by utilizing University resources to benefit nontraditional and traditional learners.

The College of Extended Studies is responsible for noncredit and sponsored credit...
A broad spectrum of programs, many designed specifically for individuals and groups, include short courses, in-service training, conferences, seminars, institutes, special training programs and workshops. Educational courses may be 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 business and industrial groups, governmental agencies, social services, educators and others interested in strengthening personal and professional qualities to improve their status for employment.

Noncredit programs are organized for the general public for which Continuing Education Units (CEU) may be earned and used as evidence of the individual's enrichment by participation in the program. Accordingly, the College of Extended Studies designs and organizes learning activities to assist the learner to increase vocational competence, enhance cultural ambitions and attain personal goals.

Registration in the College of Extended Studies courses does not require admission to the University nor does it imply admission.

OFFICE OF UNDERGRADUATE STUDIES
Associate Vice President and Dean: Charles N. Micarelli, AD 210, Phone 275-2691
Associate Dean: Paul R. McQuilkin, AD 210, Phone 275-2691
Assistant Dean: David Dees, AD 210, Phone 275-2691
Assistant Dean: Lawrence Tanzi, AD 210, Phone 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 General Education Program, placement examinations, CLAST, intercollege programs, academic skills services, academic advisement, the Gordon Rule. Undergraduate Studies reviews student problems in such areas as class schedules, withdrawals, the 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 Air Force and Army ROTC Programs, the Office of High School and Community College Relations, and the Office of Minority Student Services.

AEROSPACE STUDIES
Chairman: C. W. Bradley, FA 214, Phone 275-2264
Faculty: Jessup, Mendez, Smoleroff

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. (Age 35 for individuals with prior military service.)
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, 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, fees and required 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
Chairman: James W. Tarleton, FA 209, Phone 275-2430
Faculty: Armstrong, Burns, Farmer, Fernandez, Harris, Wolfe

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. If you are in the Army Reserve or National Guard and are continuing your education full time, then you may be eligible for the Army’s new Simultaneous Membership Program (SMP). It lets you combine Reserve Forces duty with Army ROTC officer training courses on campus and earn about $5,000 in two years.

MINOR
The Department of Military Science offers a minor consisting of a minimum of 16 semester hours. Required courses: MIS 3301, 3410, 4421 and 4430.

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.
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.
3. Summer Camp
   Prior to commissioning each cadet must successfully complete an evaluation of skills learned. This evaluation is conducted at Ft. Bragg, North Carolina during June and July. Summer Camp requirements apply only to Advanced Military Science students.

SUMMER TRAINING
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. Flight Orientation Training
   d. Ranger Training
   e. 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
Scholarships are available to qualified ROTC and non-ROTC students. 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.

REQUISITES FOR ADMISSION TO THE ADVANCED COURSE
1. Successful completion of Basic Course, Basic Camp, JROTC, prior military service, or permission of Department Chairman.
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.

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:

- **DEP 3464** Psychology of Aging 3 hours
- **HSC 4564** Health Care Needs of the Elderly 3 hours
- **SYP 4730** Sociology of Aging 3 hours
- **SOW 4644** Social Services for the Elderly 3 hours

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 Chairman, 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.

**LIBERAL STUDIES PROGRAM**

**Dean:** Charles N. Micarelli, AD 210, Phone 275-2691  
**Director:** Dennis Kamrad, AD 374, Phone 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 disciplines are represented.
2. A minimum of 14 semester hours in each area with an additional 15 semester hours to be completed in a fifth area or used to strengthen one or more of the four course area groupings. Students choosing only four course area groupings may include a maximum of 9 semester hours of general electives as well as 6 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
(Four areas must be represented -- chosen from three disciplines)

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

HEALTH SCIENCES
Communicative Disorders, Health Sciences, Medical Record Administration, Medical Laboratory Science, Nursing, Radiologic Sciences, Cardiopulmonary Sciences, and other Health Related Professions.

BEHAVIORAL SCIENCES
Anthropology, Psychology, Sociology and Social Welfare.

BIOLOGICAL SCIENCES
Biology, Botany, Microbiology, Zoology.

BUSINESS ADMINISTRATION
Accounting, Business Administration, Economics+, Finance, Hospitality Management, Management, Marketing.

COMMUNICATION
Journalism, Radio-Television, Speech, and general courses in Communication.

EDUCATION*
Business Education, Educational Media, Physical Education, Teaching Analysis, Vocational Education, and selected courses from Elementary and Secondary Education.

ENGINEERING
Selected courses from the Engineering core and departmental offerings. A maximum of 9 semester hours from the following courses may be used in the General Education Program and Liberal Studies program: EGN 4033, 4813, 4814, 4815, 4823, 4824, 4825, 4832, 4843, and 4844.

FINE ARTS
Art, Music and Theatre.

HUMANITIES
English, Foreign Literature, History, Humanities, Philosophy, and Religion.

LANGUAGES
French, German, Italian, Russian, Spanish.

MATHEMATICAL SCIENCES
Computer Science, Mathematics and Statistics

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

SOCIAL SCIENCES
Allied Legal Services, Criminal Justice, Economics+, Geography (Social), Political Science, and Public Administration.

*Consult your advisor. Many Education courses require concurrent public school practicum.
+This course shown in two areas.
**Please note that those courses used to satisfy the G.E.P. cannot also be used to satisfy the 14 hours needed in a course area grouping.

The Liberal Studies disciplines are: (Three must be represented within the four areas chosen)
I. Business Administration
II. Education
III. Engineering
IV. Health
V. Fine Arts, Humanities, and Languages
VII. Air Force or Army ROTC, Behavioral Sci., Communication, and Social Sciences

MINORITY STUDENT SERVICES
Director: Robert Belle, AD 225, Phone 275-2716

The Office of Minority Student Services is responsible for coordinating special programs, projects, and special services for minority students. The office cooperates with existing student services in the recruitment, admission, and retention of minority students, and is responsible for monitoring and facilitating the academic progress of minority students. Minority Student Services also assists in developing cultural and social programs to enhance the development of the individual.

HIGH SCHOOL AND COMMUNITY COLLEGE RELATIONS
Director: Ralph Boston, AD 210, Phone 275-2231

High School and Community College Relations is responsible for:
Keeping high school/community college students and counselors informed about UCF, its programs and policies; coordinating and participating in the state-wide and local visits to high schools and community colleges; annually publishing the UCF "Transfer Student Counseling Manual"; monitoring the statewide community college/university articulation agreement; serving as liaison with high school/community college officials; conducting appropriate workshops/meetings to maintain and improve school relations.
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 Sociology," and "Principles of Sociology." The title does not affect the equivalency. The courses all carry the same prefix and last three digits; that is what identifies them as equivalent.

**Lab Indicators**

Some courses will carry an alpha suffix indicating a lab. The alpha suffixes "L" and "C" are used as follows to indicate laboratories:

- "L" means either (a) a course, the content of which is entirely laboratory or (b) the laboratory component of a lecture-lab sequence in which the lab is offered at a different time/place from the lecture course.
- "C" means a combined lecture-lab course in which the lab is offered in conjunction with the lecture at the same time/place.

**Examples:**

- Marine Biology OCB-013 (lecture only)
- Marine Biology OCB-013L (lab only)
- Marine Biology 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
- CHI Chinese
- CHM Chemistry
- CHS Chemistry-Specialized
- CIS Computer & Information Systems
- CJT Criminal Justice Technology
- CLP Clinical Psychology
- CNM Computational/Numerical Method
- COC Computer Concepts
- COM Communications
- COP Computer Programming
- COT Computer Theory
- CPO Comparative Politics
- CRM Computer Resources/Management
- CRW Creative Writing
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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<td>Dance Activities</td>
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<td>Dance Education</td>
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<td>DEP</td>
<td>Development Psychology</td>
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<td>EAB</td>
<td>Experimental Analysis of Behavior</td>
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<td>EAS</td>
<td>Engineering: Aerospace</td>
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<tr>
<td>ECI</td>
<td>Engineering: Civil</td>
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<tr>
<td>ECM</td>
<td>Engineering: Computer Mathematics</td>
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<td>ECO</td>
<td>Economics</td>
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<td>ECP</td>
<td>Economic Problems &amp; Policy</td>
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<td>ECS</td>
<td>Economic Systems &amp; Development</td>
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<td>Education: Administration</td>
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<td>EDE</td>
<td>Education: Elementary</td>
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<td>EDF</td>
<td>Education: Foundation</td>
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<td>EDH</td>
<td>Education: Higher</td>
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<td>EDM</td>
<td>Education: Middle School</td>
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<td>Education: Psychology</td>
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<td>EDS</td>
<td>Education: Supervision</td>
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<td>EEC</td>
<td>Education: Early Childhood</td>
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<td>EED</td>
<td>Education: Emotional Disorders</td>
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<td>EEL</td>
<td>Engineering: Electrical</td>
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<td>EES</td>
<td>Environmental Engineering Science</td>
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<td>EET</td>
<td>Electrical Electronic Technology</td>
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<td>EEX</td>
<td>Education: Exceptional Child-Care Competencies</td>
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<td>EGC</td>
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<td>EGM</td>
<td>Engineering: Mechanical</td>
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<td>Engineering: Industrial</td>
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<td>ELD</td>
<td>Education: Specific Learning Disabilities</td>
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<td>Education: Technology &amp; Media</td>
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<td>EMR</td>
<td>Education: Mental Retardation</td>
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<td>Education: Vocational/Technical</td>
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<td>Finance</td>
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<td>FOT</td>
<td>Foreign &amp; Biblical Languages in Translation</td>
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<td>FRE</td>
<td>French Language</td>
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<td>FRW</td>
<td>French Literature (Writings)</td>
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<td>FSS</td>
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<td>GEA</td>
<td>Geography: Regional Areas</td>
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<td>GEB</td>
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<td>HBR</td>
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<td>Medical Laboratory Science</td>
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<td>Medical Records</td>
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<td>MTG</td>
<td>Mathematics: Topology &amp; Geometry</td>
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<td>Music: History/Musicology</td>
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<td>OCE</td>
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<td>ORI</td>
<td>Oral Interpretation</td>
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<td>OST</td>
<td>Office Systems Technology</td>
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<tr>
<td>PAD</td>
<td>Public Administration</td>
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</tbody>
</table>
PCB Process Cell Biology
PCO Psychology for Counseling
PEL Physical Education Acts (GEN)-Object Centrd., Land
PEM Physical Education Acts (GEN)-Perform Centrd., Land
PEN Physical Education Acts (GEN)-Water, Snow, Ice
PEO Physical Education Acts (PROFNL)-Object Centrd., Land
PEP Physical Education Acts (PROFNL)-Perform Centrd., Land
PEQ Physical Education Acts (PROFNL)-Water, Snow, Ice
PET Physical Education Theory
PHH Philosophy, History of
PHI Philosophy
PHM Philosophy of Man & Society
PHS Physics-Specialized
PHY Physics
PHZ Physics Continued
POS Political Science
POT Political Theory
PPE Psychology of Personality
PSB Psychobiology
PSC Physical Sciences
PSY Psychology
PUP Public Policy
PUR Public Relations
RAT Radiation Therapy
REA Reading
RED Reading Education
REE Real Estate
REL Religion
RET Respiratory Therapy
RMI Risk Management & Insurance
RTE Radiological Sciences
RTV Radio-Television
RUS Russian Language
SCE Science Education
SED Speech Education
SLS Student Life Skills
SOP Social Psychology
SOW Social Work
SPA Speech Pathology & Audiology
SPC Speech Communication
SPN Spanish Language
SPS School Psychology
SPW Spanish Literature (Writings)
SSE Social Studies Education
STA Statistics
STD Student Development
SUR Surveying
SYA Sociology Analysis
SYD Sociology of Demography and Area of Studies
SYG Sociology, General
SYO Sociology—Social Organizations
SYP Sociology—Social Processes
TAX Taxation
THE Theatre
TPA Theatre Production & Administration
TPP Theatre Performance & Performance Training
TTE Transportation & Traffic Engineering
URP Urban and Regional Planning
VIC Visual Communication
WOH World History
ZOO Zoology
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.

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<th>Course Type</th>
<th>Undergraduates</th>
<th>Special Grad</th>
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<td>4906</td>
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<tr>
<td>Directed Independent Research</td>
<td>3930</td>
<td>4912</td>
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<tr>
<td>Special Topics/ Seminars</td>
<td>3930</td>
<td>4932</td>
</tr>
<tr>
<td>Internships, Practicums, Clinical Practice</td>
<td>3940</td>
<td>4941</td>
</tr>
<tr>
<td>Study Abroad</td>
<td>3955</td>
<td>4956</td>
</tr>
</tbody>
</table>

These courses may be assigned variable credit. Some may be repeated upon approval.

1 The Special Graduate Courses are primarily for graduate students, but may be taken by advanced seniors with the consent of their deans.
2 Enrollment is limited to those students who are fully admitted to the Graduate 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 3121C                                AS 5(3,6)
Analytical Chemistry I: CHM 3121C carries 5 hours credit but requires 9 contact hours; 3 in class and 6 in laboratory or field work. It is scheduled to be offered in the College of Arts and Sciences.

College designation: AS = Arts and Sciences; BA = Business Administration; ED = Education; EN = Engineering; HLTH = Health; US = Undergraduate Studies

AVAILABILITY OF COURSES
The University does not offer all of the courses listed in the catalog each year. The Class Schedule should be consulted for those courses offered each semester.

ACG 2001                                BA 3(3,0)
Principles of Accounting I: PR: Sophomore standing and MAC 1104 or equivalent. Nature of accounting, financial statements, the accounting cycle, assets, current liabilities, and owner's equity.

ACG 2011                                BA 3(3,0)

ACG 3023                                BA 6(6,0)
Principles of Accounting I and II: PR: Junior standing and MAC 1104 or equivalent. Same as ACG 2001, 2011. Credits may not be earned in both ACG 3023 and the ACG 2001, 2011 sequence.

ACG 3103                                BA 3(3,1)
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                                BA 3(3,0)
Financial Accounting II: PR: ACG 3103 with a grade of "C" or better. A continuation of ACG 3103.

ACG 3301                                BA 3(3,0)
Management Accounting: PR: C.I. and Junior standing. To thoroughly familiarize the student with the various uses of accounting information for planning and control.

ACG 3361                                BA 3(3,0)
Cost Accounting I: PR: Junior standing, MAC 1104, ECO 2013, and ECO 2023, and ACG 2011 with a grade of "C" in ACG 2011, completion of or concurrent enrollment in ACG 3103. Cost concepts, cost of goods manufactured, job order costing, process costing, standard costing, and relevant cost analysis.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFH 3404</td>
<td>Sub-Saharan Africa - Eastern and Southern: PR: EUH 2000 and 2001 or C.I. Survey of history of</td>
<td></td>
<td>Survey of history of Eastern and Southern Africa including origins of man, Bantu migrations, Arab and</td>
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<tr>
<td></td>
<td>Eastern and Southern Africa, including origins of man, Bantu migrations, Arab and European</td>
<td></td>
<td>European influences, and colonial and national periods.</td>
</tr>
<tr>
<td>AFR 1101</td>
<td>The United States Air Force and Strategic Offensive-Defensive Forces: PR: Qualification for Air</td>
<td></td>
<td>History, mission, organization and doctrine of the United States Air Force and a study of U.S. Strategic</td>
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<tr>
<td></td>
<td>Force ROTC or permission of Professor of Aerospace Studies.</td>
<td></td>
<td>Offensive and Defensive Forces.</td>
</tr>
<tr>
<td>AFR 1111</td>
<td>Conventional Military Forces: PR: AFR 1101 or permission of Professor of Aerospace Studies.</td>
<td></td>
<td>A brief review of the Army, Navy, and Marine force. An introduction to special operations and</td>
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<td></td>
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<td>counterinsurgency.</td>
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<tr>
<td>AFR 2130</td>
<td>The Development of Airpower: PR: AFR 1111 or approval of the PAS.</td>
<td></td>
<td>Study of the development of airpower from experiments by 18th century balloonists to the</td>
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<td></td>
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<td></td>
<td>achievement of combat airpower capabilities during World War II.</td>
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<tr>
<td>AFR 2131</td>
<td>The Aerospace Age: PR: AFR 2130 or approval of PAS.</td>
<td></td>
<td>Study of the development of aerospace capabilities since World War II, highlighting technological</td>
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<td></td>
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<td></td>
<td>advancements and the role of aerospace power in the contemporary world.</td>
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<tr>
<td>AFR 3220</td>
<td>Air Force Management and Leadership: PR: GMC or Two-Year Program Selection and/or approval of</td>
<td></td>
<td>Study of Air Force management fundamentals, communications skills and basic leadership styles.</td>
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<td></td>
<td>the PAS.</td>
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<tr>
<td>AFR 3230</td>
<td>Air Force Management and Evaluation: PR: AFR 3220 or approval of the PAS.</td>
<td></td>
<td>Conducting study of Air Force management fundamentals including performance evaluation skills.</td>
</tr>
<tr>
<td>AFR 4201</td>
<td>Societal Role and Defense Strategy: PR: AFR 3230 or approval of PAS.</td>
<td></td>
<td>Examination of the military and its role in American society. A study of the framework and formation of</td>
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<td></td>
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<td>defense strategy.</td>
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<tr>
<td>AFR 4210</td>
<td>Implementation of Defense Policy: PR: AFR 4201 or approval of PAS.</td>
<td></td>
<td>Examination of defense implementation and its impact on the decision making process. A study of the</td>
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<td></td>
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<td>military justice system and its protection of individual rights.</td>
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<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</td>
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<td>AMH 2010.</td>
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<tr>
<td>AMH 3370</td>
<td>American Economic History: PR: AMH 2010 and 2020 or C.I. An introduction to the economic</td>
<td></td>
<td>Study of the economic development of the U.S. with emphasis on agriculture, labor, industrialization,</td>
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<td></td>
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<td>transportation and banking.</td>
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<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,</td>
<td></td>
<td>Development of the southern colonies, beginning sectionalism, the cotton economy, slavery. Calhoun's</td>
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<td>constitutional theories, secession, Civil War and its aftermath.</td>
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<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;</td>
<td></td>
<td>Reconstruction, the &quot;solid South&quot; and the racial dilemma, progressivism for whites only, southern</td>
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<td>literature, 20th century economic, political and social changes, and the new Reconstruction.</td>
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<tr>
<td>AMH 3421</td>
<td>History of Florida to 1845: PR: AMH 2010 and 2020 or C.I.</td>
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<td>Study of Florida history to 1845.</td>
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<tr>
<td>AMH 3423</td>
<td>Florida History 1845-Present: PR: AMH 2010 and 2020 or C.I.</td>
<td></td>
<td>Study of Florida history from 1845 to the present.</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</td>
<td></td>
<td>Study of the westward movement from the colonial settlements to the Mississippi considered as an</td>
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<td>interpretive approach to American history.</td>
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<tr>
<td>AMH 3442</td>
<td>History of the Frontier: Western America: PR: AMH 2010 and 2020 or C.I. The development of the</td>
<td></td>
<td>Study of the development of the trans-Mississippi West and its impact upon American history.</td>
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<tr>
<td>AMH 3445</td>
<td>Spanish Borderlands: PR: AMH 2010 and 2020 or C.I. Survey of Spanish settlement in South and</td>
<td></td>
<td>Study of Spanish settlement in South and Southwestern U.S. with emphasis upon cultural conflicts found</td>
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<td>in the imperial rivalries for control of the area.</td>
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<tr>
<td>AMH 3460</td>
<td>History of Urban America: Cities as &quot;spearheads in the wilderness, anti-urban bias, urban</td>
<td></td>
<td>Study of urban life in the United States, including public health, housing, planning, and</td>
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<td>promotion, rivalries, industrialization, ethnicity, reform movements including public health,</td>
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<td>Metropolitanism and demographic trends.</td>
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<td>housing, planning.&quot;</td>
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<td>Course Code</td>
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<tr>
<td>AMH 3540</td>
<td>Military History: A survey of US military history from the European background of the colonial period through the contemporary military experience.</td>
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<tr>
<td>AMH 3560</td>
<td>Women in American History: Women in colonial America, &quot;republican&quot; motherhood, &quot;separate spheres,&quot; suffrage battle, entry into paid labor force, new educational and professional opportunities, changing family pattern, &quot;new&quot; feminism.</td>
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<td>AMH 3570</td>
<td>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.</td>
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<tr>
<td>AMH 3800</td>
<td>Canadian History: Canada since Colonial times and the present but with emphasis on the period since the British North America Act, 1867.</td>
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<tr>
<td>AMH 4110</td>
<td>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.</td>
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<tr>
<td>AMH 4130</td>
<td>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.</td>
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<tr>
<td>AMH 4140</td>
<td>Jeffersonian America: PR: AMH 2010 and 2020 or C.I. The Confederation era, the Federalists, Jeffersonian Democracy, and the War of 1812.</td>
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<tr>
<td>AMH 4160</td>
<td>Jacksonian America: PR: AMH 2010 and 2020 or C.I. The risk of American nationalism, Jacksonian Democracy, the Mexican War and sectional conflict.</td>
<td></td>
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<tr>
<td>AMH 4170</td>
<td>Civil War and Reconstruction: PR: AMH 2010 and 2020 or C.I. Reconstruction, and impact of industrialism.</td>
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<tr>
<td>AMH 4201</td>
<td>Robber Baron Era: PR: AMH 2010 and 2020 or C.I. The Agrarian Revolt, the Spanish-American War, and the Progressive Era.</td>
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<tr>
<td>AMH 4231</td>
<td>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.</td>
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<tr>
<td>AMH 4270</td>
<td>United States History: 1945-Present: PR: AMH 2010 and 2020 or C.I. Contemporary America from World War II.</td>
<td></td>
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<tr>
<td>AMH 4311</td>
<td>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.</td>
<td></td>
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<tr>
<td>AMH 4313</td>
<td>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.</td>
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<tr>
<td>AMH 4510</td>
<td>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.</td>
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<tr>
<td>AMH 4511</td>
<td>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.</td>
<td></td>
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<tr>
<td>AMH 5116</td>
<td>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.</td>
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<tr>
<td>AMH 5137</td>
<td>Colloquium in U.S. Revolutionary Period: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics in the Revolutionary Era, 1763-1789.</td>
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<tr>
<td>AMH 5149</td>
<td>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.</td>
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<tr>
<td>AMH 5169</td>
<td>Colloquium Age of Jackson: PR: Senior Standing or C.I. Intensive reading and class discussion on selected topics of the Jacksonian age.</td>
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<tr>
<td>AMH 5176</td>
<td>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.</td>
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</tr>
</tbody>
</table>
AMH 5219
colloquium in late 19th century U.S.: PR: senior standing or C.I. reading and class discussion of the literature on selected topics of late 19th century U.S.

AMH 5296
colloquium in 20th century U.S.: PR: senior standing or C.I. reading and class discussion on selected topics in 20th century U.S.

AMH 5391
colloquium in U.S. cultural history: PR: senior standing or C.I. students will read and discuss a common or diverse body of the significant literature in the field.

AMH 5407
colloquium in American South: PR: senior standing or C.I. intensive reading and class discussion on selected topics of Southern history from colonial origins to the present.

AMH 5446
colloquium in U.S. frontier: PR: senior standing or C.I. reading and class discussion of the literature on selected topics of frontier history.

AMH 5515
colloquium in U.S. diplomatic history: PR: senior standing or C.I. a survey of the historical literature of American foreign policy.

AML 2011
American literature I: PR: ENC 1102. Major American writers from beginning through Whitman.

AML 3020
American literature II: PR: ENC 1102. Major American writers from Twain to present.

AML 4101

AML 4261
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

ANT 2003
General anthropology: An introductory survey of the four major subfields of anthropology: Social Anthropology, Physical Anthropology, Linguistics and Archaeology.

ANT 3000
Human origins (anthropology I): The evolution of human society from foraging and hunting groups to the earliest cities and states.

ANT 3034
History of anthropological ideas: An investigation of the development of anthropological thought.

ANT 3122
Archaeological method and theory: A survey of archaeological field and laboratory techniques, including the interpretation of written archaeological reports.

ANT 3141
The emergence of civilizations: The emergence of high civilizations in Europe, Africa, Asia, and the ancient Americas.

ANT 3142
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
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
Archaeology of complex society: Theoretical perspectives on ancient hierarchies of power.

ANT 3153
Archaeology of North America: An introduction to the archaeology of North America including its prehistoric and historic aspects.

ANT 3162
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
Mesoamerican archaeology: An introduction to the prehistory of Mexico, Guatemala, and upper Central America from earliest times through the Spanish conquest.

ANT 3241
Magic, ritual, and belief: Patterns in religious behavior in various societies with primary emphasis on myth, rite, taboo and festival social phenomena.

ANT 3262

ANT 3271
Law and culture: An introduction to law as an organizing force in society including a study of primitive forms of law and social control.
Sex, Gender and Culture: The traditional and changing roles of women and men viewed in a cross-cultural perspective.

Indians of the Southeastern United States: A study of the social and cultural history of the Indians of the Southeast.

Ethnology of North American Indians: A survey of the aboriginal cultures of North America with emphasis on the pre-contact cultural condition.


Maya Archaeology: An examination of the Prehistoric Maya culture focusing on both the archaeology and current issues in the field.

People and Cultures of Latin America: An overview of the history and society of the peoples of Latin America emphasizing patterns of subsistence and social organization.

Peoples of the Far East: A survey of the peoples of China, Japan and Korea from the anthropological perspective.

Cultural Anthropology (Anthropology II): An introduction to human diversity as exemplified among various cultures and ethnic groups.

Aging and Death: General considerations and theories of aging and death in a cross-cultural perspective.


Culture and the Individual: Focus on the socio-cultural dimensions of child rearing, mental illness/mental health, sexual behavior, personality, and testing.

Medical Anthropology: The therapeutic environment examined in a cross-cultural perspective. The implications of the comparative approach to health care in the industrialized world.

Human Microevolution: A study of the forces of evolution operating within the contemporary human populations, with particular emphasis upon epidemiological areas of research.

The Human Species: Human biological variation in an evolutionary perspective.

Biobehavioral Anthropology: An introduction to the study of human behavior in terms of mutual interaction between human biology and cultural environments.

Primatology: An introduction to the evolution of non-human primates and to contemporary field and laboratory primatological research.

Language and Culture: PR: Sophomore standing. The study of language in a non-western setting; language and behavior; language and perception.

Action Anthropology: Application of principles of anthropology to problems of directed social and technological change.

The Profession of Anthropology: Professionalism in Anthropology. Emphasis on professional preparation, grantsmanship, current issues and ethics.

Anthropological Method and Theory: Method, theory, research design and field technique in the anthropological endeavor.

Advanced Archaeological Fieldwork: Supervised archaeological fieldwork. Students admitted only with permission of instructor.

Seminar in Laboratory Analysis: The processing of archaeological finds from excavation through publication.

Comparative Cultural Analysis: The dynamics of cultural processes in a multi-ethnic setting.

Proseminar in Anthropology: An intensive introduction to the study of anthropology. Open to all graduate students and undergraduate students with C.I.
APA 3471 Accounting for Engineers: General Accounting principles and practice, cost accounting, budgeting and control techniques. Not usable for BSBA degree credit.


APB 3283 Respiratory Pathology: PR: ZOO 3733C. Cellular pathology with emphasis on pathology of respiratory and cardiovascular systems.

APB 3600 Introduction to Pharmacology: Review of terminology and regulations. Study of drug types and usage.

APB 4650 Medical Pharmacology: PR: C.I. Drugs in cardiovascular diseases; effects on nervous system, gastrointestinal tract, and neuroeffectors. Depressants and stimulants; influence on metabolism and endocrines. Anesthetics, chemotherapy.

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 4441 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 4442 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 5668 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 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: Euro-American, 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. AS 3(3,0)

ARH 3820
Visual Arts Administration: Vitas; grant applications; Personnel; copyright laws; museum practices, etc. AS 3(3,0)

ARH 4071
Symbolism in the Visual Arts: A study of the origin, migration, and transmutation of signs, symbols and images in art history. AS 4(4,0)

ARH 4170
Greek & Roman Art: A study of the art and architecture of the ancient civilizations of the Mediterranean, comprising Greece, Etruria, and Rome. AS 3(3,0)

ARH 4311
Early Italian Renaissance Art: A survey of Italian Art and Architecture from 1300 to 1500. AS 3(3,0)

ARH 4312
Later Italian Renaissance Art: A survey of Art in Italy, from the High Renaissance through Mannerism. AS 3(3,0)

ARH 4350
Baroque Art: A study of European Art in the seventeenth and eighteenth centuries. AS 3(3,0)

ARH 4430
19th Century Art: A survey of the trends and developments in art during the nineteenth century, including the art of America and of Western Europe. AS 3(3,0)

ARH 4450
20th Century Art: A survey of the art from Fauvism, Futurism, Cubism to the art of the present. AS 3(3,0)

ARH 4655
Meso American Art: A survey of the art of Mexico and Central America, from the Pre-Columbia, through the Spanish Colonial, to the 20th Century. AS 4(4,0)

ARH 4690
Mexican Art--Fieldwork: A field trip in connection with ARH 4655. AS 1(1,0)

ARH 4700
Art and Technology: The impact of technological developments in the visual arts of the 20th Century. AS 3(3,0)

ARH 4730
Environmental Art: Analysis of aesthetic design factors, related to city planning, architecture, product design, and experimental environmental arts. AS 4(4,0)

ARH 4800
Theory and Criticism of the Visual Arts: Criteria of criticism, analysis of works, elements of psychology and sociology of art. Developments in the art of the 20th Century. AS 3(3,0)

ART 2201C
Design Fundamentals I: Materials, processes, form. Emphasis on two-dimensional design problems, including problems in black and white and basic color theory. AS 3(2,3)

ART 2202C
Design Fundamentals II: Continuation of color theory and basic three-dimensional design using the various sculptural media. AS 3(2,3)

ART 2300C
Drawing Fundamentals I: Drawing as a means of formal organization. Introduction to problems in drawing methods and media. Emphasis on description techniques. AS 3(2,3)

ART 2301C
Drawing Fundamentals II: Continuation of ART 2300C. AS 3(2,3)

ART 3100C
Three-Dimensional Design: PR: ART 2202C or C.I. Intermediate problems in three-dimensional materials, processes, forms. AS 3(2,3)

ART 3110C
Ceramics: Basic concepts of ceramic design, experience in processes of forming, decorating, glazing, and firing pottery. AS 3(2,3)

ART 3230C
Design in Advertising: PR: ART 2201C. Principles and techniques. Not open to art majors specializing in graphic design. Intended for visual arts education majors and general university elective. AS 3(2,3)

ART 3280C
Graphic Design I: PR: ART 2201C, 2202C, or C.I. Current: Use of type, color and illustration on layout elements and mechanical separations. AS 3(2,3)

ART 3330C
Intermediate Drawing I: PR: Six semester hours of Drawing Fundamentals or C.I. Intermediate problems in drawing with emphasis on the human form. AS 3(2,3)

ART 3331C
Intermediate Drawing II: PR: C.I. Continuation of Intermediate Drawing I. AS 3(2,3)

ART 3400C
Printmaking: PR: Three semester hours of Drawing Fundamentals or C.I. AS 3(2,3)

ART 3510C
Painting: PR: Three semester hours in Design Fundamentals and three semester hours in Drawing Fundamentals or C.I. Concentration of basic techniques and aesthetic factors in painting. AS 3(2,3)
Photography: PR: ART 2201C. Consideration of basic technical and aesthetic factors in using still photography as a vehicle for visual expression.

Sculpture: PR: Six semester hours in Design Fundamentals, to include three semester hours in three-dimensional work, or C.I.

Advanced Three-Dimensional Design: PR: ART 3100C. May be repeated for credit. Advanced problems in three-dimensional materials, processes, forms.

Advanced Ceramics: PR: ART 3110C. May be repeated for credit.

Fibers, Fabrics, Textiles and Synthetics: Textile design and production, including non-loom weaving processes. May be repeated for credit.


Special Problems in Graphic Design: PR: ART 4242C or C.I. Advanced problems in Visual Design and Reproduction. May be repeated for credit.

Graphic Design II: PR: ART 3280C or C.I. Practical Studio Problems with emphasis on organization of visual design elements. May be repeated for credit.

Advanced Drawing: PR: ART 3331C. May be repeated for credit.

Advanced Printmaking: PR: ART 3400C. May be repeated for credit.

Advanced Painting: PR: ART 3510C. May be repeated for credit.

Advanced Photography: PR: ART 3600C. May be repeated for credit.

Special Problems in Photography: PR: ART 3800C 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, technique, and design for film production, including animation.

Advanced Sculpture: PR: ART 3701C. May be repeated for credit.

Senior Studio and Exhibition: Studies for the preparation of portfolios, resumes, gallery exhibitions, and other professional practices.

Crafts Design: Crafts design and production, including the use of rigid, flexible, and linear materials.

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, 1917-1967.

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.

Survey of Chinese History I: PR: EUH 2000 and 2001 or C.I. From antiquity to 1368, a study of the development of Chinese social, political and cultural traditions from their early beginnings to the end of Yuan Dynasty.

Survey of Chinese History II: PR: EUH 2000 and 2001 or C.I. From 1368 to present, a study of the evolution and transformation of Chinese society during late-imperial and modern periods, with special emphasis on China's response to the western impact.

Early Islamic History: PR: EUH 2000 and 2001 or C.I. Early Islamic History from the Prophet Mohammad (600 A.D.) to the Mongol invasion (1258 A.D.).

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.

Modern Japan, 19th and 20th Centuries: PR: EUH 2000 and 2001 or C.I. A survey of the Tokugawa
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AST 3005</td>
<td>Astronomy</td>
<td>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.</td>
</tr>
<tr>
<td>AST 5081C</td>
<td>Astronomy for Teachers</td>
<td>Pr: C.I. Elliptical Orbits, binary stars, luminosity, doppler shift, spectroscopy, stellar evolution.</td>
</tr>
<tr>
<td>AVM 4510</td>
<td>Airline Management</td>
<td>Pr: HFT 1000. The trends, operation, practices and procedures of the airline industry. Special emphasis on ticketing, scheduling, marketing and terminal management.</td>
</tr>
<tr>
<td>BCH 4054</td>
<td>Biochemistry II</td>
<td>Pr: BCH 4053. Continuation of BCH 4053.</td>
</tr>
<tr>
<td>BOT 4403C</td>
<td>Algae</td>
<td>A study of mechanisms used by plants to cope with the environment.</td>
</tr>
<tr>
<td>BOT 3820</td>
<td>Plants and the Urban Environment</td>
<td>Pr: C.I. The selection, placement, propagation and care of ornamental plants in residential and industrial areas. Designed for majors and non-majors.</td>
</tr>
<tr>
<td>BOT 4223C</td>
<td>Plant Anatomy</td>
<td>Pr: BOT 2010C. A study of development, structure and function of the principal organs and tissue of vascular plants.</td>
</tr>
<tr>
<td>BOT 4303C</td>
<td>Plant Kingdom</td>
<td>Pr: BOT 2010C. A survey of the plant kingdom utilizing comparative morphology, structure and functions to demonstrate relationships among extant and extinct forms.</td>
</tr>
<tr>
<td>BOT 4403C</td>
<td>Freshwater Algae</td>
<td>Pr: BOT 2010C or C.I. A lecture-laboratory course to survey the physiology, diversity and ecology of the freshwater algae.</td>
</tr>
<tr>
<td>BOT 4503C</td>
<td>Plant Physiology</td>
<td>Pr: PCB 3023 or C.I. A study of mechanisms used by plants to cope with the environment.</td>
</tr>
<tr>
<td>BOT 4713C</td>
<td>Plant Taxonomy</td>
<td>Pr: BOT 2010C. An introduction to systematic classification and identification of vascular plants with emphasis on the flora of peninsular Florida.</td>
</tr>
<tr>
<td>BOT 5495C</td>
<td>Bryology</td>
<td>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>
</tr>
<tr>
<td>BOT 5705C</td>
<td>Plant Biosystematics</td>
<td>Pr: Graduate standing or C.I. Evolutionary processes among plant taxa and populations utilizing cytology, morphology, biochemistry, breeding systems and co-evolution.</td>
</tr>
<tr>
<td>BSC 1030C</td>
<td>Biological Principles</td>
<td>A study of various biological factors which affect the health and survival of man in modern society. Designed for non-majors.</td>
</tr>
<tr>
<td>BSC 1030C</td>
<td>Biology and Environment</td>
<td>Biological implications of the interaction among human society, population, and technology in relation to the environment and natural systems. Designed for non-majors.</td>
</tr>
</tbody>
</table>
BSC 2010C  AS 4(3,2)
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.

BSC 4034  AS 3(3,0)
Biology and Society: PR: An introductory course in Biology or C.I. Biological concepts applied to current human problems - food production, pollution, diseases, energy, life support systems, natural ecosystems. Suitable for majors or non-majors.

BSC 4103  AS 3(3,0)
Survey of Biology: PR: C.I. People and events involved in the development of major biological concepts and disciplines. Suitable for majors and non-majors.

BTE 3391   ED 2(2,1)

BTE 3391L  ED 1(0,4)
Typewriting Laboratory for Instructional Development: CR: BTE 3391. Practical application of typewriting theory in the competency-based and traditional classroom. For Business Education majors only.

BTE 4071  ED 1(0,4)
Professional Student Leadership Development: Knowledge and application of objectives for vocational student organizations. Participation in local, state and national business education organization functions. (May be repeated once.)

BTE 4386  ED 3(3,0)
Business Correspondence: Originating written business correspondence to include letters, memoranda, and business forms. (Typewriting skill recommended.)

BTE 4392  ED 2(2,0)
Business Instructional Analysis II: PR: EDG 4321. Techniques, materials, and instructional media; psychological principles, evaluation and current trends in shorthand and related instruction.

BTE 4392L  ED 1(0,4)
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.

BTE 4393  ED 2(2,0)

BUL 3111  BA 3(3,0)

BUL 3112  BA 3(3,0)
Business Law I: PR: BUL 3111. Analysis of statutory and common law principles involved in the formation, operation and termination of recognized business organizations.

BUL 3121  BA 3(3,0)

BUL 3301  BA 3(3,0)

BUL 5125  BA 3(3,0)
Legal and Social Environment of Business: PR: Admission to graduate program. Analysis of the legal and ethical environment of business, the effects of legislation and regulation on business activity, and the role of law and ethics in the decision making process.

CAP 3001  AS 3(3,0)
Computer Fundamentals for Business Applications: Hardware/software for business data processing; survey of business applications program; study of prewritten programs (batch and interactive); writing programs in high level language. Not open to Computer Science Majors.

CAP 3002  AS 3(3,0)
Business Applications Programming: PR: CAP 3001 or equivalent. Basic programming concepts and techniques, algorithm design, programming for selected business applications using a high level language (e.g. BASIC). Not open to Computer Science majors.

CAP 3006  AS 3(3,0)
Survey of Hardware: PR: CAP 3002. Assembly programming; survey of hardware available in today’s market; techniques of hardware comparison. Not open to Computer Science majors.

CAP 3007  AS 3(3,0)

CAP 3106  ED 3(2,1)
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.

CAP 4401  AS 3(3,0)
Computerized Health Information Systems: PR: CAP 3001 or equivalent. Analyses of computerized
health information systems with emphasis upon the design and implementation phases. On-site visitations of several local computerized health information systems. Not open to Computer Science majors.

**CAP 5101**
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.

**CAP 5612**
Computer Based Educational Systems: PR: COP 4550 or equivalent. The design and implementation of computer based educational systems. Selected projects using high-level programming languages.

**CAP 5623**
Heuristic Programming: PR: COP 4550, COT 4001. An introduction to basic artificial intelligence concepts including problem solving, knowledge based systems, natural language understanding by computer.

**CAP 5670**
Introduction to Intelligent Systems: PR: COP 4550 or equivalent. Origin/evolution of machine intelligence; heuristic and epistemological approaches to artificial intelligence; what computers can and cannot do; symbiotic role of human and computers.

**CAP 5722**
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.

**CAP 5746**
Simulation/Performance of Computer Systems: PR: CDA 5106 and COP 5613. Performance measurement of hardware and software systems, simulation techniques, monitoring programs.

**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 3260**
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 3430**
The Criminal Justice Manager: PR: C.I. Elements of first-line supervision and executive development. Administrative leadership; its nature; methods and traits. Recent theories and research in leadership.

**CCJ 3451**
Justice System Technology: Examination of the relevance of scientific and technological developments to justice systems and their applicability to the operations and management of the systems.

**CCJ 3820**
Security Administration: Discussion of modern security administration and the security-law enforcement interface emphasizing a systems approach and utilizing the design of a security plan for a plant.

**CCJ 3821**
Practical Security Applications: An examination of basic security principles applied to practical specific security situations encountered in the Central Florida area.

**CCJ 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 situations.

**CCJ 4440**
Corrections Administration: Organizational and administrative theory and its application in various correctional settings. Examines specific problems in management and meeting conflicting needs and expectations.

**CCJ 4450**
Social Conflict and Justice Policy: The effects of social conflicts and political decisions on the administration of justice, stressing the law enforcement role in dealing with social problems.
CCJ 4481 Police and the Community: PR: CCJ 3020. Examination of the dynamics of public expectations of police, the impact of community demographic changes and police alienation from the community.

CCJ 4540 Delinquency Control: Examination of programs and institutions including juvenile court process, intake services, and remedial procedures and practices.

CCJ 4630 Comparative Justice Systems: A survey of contemporary foreign criminal justice and differences emerging from various political, cultural and legal systems.

CCJ 4941 Criminal Justice Internship: PR: C.I. Internship in municipal, county, state or federal criminal justice agency. Includes assignments in police, courts, corrections components.

CCJ 5485 Issues in Justice Policy: Examination of selected issues of public policy regarding the functions and roles of criminal justice agencies vis-a-vis other government departments or agencies and public purposes.

CDA 4012 Computer Interfacing for Scientists: PR: CHM 2046, or Phy 3049, or Phy 2051C, or equivalent, or C.I. Hands-on laboratory embracing simple gate, flip flop decoding and counting circuits, digital logic. Interfacing to a microcomputer for data logging and experimental control.

CDA 4102 Introduction to Computer Architecture: PR: Computer Science Major or C.I. and COP 3404 and EEL 3341C. Survey of machine instructions, processor characteristics, and microprogramming concepts.

CDA 4141 Microprocessor Fundamentals: PR: Computer Science Major or C.I., COP 3404 and EEL 3341C. Semiconductor Technology, 8-bit and 16-bit Microprocessor Architectures and programming, memory system design, I/O methods, interrupts, development system concepts.

CDA 4013 Microprocessor Interface: PR: Computer Science Major or C.I. and CDA 4142. Interfacing of CPU to various devices, CPU support devices, peripheral devices and controllers, BUS concepts and standards, single chip computers.

CDA 4144 Microprocessor Application: PR: Computer Science Major or C.I. and CDA 4142. Total system design methodology and applications, advanced topics on microprocessors, patent search and applications.


CDA 5006 Advanced Computer Architecture I: PR: CDA 4102. 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.

CDA 5182 Architecture and Design of VLSI Systems: PR: CDA 4102 or equivalent. Overview of VLSI technology. Stick diagrams; logical design of basic subsystems; integrated system design tools; design of a VLSI computer system.

CDA 5186 VLSI Design Tools: PR: CDA 5182, 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.

CDA 5188 VLSI Testing and System Integration: PR: CDA 5182. Test vectors; fault models; design for testability; LSSD; languages for testing; performance measurements; interrupts, BUS concepts and standards; testing and systems integration.

CES 4124 Structural Engineering Analysis: PR: EGN 3331C. Topics in structural mechanics, energy methods, indeterminate structures by flexibility, stiffness method, analysis of columns.


CES 4605 Structural Steel Design: PR: CES 4124 or C.I. Design of steel structural members. Selected topics in beam design, column design, plastic design, connections and built-up members.

CES 4609 Steel Design: PR: CES 4605. Project course on design of steel structures using steel and structural analysis methodologies.

CES 4704 Structural Concrete Design: PR: CES 4124 or C.I. Principles of designing reinforced concrete members. Selected topics in concrete mixes, beams, columns, and ultimate analysis.
CET 4709  
Concrete Design: PR: CES 4704. Project course on design of concrete structures using concrete and structural analysis methodologies.

CET 5107  
Matrix Structural Analysis: PR: CES 4144 or equivalent. Optimization and matrix methods applied to the design of real structures.

CET 3123C  
Microprocessor Electronics: CR: EET 3035C. Introduction to the Electronics of Basic Microprocessing.

CET 3144C  
Applied Microprocessor Technology: PR: CET 3123C. Analysis and design of machine language controlled microprocessor interfacing in a real world environment.

CET 3303C  

CET 3323C  
Computer Organization Technology: PR: CET 3123C. Digital logic, memory devices, interrupt and I/O handling techniques.

CET 3383  

CET 4131C  
Microprocessor Electronics II: PR: CET 3123C. A continuation of CET 3123C with emphasis on Applications of Microprocessor applications in Engineering Technologies.

CET 4188C  
Microcomputer Electronics II: PR: CET 3303C. Continuation of microcomputer electronics. Use of network microcomputers and programming applications.

CET 4198C  

CET 4333C  
Applied Computer Systems I: PR: CET 3303C. Design and analysis of computational circuitry, memory, computer interfaces, displays, and I/O devices.

CET 4334C  
Applied Computer Systems II: PR: CET 4333C. Continuation of computer systems with emphasis on advanced hardware and I/O devices.

CET 4345  
Minicomputer Applications in Technology: PR: CET 3323C. Utilization of minicomputers in real time industrial and business environments. Analysis of data communications methods.

CET 4361  

CET 4381  
Digital Signal Processing: PR: EET 4329C and COP 3215 or equivalent. Introductory treatments of the concepts of digital signal processing. Survey of current applications including consideration of available hardware and software.

CET 4427  
Applied Data Base Systems: PR: CET 3323C. Design and implementation of data base systems within the concept of central administration, structured data storage.

CET 4505  
Applied Microcomputer Operating Systems: PR: CET 3323C. Analysis of limitations and strengths of commercial mass storage operating systems in industry.

CET 4523  
Distributed Processing Technology: PR: CET 3323C. Introduces the concepts of distributed processing which include the interfacing of minis, mainframes, software, communications, and data base technology into a responsive information system.

CET 4527  
Applied Data Center Operations: PR: CET 3323C. Provides a thorough knowledge of data center operations management.

CET 4915  
Senior Computer Systems Laboratory: PR: CET 3303C. Experiments covering topics and devices in microcomputer electronics.

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 1202. Concepts will be examined to provide insight into the significant role that chemistry plays in our culture. Intended as a general education course.
CHM 1034
General Chemistry: PR: MAC 1104, MGF 1202 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 1034. Basic Physical theory of chemical reactivity, atomic structure, chemical bonding, periodicity, stoichiometry, equilibria, thermodynamics, and kinetics.

CHM 2046
Chemistry Fundamentals II: PR: CHM 2045. Continuation of CHM 2045.

CHM 2046L
Chemistry Fundamentals Laboratory: PR: CHM 1034 or CR: CHM 2046. Illustration of chemical principles and introduction to the techniques of inorganic and physical chemistry.

CHM 2205
Introduction to Organic and Biochemistry: PR: CHM 1034 or equivalent. An introduction to organic chemistry, stressing the chemistry of functional groups and a survey of the biochemistry of proteins, carbohydrates, lipids and nucleic acids.

CHM 3121C
Analytical Chemistry: PR: CHM 2046, 2046L. Laboratory practices of classical and instrumental analysis. Choice of preferred analytical methods and techniques is emphasized through applications involving both inorganic and organic systems.

CHM 3210

CHM 3211

CHM 3211L
Organic Laboratory Techniques I: PR: CHM 3210. An introduction to the laboratory techniques of organic chemistry including the preparation, reaction, and analysis of organic compounds.

CHM 3212L
Organic Laboratory Techniques II: PR: CHM 3211 and 3211L. Open-end laboratory to develop synthesis techniques and structure elucidation skills.

CHM 3410
Physical Chemistry I: PR: CHM 2046, PHY 3049, and MAC 3312. Rigorous treatment of atomic and molecular structure, thermodynamics, kinetics, and chemical bonding.

CHM 3411
Physical Chemistry II: PR: CHM 3410. Continuation of CHM 3410.

CHM 3411L
Physical Chemistry Laboratory: PR: CHM 3121C, CHM 3410 and COP 1110 or COP 3215. Classical as well as modern instrumental techniques coupled with computer data processing to measure physical properties and determine atomic and molecular parameters.

CHM 4130C
Advanced Analytical Laboratory Technique: PR: CHM 3211, CHM 3121C 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 4580

CHM 4610

CHM 5710
Chemical Structure I: PR: CHM 3211, 3121C, 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 1034.
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 3121C. The study of the presumptive tests, isolation, and instrumental techniques used in identification of controlled substances.

CHS 4110C
Nuclear and Radiochemistry: PR: CHM 3121C and CR: CHM 3411. A lecture-laboratory course examining theories of fundamental particles, the chemical effects of nuclear transformations and the special uses of isotopes.

CHS 4200
Concepts in Industrial Chemistry: PR: CHM 3410. An introduction to industrial practices emphasizing the application of chemical principles in the development of a commercial process or product.

CHS 4591
Forensic Science Internship: PR: C.I. Credit for full-time work (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 4112
Databases: PR: Computer Science Major or C.I. and COP 3530. Basic concepts of databases, I/O processing, file organization and access, study of selected database systems, database project.

CIS 4323
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 4324
Data Processing Systems Implementation: PR: Computer Science Major or C.I. and CIS 4323. System implementation project. Students experience the task of implementing a large computing system.

CIS 5012

CIS 5041

CIS 5234
Computational Techniques in Management Information Systems: PR: CIS 4112. Computers in management information systems; analysis, design approaches, processing methods and data management; use of state of the art software in design and development.

CLP 3003

CLP 3143

CLP 3302
Clinical Psychology: PR: PFE 3003 or CLP 3143. An overview of approaches to psychopathology, methods of clinical assessment, and various approaches to individual and group counseling.

CLP 4440
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 & treatment of emotional disorders. Review of Theories & Research In the Field. Lecture-Laboratory.

CNM 4110                  AS 3(3,0)

CNM 5142                  AS 3(3,0)
Computational Methods/Linear Systems: PR: CNM 4110 and MAS 3113. Mathematical models for linear systems, linear programming, the simplex method, integer and mixed-integer programming, introduction to nonlinear optimization and linearization.

CNM 5148                  AS 3(3,0)
Computational Methods/Applications: PR: CNM 4110. Computational solution techniques for algebraic equation, ODE and PDE Models of applications selected from science, engineering, applied mathematics, and computer science.

COC 1100                  AS 3(3,0)
Introduction to Computer Science: History, typical computer, number systems, control and data flow, peripheral components, memory devices, effects of computers on society; applications of computers. Not open to Computer Science Majors.

COC 3024                  AS 3(3,0)
Personal Computing: Survey of personal computers on the market; applications for education, entertainment and clerical work; programming in BASIC with exercises. Not open to Computer Science Majors.

COM 1000                  AS 3(3,0)
Basic Communication: Survey of basic factors affecting human interaction through communication; theories and models of communication; contributions of behavioral sciences and related arts; mass media in society.

COM 3110                  AS 3(3,0)
Business and Professional Communication: PR: SPC 1014 or C.I. Theoretical and practical training in effective presentational speaking for business and professions.

COM 3120                  AS 3(3,0)
Organizational Communication: A study of communication functions and problems within the contexts of hierarchies.

COM 3311                  AS 3(3,0)
Communication as a Behavioral Science: PR: Grammar proficiency examination. Basic principles of the behavioral science approach to the study of contemporary communication.

COM 4020                  AS 3(3,0)
Informational Communication: An examination of available communication systems (non-technical) and their utilization within business, educational, entertainment, industrial, medical and military organization.

COM 4463                  AS 3(2,1)
Communication and Court Room Advocacy: A study of the application of communication theory and practice to the judicial setting.

COM 5625                  AS 3(3,0)
Ethics in Communication: The critical examination of ethical issues in human communication.

COP 1110                  AS 3(3,0)
Computer Programming: PR: College Algebra and Trigonometry or equivalent. Problem definitions, algorithms, flow charts, digital computer programming using a higher level language (FORTRAN). Not open to Computer Science Majors.

COP 2510                  AS 3(3,0)
Programming I: PR: College algebra and college trigonometry. Techniques of algorithm development; structured programming concepts; algorithms for searching and sorting procedures; computer experience with a procedure-oriented language.

COP 2511                  AS 3(3,0)
Programming II: PR: COP 2510. Continuation of COP 2510; recursion; simple data structures; program verification; continued experience with a procedure-oriented language.

COP 3120                  AS 3(3,0)
Business Programming in COBOL: PR: CAP 3002 or equivalent. COBOL programming; fundamental concepts of data processing; system design; processing of sequential, indexed, and random files; programming project.

COP 3215                  AS 3(3,0)
Programming and Numerical Methods: CR: MAC 3312. Programming with a high level language (e.g. FORTRAN). I/O, formatting and manipulation of one and two dimensional arrays with emphasis on numerical problems. Not open to Computer Science Majors.

COP 3402C                 AS 3(3,2)
Assembly Language: PR: COP 2511 or equivalent programming experience. Computer structure, number systems, data representation, arithmetic and logic instructions, addressing schemes, looping techniques, sequential input/output, subroutines, macros, and other topics.

Data Structures: PR: COP 3402C and COT 3000. Basic concepts of data and abstract data types (arrays, linear lists, trees, etc.) and their possible implementations. Searching, sorting and other applications.

COP 4124: 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.


COT 4620: Programming Systems: PR: Computer Science Major or C.I. and COP 3530. The function and organization of operating systems. Design and implementation considerations regarding operating systems, compilers, assemblers and loaders.

COP 5554: Programming Languages II: PR: COP 4550 and COT 4001. Introduction to compiler construction, parsing, parser generators, attributed grammars and the implementation of block structures and recursion. Students write a high-level language translator.

COT 5613: Operating System Design Principles: PR: COP 4620 or equivalent. The structure and functions of operating systems, process communications techniques, scheduling algorithms, deadlocks, memory management, virtual systems, protection and security.

COT 5632: Software Engineering: PR: COP 4550. Study of design techniques for large software systems, modularization, task assignment, management techniques, implementation techniques, testing quality control, documentation and maintenance.

COT 5682: Software Tools: PR: COP 4620 and COP 5554. Systems programming languages, concurrent programming, design and implementation of software development/maintenance tools. A large programming project is required.


COT 4001: Discrete Computational Structures: PR: Computer Science Major or C.I. and COT 3000, MAC 3313. Review of discrete structures, introduction to automation theory, computational complexity, analysis of algorithms, computability theory, and formal languages.

COT 4550: Formal Languages and Data Theory: PR: COP 4550 and COP 4001. Classes of formal grammars and their relation to automata, normal forms, closure properties, decision problems, LR(K) grammars.


COT 5314: Computational Complexity: PR: COP 4001. Properties of algorithms, computational equivalence of machines, time-space complexity measures, examples of algorithms of different complexity, classification of algorithms, classes P and NP.

COT 5324: Computability Theory: PR: COT 4001. Models of computable procedures. Equivalence of models; unsolvable problems; hierarchies of unsolvability; applications including formal languages, automata theory, operating systems, automated theorem proving program verification.

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.

CPO 4643   Government and Politics of the Soviet Union: Study of the origins, institutions, and functioning of the Soviet system, including the role of the Communist party; its influence on domestic and foreign policy formation and implementation.

CRM 5115   Economics of Computers: PR: CIS 5012. The computer industry, terms and conditions of sale and rental, cost and effectiveness of computer systems. Determining value, demand and price of computer services.

CRM 5131   Managing the Computer Professional: PR: CIS 5012 and MAN 5051; or C.I. The programming group, team and project tasks, personality factors, motivating, training, experience.

CRW 2000   Principles of Creative Writing: PR: ENC 1102. An exploratory course in the several types of creative writing; group analysis of original writing; critical reading of established authors.

CRW 2100   Introduction to Fiction Writing: PR: ENC 1102. Practice in writing the short story; group analysis and criticism of work produced by individual students.

CRW 2300   Introduction to Verse Writing: PR: ENC 1102. Practice in writing poetry; group analysis and criticism of work produced by individual students.

CRW 3001   Creative Writing Workshop I: PR: C.I. Practice in established forms: essay, short story and poetry.

CRW 3002   Creative Writing Workshop II: PR: CRW 3001 or C.I. Individualized practice in writing in one of the established forms; analytic study of the work of pertinent authors.


CRW 3410   Writing Scripts: PR: ENC 1102. Theory and practice of writing scripts for theatre, film and TV.

CRW 4940   Advanced Writing Workshop I: PR: C.I. Intensive writing practice in fiction, non-fiction, or verse.

CRW 4941   Advanced Writing Workshop II: PR: CRW 4940. Continuation of CRW 4940.

CRW 5932   Teacing Creative Writing: PR: Senior standing or C.I. Creative writing practicum.

DAA 3000   Theatre Dance: PR: DAA 3200 & 3201 or C.I. Specialized study of Theatre Dance styles of the 1920s to the 1980s. Demonstration and performance of students highlighting segments of Broadway shows. May be repeated for credit.

DAA 3100   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.

DAA 3160C   Movement as an Art Form: Analysis of creative movement techniques that increase body awareness and enhance the communicative potential through the instrument of dance.

DAA 3200   Theatre Dance I: Fundamentals of Classical Ballet, includes practical class work as well as Dance History lectures.

DAA 3201   Intermediate Classical Ballet: PR: DAA 3200 or C.I. Indepth study of classical ballet technique including principles, theory and practice technique.

DAA 3500   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.
DAA 3600  AS 3(3,0)
Theatre Tap Dance: Exploration of form, style, and technique in the basic fundamental movements of tap dance. May be repeated for credit.

DAA 4501  AS 3(3,0)
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.

DAA 4710  AS 3(3,0)
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.

DAE 3300  ED 3(2,1)
Dance Techniques: Analysis of creative dance and movement techniques as they relate to the teaching of physical education.

DAE 3370  ED 3(1,2)
Dance and Rhythmics: An analysis of creative movement and rhythmical activity as they relate to teaching physical education in grades K-6.

DEP 3004  AS 3(3,0)

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 3484  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 5785  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 4300  EN 3(3,0)

EIC 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.

EIC 3404  EN 3(2,2)
Engineering and Environmental Geology: PR: EGN 3704. Principles of physical geology with emphasis on engineering and environmental topics. Study of land forms, geologic maps, geologic structure, weathering, groundweather, mass wasting, and earthquakes.

EIC 4134  EN 3(3,0)

EIC 4145  EN 3(3,0)
Construction Engineering: PR: C.I. Project specifications, negotiations, contracts, unions, planning, insurance and safety with methods and equipment related to Civil Engineering.
Construction Scheduling: Project planning, scheduling and cost management for building construction.

Geotechnical Engineering I: PR: EGN 3331C and EGN 3353C. Engineering properties and classification of soils. Design considerations for compaction, seepage, consolidation, and settlement analysis.

Construction Materials: Structural steels, concrete mixes, wood, masonry, concrete reinforcement, steel decks, formwork, insulation and interior finish materials.

Construction Cost Engineering: PR: C.I. Construction cost planning, equipment productivity and methods. Heavy construction, building construction techniques, estimating production, operation analysis, material take off.

Construction Project Management: PR: C.I. Strategic planning, management, development, design, and production of complex construction projects. Total building process, value engineering, project funding and cash flow.

Hydraulic Engineering: PR: EGN 3353C. Environmental and civil engineering hydraulics application. Pipe and open channel flow fittings, flow measurements, etc.

Geotechnical Engineering II: PR: ECI 4305C. Continuation of ECI 4305 with emphasis on shear strength and design factors for earth pressures bearing capacity, and slope stability.

Pavement Design: PR: ECI 4305C. Pavement types, wheel loads, stresses in pavement components, design factors such as traffic configurations, environmental, economic.

Geotechnical Engineering Design: PR: ECI 4305C and ECI 5306. Project course on design of Foundations and other soil structures using geotechnical design methodologies.

Engineering Mathematical Analysis: PR: MAP 3302. The application of mathematical methods to engineering problems. Vector and tensor fields, state space, coordinate systems, orthogonal functions.

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.


Embedded Computer Systems: PR: EGN 3210 or equivalent, EEL 4701C. Computer applications in systems role, software tools, sensor interaction, interfacing.


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.


Microcomputer-based Monitoring and Control Systems: PR: EEL 3342C or equivalent, COP 3215 or equivalent. Machine-language programming; software development aids; interfacing considerations.

Engineering Applications of Computer Graphics: PR: COP 3215. Introduction to the use of computer graphics with engineering applications. Laboratory program assignments.
Software Engineering I: PR: COP 3215, ECM 4504C or equivalent. Design reliability, testing, and implementation of engineering software.

Principles of Economics I: An introduction to macroeconomics, including an overview of the market economy; national income, employment, and price level determination, stabilization policies, and international economics.

Principles of Economics II: The determination of prices in a market economy; their role in allocating consumer and producer goods and in distributing incomes; including attempts to improve market efficiency through public policy.

Intermediate Price Theory: PR: ECO 2023 and ECO 2013. Theoretical study of the behavior of households, firms and the markets in which they operate with issues and applications.


Economics of the Public Sector: PR: ECO 2023. A study of fiscal institutions and decision-making and how government budgetary policy (spending, taxing, borrowing, and debt management) affects the economy and its citizens.

Economic Concepts: PR: Acceptance into the graduate program. Introduction to micro and macro economic analysis.

Statistics for Business and Economics: PR: Acceptance into the graduate program and MAC 3233. Statistical theory and problems relating to business and economics including time series and correlation theory, index number theory and statistical inference.

Contemporary Labor Economics: PR: ECO 2023 and ECO 2013. The analysis of labor problems and issues in a dynamic contemporary economy through the interaction of the four major institutions: households, firms, government, and unions.

The Economics of Regulated Industries: PR: 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.


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.

Urban and Regional Economic Problems: PR: ECO 2023 and ECO 2013. Analysis of the location, organization and problems of urban and regional economic activities.

Managerial Economics: PR: Junior standing, ACG 2011 or ACG 3023, ECO 2023, ECO 2013 and ECO 3411. The uses of economic analysis in economic decision making and business policy formulation.


EDE 3942 Junior Student Teaching-Elementary: PR: EDG 4321, RED 3012, MAE 1810 and 2811 or MAE 3112. Student teaching assignment in an elementary school under the supervision of a certified classroom teacher.

EDE 3943 Junior Student Teaching-All K-12 Majors: PR: EDG 4321. Student teaching under the supervision of a certified teacher. Half in elementary, half in secondary.


EDE 4943 Senior Student Teaching-Elementary: PR: EDE 3942 or EDE 3943. Student teaching in an elementary school under the supervision of a certified classroom teacher. Scheduled concurrent seminars.

EDE 5541 Individualized Instruction in the Elementary School: PR: Regular Certificate or C.I. Study of basic philosophy, organizational patterns, techniques, materials, and activities related to individualizing instruction in the elementary school classroom.


EDF 3893 Analysis of Educational Foundations: PR: Junior standing or C.I. Analysis of and participation in general and specific dimensions of teaching with socio-economic, historical and philosophical factors emphasized.

EDF 4003 Overview of Education: A brief analysis of the American educational system; focusing on social, political, economic and intellectual development through an internal atmosphere of interaction and discussion.

EDF 4214 Classroom Learning Principles: PR: Junior standing or C.I. Principles of learning as applied to classroom teaching situations with emphasis on student development, behavior, self-concept and motivation.

EDG 4321 Teaching Strategies: Analysis of the learning environment; emphasis on planning for instruction, skill development and measurement and evaluation.

EDG 4324 Teaching in the Schools: PR Teaching Strategies or C.I. Selected dimensions of teaching; teaching skills; reading and writing in content areas; problem solving, school organization and professional ethics.

EDG 4941 Directed Field Experience: PR: Approval of Professional Laboratory. Field experience in an appropriate educational setting under the direction of a supervising teacher and/or university supervisor.

EDG 5745 Teaching the Non-English Student: PR: FLE 3063 or C.I. Bilingual and non-linguistic instruction in curriculum areas in English as a second language.

EDM 5235 Teaching in the Middle School: Methods of middle school teaching; team planning and teaching; development and learning patterns of the emerging adolescent; use of alternative teaching strategies.

EDP 3004 Educational Psychology: PR: PSY 2013. Application of psychological principles and research methods to classroom behavior and learning.

EDS 5356 Supervision of Professional Laboratory Experiences: PR: C.I. Study of the undergraduate professional laboratory experiences program with emphasis on the role and responsibilities of the Teacher Education Associate or Supervising Teacher.

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. Organiza-
tion 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.

ED 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 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 3307C Electronic Engineering: PR: EGN 3375C and MAP 3302. Electronic devices and circuits design including small signal amplifiers, and switching circuits.


EED 4302C 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 magnetic fields and electromagnetic waves.


EEL 4340C 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 Digital Systems Design: PR: EEL 4701C or C.I. Continuation of EEL 4701C. Microprocessor and LSI based approaches to the design of digital systems. Current topics in the design of control communications, and display systems.


EEL 5173 Signal and System Analysis: PR: EEL 3122 or EGN 4714. Continuous and discrete dynamic models;

EEL 5260 Electric Power Generation and Distribution: PR: EGN 3375C or equivalent. Concept of complex power in single and three phase systems. Synchronous machines, power transformer, and transmission lines system design.

EEL 5355C Fabrication of Solid-State Devices: PR: EEL 4308C. Fabrication of microelectronic devices, processing technology, ion implantation and diffusion, device design and layout. Laboratory includes device processing technology.

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 5441 Coherent Optics Applications: PR: PHY 3421C and EEL 3470 or C.I. Coherent optical radiation and propagation. Design and analysis of optical components and systems.

EEL 5443 Electro-optics: PR: EEL 3470 or C.I. Principles of optical modulation and detection devices; detection and modulation techniques 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 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 5499C 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 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 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 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 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 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 COP 3215 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 and COP 3215 or equivalent. 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 4070
Teaching the Young Handicapped Child: Teaching strategies for regular educators concerning problems of exceptional students in the mainstream.

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.

EGC 5005
Introduction to Guidance and Human Services: PR: Completion of Phase II of Educ. Prof. Prep. or Certificate or C.I. A basic course presenting an overview of the philosophy, organization, administration and operation of guidance and human services.

EGC 5033
Guiding Human Relationships: PR: Senior standing or Certificate. A course to teach human relationship skills which will enhance intra- and inter-personal relating skills.

EGN 3363C and EGN 3331C
Biomechanics and Biomaterials: PR: EGN 3363C and EGN 3331C. Properties of natural biological materials and their relation to microstructure, biocompatibility, artificial biomaterials and their applications, with analysis of biomechanical forces of the body.

EN 21(3)
EGN 1510
Introduction to Engineering: 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.

EGN 3210

EGN 3311
Engineering Analysis-Statics: 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.

EGN 3321
Engineering Analysis-Dynamics: PR: EGN 3311; CR: MAC 3313. Kinematics and kinetics of particles and rigid bodies; mass and acceleration, work and energy impulse and momentum.

EGN 3311C

EGN 3343

EGN 3353C

EGN 3363C

EGN 3373

EGN 3375C

EGN 3613

EGN 3704
Engineering the Environment: 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.

EGN 4032
Professionalism, Practice and Ethics: PR: Junior or senior standing. Study of the professional engineer's role, practice and responsibility to act in the interests of public health, safety and welfare.

EGN 4033
Technology and Social Change: Review of existing theories of social change, analysis of the role of technology as related to social change, and study of contemporary events in technology and their possible impact on society.

EGN 4420

EGN 4624
Engineering Administration: PR: EGN 3613 and senior standing. Engineering organization and administration; delegation of authority and responsibility; effective use of resources; project management; R and D planning; ethics in professional practice.

EGN 4634

EGN 4703
Systems Analysis and Control: 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.

EGN 4714
Linear Control Systems: PR: MAP 3302 and EGN 3375C. Theoretical and experimental study of the dynamics of linear, lumped parameter models of mechanical, electrical, fluid, and thermal systems as applied to control systems and design applications.

EGN 4811
Engineering and Technology in Canada: Historic and contemporary Canadian achievements in engineering and technology.
EGN 4813 EN 3(3,0)
Science in History: Examination of the reciprocal relations of science and society from ancient to recent times.

EGN 4814 EN 3(3,0)
Engineering and Technology in History: Important developments in engineering and technology and their effect on society and our socio-economic processes.

EGN 4815 EN 3(3,0)
Historical Architecture: Architecture as the realization of changing aesthetic and cultural ideals and the expression of changing forms of society. Development of understanding of our physical environment through a study of the forms, functions and determinants of architecture.

EGN 4816 EN 2(2,0)
Engineering and Technology in America: Episodes and periods of significant American technological change with emphasis on nineteenth and early twentieth century developments.

EGN 4823 EN 3(3,0)
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.

EGN 4824 EN 3(3,0)
Energy and Society: Investigation of available energy forms; energy resources versus requirements in an increasingly complex technological society; possible solutions and future predictions.

EGN 4825 EN 3(3,0)
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.

EGN 4832 EN 3(3,0)
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.

EGN 4843 EN 3(3,0)
Systems Modeling: PR: COC 1100 or equivalent. Representation of man/machine systems through analytic and computer-based models. Case studies in the analysis and improvement of systems in industry, education and government.

EGN 4844 EN 3(3,0)
Man and Machine: The influence and interrelationship of invention and technical progress on the evolution of social forms and institutions.

EGN 5034 EN 3(3,0)
Engineering and Public Works: PR: C.I. The purposes, function, and role of engineering within public works.

EGN 5035 EN 2(2,0)
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.

EGN 5036 EN 2(2,0)

EIN 3106 EN 3(3,0)
Engineering Law: PR: Junior standing. Influence of contract, property and tort law upon engineering activities; contracts, agency, partnerships, corporations, liens and expert testimony. Patents and licensing.

EIN 3315C EN 3(2,2)

EIN 4116 EN 3(3,0)
Industrial Information Systems: PR: COP 3215, EIN 4332. Study of computerized information systems applied in industrial environment. Emphasis on development of automated information systems for control of men, materials and equipment.

EIN 4118 EN 3(2,3)
Industrial Engineering Applications of Computers: PR: COP 3215. Survey of computer methods in industrial engineering practice. Topics include simulation, information systems, dedicated processors systems control. Lab exercises.

EIN 4142C EN 3(2,3)
Industrial Engineering Senior Project Design: PR: Senior standing. Capstone design course, application of IEMS techniques to real world design applications.

EIN 4214 EN 3(3,0)
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 EN 3(2,2)
Human Engineering: PR: Senior standing. Man-machine systems; design and conduct of human engineering studies.

EIN 4334C 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 5284 Industrial Hygiene and Occupational Health: Identification and analysis of health hazards in the industrial environment. Occupational hazard control via engineering design and safety programs.


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 5326 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.

EMA 5626 Mechanical Metallurgy: PR: EML 3234. Study of the microscopic mechanical behavior of metals and alloys with emphasis on fracture, fatigue and creep.

EME 4006 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.

EME 5054 Instructional Technology: 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.

EME 5208 Media and Methods in Teaching: PR: Regular Certificate or C.I. Practicum on various media in the classroom with emphasis on student film making and production.

EML 3106 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.


EML 3236 Structure and Properties of Alloys: PR: EGN 3363C. Relation of properties to microstructure and applications of major ferrous and non-ferrous alloys.

EML 3262 Kinematics of Mechanisms: PR: EGN 3321. Graphical, mathematical, and computer-aided kinematics, analysis, and synthesis of basic mechanisms.

EML 3303 Measurement Systems: PR: EGN 3331C, 3373. Application of system design concepts to measure-
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EML 3502</td>
<td>Machine Design and Analysis: PR: EGN 3331C</td>
<td>Application of the principles of mechanics of materials to the design of mechanical elements.</td>
</tr>
<tr>
<td>EML 4922</td>
<td>Dynamics of Machinery: PR: EML 3262, EML 4222</td>
<td>Critical speeds and response of flexible rotor systems, whirl, gyroscopic effects; balancing of rotating and reciprocating masses; cam dynamics.</td>
</tr>
<tr>
<td>EML 441C</td>
<td>Mechanical Power Systems: PR: EML 3106</td>
<td>Analysis and design of large power generating systems and components with emphasis on steam plants utilizing both chemical and nuclear fuels.</td>
</tr>
<tr>
<td>EML 4505</td>
<td>Engineering Design: PR: EML 3106, 3502</td>
<td>Application of the design process in the solution of a state-of-the-art problem. Aerospace, mechanical, thermal, or fluid problems are considered.</td>
</tr>
<tr>
<td>EML 4535</td>
<td>Computer Aided Design: PR: EML 3106, 3502</td>
<td>Introduction to computational methods in mechanical and thermal systems design.</td>
</tr>
<tr>
<td>EML 5157</td>
<td>Acoustics: PR: MAP 3302, PHY 3421C</td>
<td>Elements of vibration theory and wave motion; radiation, reflection, absorption, and transmission of acoustic waves; architectural acoustics; control and abatement of environmental noise pollution; transducers.</td>
</tr>
<tr>
<td>EML 5237</td>
<td>Advanced Mechanics of Materials: PR: EGN 3331C and MAP 3302</td>
<td>Elements of plane elasticity; Failure theories; curved beams; columns; bending and torsion of thin-walled structures; theory of thin plates; applications to design.</td>
</tr>
<tr>
<td>EML 5245</td>
<td>Tribology: Principles of fluid film lubrication; bearing design and application; friction and wear of materials.</td>
<td></td>
</tr>
<tr>
<td>EML 5247</td>
<td>Advanced Dynamics: PR: EGN 3321, 3331C</td>
<td>Dynamics of particles, distributed mass systems, and rigid bodies from an advanced viewpoint. Virtual work. Lagrange's and Euler's equations. Hamilton's equations.</td>
</tr>
<tr>
<td>EML 5451</td>
<td>Energy Conversion: PR: EML 3106 and PHY 3421C</td>
<td>Unconventional methods of energy conversion; particular emphasis on fuel cells, thermoelectrics, thermonics, solar energy, photovoltaics and magnetohydrodynamics.</td>
</tr>
<tr>
<td>EML 5453</td>
<td>Energy Analysis: PR: Consent of instructor</td>
<td>Examination of energy demands and potential supply, computer simulation of resource depletion, alternate energy resources, transportation systems, economic and environmental constraints.</td>
</tr>
<tr>
<td>EML 5454</td>
<td>Photovoltaics: PR: MAP 3302, or C.I.</td>
<td>Basic operational principles, design, and current developments in solar cells.</td>
</tr>
<tr>
<td>EML 5455</td>
<td>Energy Conservation: PR: EML 4142</td>
<td>Analysis of energy use in economic sectors and design of conservation methodologies to reduce energy use. Heating and cooling loads, passive building designs will be presented.</td>
</tr>
<tr>
<td>EML 5609</td>
<td>Environmental Thermodynamics: PR: EML 3106 and EML 4142</td>
<td>Thermodynamics of the environment emphasizing analysis and design of thermal systems. Building heating and cooling load calculations and energy conservation technologies analyzed.</td>
</tr>
</tbody>
</table>
Magazine Writing

organizing technical manuals. Preparation of proposals. Interview skills.

Technical

ion of specialized vocabulary. Familiarity with reading

to organized documentation: hardware, software, military specifications. Theory of designing and

ENC 4294

ENC 4295

projects from the student's particular field. Should be taken concurrently with ENC 4215.

ENC 4296

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  AS 3(3,0)
Practical Criticism: PR: ENC 1102. Student evaluation of selected fiction, poetry and drama through practical exercises in literary criticism.

ENG 5018  AS 3(3,0)
Literary Criticism: PR: Graduate standing or C.I. Historical survey of major critics from classical antiquity to the modern era.

ENG 5028  AS 3(3,0)
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  AS 3(3,0)
English Literature I: PR: ENC 1102. Beowulf to 1660.

ENL 3021  AS 3(3,0)
English Literature II: PR: ENC 1102. From 1660 to 1870.

ENL 3273  AS 3(3,0)
Survey of British Literature Since 1914. PR: ENC 1102

ENL 3344  AS 3(3,0)
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  AS 3(3,0)

ENL 4311  AS 3(3,0)
Chaucer: PR: ENC 1102. The Canterbury Tales, Troilus and Criseyde, and other works.

ENL 4330  AS 3(3,0)
Shakespeare Studies: PR: ENC 1102. Reading, analysis, and discussion of Shakespeare's plays. May be repeated for credit.

ENL 4341  AS 3(3,0)

ENL 4353  AS 3(3,0)
18th Century Studies: PR: ENC 1102. Reading, analysis and discussion of literature in English: 1660-1880. May be repeated for credit.

ENL 4373  AS 3(3,0)

ENL 5176  AS 3(3,0)
Restoration and 18th Century English Drama. PR: Senior standing or C.I.

ENL 5226  AS 3(3,0)
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  AS 3(3,0)
The Age of Dryden and Pope: PR: Senior standing or C.I. Prose, poetry and literary traditions of British neoclassicism.

ENL 5335  AS 3(3,0)
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  AS 3(3,0)

ENU 4103  EN 3(3,0)
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  EN 3(3,0)

ENV 4119  EN 3(2,3)
Air Pollution: PR: EG N 3704, EGN 3553C. Sources, causes, and effects of air pollution. Engineering design, analysis and modeling for the control of air pollution.

ENV 4355  EN 3(3,0)
Solid and Hazardous Wastes: PR: EGN 3704 or C.I. Engineering design, planning, and analysis problems associated with storage, collection, processing, and disposal of solid and hazardous wastes.

ENV 4403C  EN 3(2,2)
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 4404C. Project course on designs of large and small water transmission systems using local and state regulations.

ENV 4434
Environmental Engineering Systems Design: PR: ENV 4504. Project course on design of water and waste-water treatment plants, solid waste and atmospheric controls.

ENV 4504
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.

ENV 4651
Urban Systems Engineering: PR: C.I. Theories and history of city development with administrative, planning, management and maintenance of municipal services.

ENV 5045L
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.

ENV 5615
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.

ENV 5625

ENY 4004C

EPH 5335
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.

ESE 3940
Junior Student Teaching — Secondary Level: PR: EDG 4321. Student teaching in a secondary school under the supervision of a certified classroom teacher.

ESE 4943
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.

ESE 5214

ESI 4234
Engineering Reliability and Quality Assurance: PR: STA 3032 or C.I. Design and management of reliability programs and quality assurance systems; mathematics of reliability.

ESI 4314
Quantitative Techniques in Industrial Engineering: PR: EGN 4634 and STA 3032. Extension of EGN 4634 and STA 3032 with primary emphasis on O.R. and statistical applications to industrial engineering problems.

ESI 4524
System Simulation with Digital Computers: PR: COP 3215 or equivalent. Methods and procedures for simulating large scale systems with digital computers. FORTRAN, CSMP and GPSS programming languages are used.

ESI 5170
Microcomputer Practicum: PR: Graduate standing or C.I. Survey of personal computer programming and use in decision support applications in engineering.

ESI 5531
Discrete Systems Simulation: PR: STA 3032, COP 3215. Methods for performing discrete systems simulation, including network modeling will be treated.


ESL 1141
Basic Writing: PR: C.I. A course in basic English writing, designed primarily for the international student, to provide intensive practice in writing effective sentences and paragraphs.

EST 3405
Electronics in the Health Professions: To provide students in the health professions with basic knowledge of electronic equipment associated with hospitals and laboratory use.
EST 4535C  Electro-Mechanical Design: PR: EET 3035C. Introduction to mechanical and electromechanical devices and their applications in industry. EN 3(2,2)

ETC 4410C  Applied Structural Design I: PR: ETG 4530. Design of mechanical and structural elements. Strength, fatigue, safety factors and code requirements. EN 3(2,2)

ETC 4415  Applied Structural Design II: PR: ETC 4410C. Design applications of continuous beams, single span frames, and tapered members. EN 3(2,2)

ETG 3510  Applied Mechanics: PR: MAC 1104 and 1114 or equivalent, Coplanar, parallel, noncurrent and non-concurrent force systems. Centroids, CG's, moments of inertia. Principles of dynamics, rectilinear motion and rotation, work, energy, power, impulse, momentum and impact. EN 4(4,0)

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. EN 3(3,0)

ETI 3410  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. EN 3(3,0)

ETI 3440  Product Design: Principles of layout and dimensions for production. Consideration of design factors, standards, specifications and codes with emphasis on productivity. EN 3(2,2)

ETI 3651  Computer Methods in Industry: PR: COP 1110 or equivalent. Industrial application of a high level (BASIC) language to various static, dynamic, electrical and economic problems. EN 3(2,2)

ETI 3761  Technical Economic Analysis: PR: Junior standing. Analysis of cost elements in technical operations. Basis for comparison of alternatives. EN 2(2,0)

ETI 3960  Technical Sales: Application of technical knowledge in sales and service. Relationship of technical sales organization to production, customers, and competitors. EN 2(2,0)


ETI 4522C  Applied Servomechanisms and Robotics: PR: CET 4131C. Analysis and design of servo devices and systems. Real-time industrial robotics applications. EN 3(2,2)

ETI 4611  Plant Layout, Material Handling & Work Analysis: Covers plant layout, material handling, space allocations, work simplification and methods. Improvements in manufacturing operations. EN 3(2,2)

ETI 4650  Process Planning and Estimating: Estimating manufacturing and construction costs, materials and services, planning and control of operations with applications of CPM concepts. EN 4(4,0)

ETI 4700  Occupational Safety: Accident prevention and the operation of an industrial safety program. Basic requirements of the Occupational Safety and Health Act standards. EN 3(3,0)

ETM 3314  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. EN 3(3,0)

ETM 4220  Applied Energy Systems: PR: ETM 4310. Introduction to solar energy systems, thermal and photovoltaic, bio-gas-methane gas systems. Applications to be stressed. EN 2(2,0)

ETM 4310  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. EN 4(4,0)

ETM 4312C  Applied Kinematics: PR: ETG 3510. Masses, motions, kinematics and dynamics of mechanisms. EN 3(2,2)

ETM 4590  Applied Design of Machine Elements: PR: ETG 3510 and 4530. Design of basic machine elements including cams, gears, bearings and coupling taking into account loads, stresses, and strength of materials. EN 2(2,0)

ETM 4750  Design Integration: PR: ETI 3440. Project design involving planning, control, prototype construction, testing and evaluation. EN 3(3,0)

EUH 2000  Western Civilization I: A survey of western civilization from ancient to 1648. AS 3(3,0)
Western Civilization II: A survey of western civilization from 1648 to present. May be taken before EUH 2000.

Introduction to Anglo-American Law: PR: EUH 2000 and 2001 or C.I. A historical survey of the development of the principles and processes of the American law from its origins in English common law to the present.

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.

Medieval Society and Civilization: PR: EUH 2000 and 2001 or C.I.

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.

Enlightenment and Religious Revival: PR: EUH 2000 and 2001 or C.I. Science and political absolutism; the Enlightenment and the philosophies; secularism, cosmopolitanism and humanitarianism; the French Revolution; religious revival, and the beginning of romanticism.

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.


Second World War and Rebirth of Europe: PR: EUH 2000 and 2001 or C.I. Origins of World War II; Hitler’s “New Order,” and resistance movements; Cold War; de-Stalinization of Russia; Sovietization of East Central Europe; Western reconstruction, and prosperity.


Age of Revolution and Napoleon: PR: EUH 2000 and 2001 or C.I. Cause and course of the revolution; the rise and fall of Napoleon; impact on the thought and action of Western Europe.

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.

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.

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.

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.

History of Russia to 1801: PR: EUH 2000 and 2001 or C.I. Kievian State; Mongol Yoke; Development
of Muscovite Expansionism and Absolutism; Time of Troubles; Westernization of Russia under Peter I and Catherine; Role of Orthodox Church.

EUH 4574  AS 3(3,0)
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.

EUH 4576  AS 3(3,0)
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; Krushchev; Sino-Soviet Relations.

EUH 4820  AS 3(3,0)
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, & the outbreak of World War I.

EUH 4821  AS 3(3,0)

EUH 5237  AS 3(3,0)
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  AS 3(3,0)
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 5247  AS 3(3,0)
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  AS 3(3,0)
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  AS 3(3,0)
Colloquium in Spanish History: PR: Senior standing and C.I. Readings and discussions of important events in the history of Spain.

EUH 5517  AS 3(3,0)
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  AS 3(3,0)
Colloquium in 18th Century England: PR: Senior standing or C.I. An examination of the literature of selected topics in Hanoverian Britain.

EUH 5579  AS 3(3,0)
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  AS 3(3,0)
Colloquium in Czarist Russia: PR: Senior standing or graduate status. Selected topics on the literature of Russia under the Czars prior to 1917.

EUH 5608  AS 3(3,0)
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 3240  EN 3(3,0)
Water Supply Systems: Techniques applicable to technical projects dealing with resources, hydrology, treatment, transmission and distribution.

EVS 4110  EN 3(2,2)
Remote Sensing of the Environment: PR: GEO 1200 or C.I. Interpretation and application of remote sensor imagery to physical, economic and urban analysis.

EVS 4220  EN 4(3,2)
Wastewater & Treatment Plant Analysis and Control: PR: None. Techniques applicable to collection and distribution of wastewater, effluent and sludge. Lab analysis, control measure, and operation of water and wastewater treatment plants.

EVS 4362  EN 3(2,2)
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.

EVS 4682  EN 3(3,0)
Solid Waste Management: Techniques applicable to solid waste composition, collection and disposal. Solid wastes programs, laws, rules and regulations.

EVT 3062  ED 3(3,0)
Professional Role of the Vocational Teacher: PR: EVT 3371 or C.I.

EVT 3311  ED 3(3,0)
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.

EVT 4066  

EVT 4368  
Advanced Teaching Techniques for Vocational Education: PR: EVT 3365 or C.I. Study, practice, and achievement of higher level teaching techniques, especially those involving interaction and higher cognitive levels.

EVT 5260  
Cooperative Programs in Vocational Education: PR: Regular Certificate or C.I. Study of cooperative vocational programs, and achievement of competencies needed to establish, manage and coordinate co-op program activities in all vocational areas.

EVT 5315  
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.

EVT 5316  
Clinical Coordination for the Health Occupations Teacher: PR: Regular Certificate or C.I. Development of clinical guidelines, resources, student schedules, and risk-management programs. Includes negotiating clinical contractual agreements and planning field supervision.

EVT 5561  
Student Guidance in the Vocational Program: PR: Regular Certificate or C.I. Achievement of skills used by teachers as they gather student data, confer with students, and help students plan for employment or further education.

EVT 5564  
Student Vocational Organizations: PR: Regular Certificate or C.I. Competencies needed by vocational teachers as they establish and supervise student vocational organizations in secondary and post-secondary schools.

EVT 5685  
Competency-Based Vocational Education: PR: Regular Certificate or C.I. Achievement of teacher competencies unique to the installation and management of competency-based vocational training programs in secondary and post-secondary schools and community colleges.

EVT 5817  
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.

EXP 3204C  

EXP 3304  

EXP 3404  

EXP 3513C  

EXP 5445  
Psychology of Learning and Motivation: PR: DEP 5057 or C.I. Examination of theories and research concerning the acquisition and retention of behavior as well as motivational factors which influence learning and behavior.

FIL 3100  
Film and Television Writing: PR: Must pass Department of Communication English Proficiency Test AS 4(4,0)
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.

**Foreign Language as Human Behavior:** PR: Or CR: LIN 3010 or C.I. Nature of language, language learning and teaching basic skills. Weekly laboratory.

**Foreign Language Instructional Analysis:** EDG 4321. Objectives for a school curriculum and of methods and materials for teaching foreign language.
FRE 1005
French Diction: This course is especially designed for music and voice students with an emphasis on musical terms, French songs and opera libretti.

FRE 1120
Elementary French Language and Civilization I: Designed to initiate the student to the major language skills; listening, speaking, reading and writing.

FRE 1121
Elementary French Language and Civilization II: PR: FRE 1120 or equivalent. Continuation of FRE 1120.

FRE 1170
Elementary French Study Abroad: Elementary French language and civilization taught in the native environment.

FRE 2200

FRE 2201
Intermediate French Language and Civilization II: PR: FRE 2200 or equivalent. Continuation of FRE 2200 with emphasis on French civilization.

FRE 2240
Intensive French Conversation: PR: One Year of French or equivalent. Practical use of the language leading toward fluency and correctness in speaking.

FRE 2270

FRE 3244
French Conversation: PR: FRE 2201 or equivalent. Development of skills in conversation and comprehension. This course may be repeated for credit. When repeated, credit will apply to general electives only.

FRE 3420
French Composition: PR: FRE 2201 or equivalent. Development of skills in composition. This course may be repeated for credit. When repeated, credit will apply to general electives only.

FRE 4421
Advanced French Conversation: PR: FRE 3244. Advanced conversation on directed topics from various disciplines. Literature, art, psychology, philosophy, music, business and the sciences.

FRE 4422
Advanced French Composition: PR: FRE 3420. Readings and written limitations of modern literary styles in the form of themes, sketches, poems and original stories.

FRE 4500
French Civilization and Culture: 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.

FRW 3100
French Phonetics and Diction: PR: FRE 3244 or equivalent. French phonology with emphasis on phonic groupings.

FRW 3101
Survey of French Literature I: PR: FRE 2201 or equivalent. Main literary currents and works from the Middle Ages through the eighteenth century.

FRW 3102
Survey of French Literature II: PR: FRE 2201 or equivalent. Main literary currents and works of the nineteenth and twentieth centuries.

FRW 3370
Short Stories of 18th, 19th and 20th Centuries: PR: FRE 2201 or equivalent. Selected readings designed to increase reading speed and develop analytical abilities. Authors include: Voltaire, Maupassant, Flaubert, Camus and others.

FRW 4281

FRW 4310
Seventeenth Century French Theatre: PR: FRW 3100. Corneille, Racine, and Moliere. A study of the lives and principal works of the authors.

FRW 4324

FRW 4440

FRW 4532
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 2202C 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.
GAE 3300 Geography of Middle America: Basic elements of physical, cultural, and economic geographies as they relate to the development of Middle America.
GAE 4206 Physical Geography of North America: Analysis of the North American landscape as affected by climate, vegetation, and geomorphology.
GAE 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 Nineteenth Century Romanticism.
GEW 3101 Survey of German Literature II: PR: GER 2201 or equivalent. Main literary currents and works from Nineteenth Century Realism to the present.
Short Story: PR: GER 2201 or equivalent. German short prose works of the 19th and 20th centuries.

Geology and its Applications: Geologic applications and hazards including: gemstones, geothermal energy, fossil fuels, groundwater, sinkholes, beach erosion, landslides, earthquakes, "tidal" waves, volcanism.

Rocks and Minerals: PR: GLY 1000 or GLY 4006. Their identification and significance as indicators of geologic processes.

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.

Historical Geology: PR: GLY 1000. Lunar and planetary histories, evolution of earth's crust including drifting continents and fossil fuels, mountain building, evolution of life as reconstructed from fossils.

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.

Elementary Modern Hebrew Language and Culture II: PR: HBR 1120 or equivalent. Continuation of HBR 1120.

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.


Introduction to the Hospitality and Tourism Industry: An orientation to the Hotel, Restaurant and Travel industry, its history, structure and operating procedures.

Rooms Division Management: PR: HFT 1000. Practices and systems utilized in the operational management of the front office, reservation and housekeeping in hotels/motels.

Hospitality Property Management: PR: HFT 1000. Analysis of operational problems related to the physical plant and structure of enterprises in the hospitality industry.


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.

Travel and Tourism Administration: PR: HFT 1000. Foreign and domestic tourism supply and demand, economic impacts, organization of tourism, social and cultural aspects.

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.

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.

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.

Beverage Management: PR: HFT 1000, FSS 2202C, FSS 3223. The origin production, storing, marketing, and control of beverages in the Hospitality Industry.

The upperclassmen.
The arts of various times and cultures. Concerns reason, structure, objectivity, harmony. Open to all upperclassmen.

The empire, with emphasis on contributions in architecture, law and literature.

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.

Western Humanities II: Continuation of HUM 2211, from the Renaissance through the Modern World.

The Classical World: Greece: History and culture of Greece from the Minoan-Mycenaean to the Hellenistic age, with emphasis on contribution in art, literature and philosophy.

The Classical World: Rome: History and culture of Rome from the Etruscan Period to the dissolution of the empire, with emphasis on contributions in architecture, law and literature.

The search for order and form 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.
HUM 4302
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.

HUM 4303
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 upper-classmen.

HUM 4906
Supervised Special Training: Supervised special work experience. Open to students combining a major in Humanities and Fine Arts with Business Administration. Must be arranged in advance of registration.

HUN 3011
Human Nutrition: Essentials of nutrition related to the life cycle, including the physiological, psychosocial and cultural aspects of nutrition and the inter-relationship with disease is emphasized.

INR 3004
Industrial/Organizational Psychology: PR: PSY 2013 and PSY 3204. Psychological principles of personnel selection, training, and administration; motivational methods for individuals and groups in organizations; use of behavioral science in helping organizations become more effective.

INP 3102

INR 3002
International Relations-Theory and Practice: Analysis of the fundamental principles and factors affecting interstate relations and their application to contemporary global developments.

INR 4035
International Political Economy: The international politics of regional and global economic interdependence with emphasis upon North-South relations, the New International Economic Order, OPEC and multinational corporations.

INR 4102
American Foreign Policy: Development of American foreign policy with emphasis on the role and policies of the United States in the contemporary world.

INR 4114
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.

INR 4115
Strategic Weapons and Arms Control: Control of strategic weapons and their impact. Technological and policy aspects including nuclear proliferation.

INR 4224
Contemporary International Politics of Asia: Examinations of the foreign policies of major and secondary powers in Asia, with particular attention to China and Japan.

INR 4243
International Politics of Latin America: Study of contemporary U.S.-Latin American relations, inter-American politics and organization, and the role of Latin America in the world.

INR 4274
International Politics of the Middle East: The external politics of the Middle East from a regional-global perspective with particular attention to the region's impact upon the relations of major powers.

INR 4335
Coercion in International Politics: Examination of the role of coercive techniques among states in a nuclear age, ranging from nuclear strategy and deterrence to wars of national liberation and coups.

INR 4401
International Law I: Introduction to the nature, solution, and sources of international law and such subareas as recognition of states and governments, expropriation, nationality, and aliens.

INR 4402
International Law II: PR: INR 4401 or C.I. Examination of various subareas of international law including maritime law, laws of the sea and seabed, air law, outer space, neutrality, and laws of war.

International Organizations: The study of the structure and workings of international organizations of cooperation including the UN, its affiliates, and various regional organizations.

ITAL 1005
Italian Diction: This course is especially designed for music and voice students with an emphasis on musical terms, Italian songs and opera libretti.

ITAL 1120
Elementary Italian Language and Civilization I: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing, in addition to an introduction to Italian culture.

ITAL 1121
Elementary Italian Language and Civilization II: PR: ITA 1120 or equivalent. Continuation of ITA 1120.
ITA 1170
Elementary Italian Study Abroad: Elementary Italian language and civilization taught in the native environment.

ITA 2200
Intermediate Italian Language and Civilization I: PR: ITA 1121 or equivalent. Designed to continue development of language skills at intermediate level, plus a review of grammar, study of syntax, idiomatic expression, extensive readings and further study of Italian culture.

ITA 2201
Intermediate Italian Language and Civilization II: PR: ITA 2200 or equivalent. Designed to continue development of language skills at intermediate level, plus a review of grammar and study of syntax with emphasis on Italian civilization.

ITA 2210
Intensive Italian Conversation: PR: One year of Italian or equivalent. Practical use of the language leading toward fluency and correctness in speaking.

ITA 2270
Intermediate Italian Study Abroad: PR: Elementary Italian. Intermediate Italian language and civilization taught in the native environment.

ITA 3240
Italian Conversation: PR: ITA 2201 or equivalent. Development of skills in conversation and comprehension with an introduction to Italian culture.

ITA 3420
Italian Composition: PR: ITA 2201 or equivalent. Development of skills in composition with an introduction to Italian culture.

JOU 3003
History of American Journalism: Development of mass media, leading innovators and the media's role in the nation's history.

JOU 3100
News Reporting: PR: English grammar examination and ability to type 30 wpm. Development of skills in newsgathering and writing for the mass media. Students must have minimum ability to type and pass the department language proficiency exam.

JOU 3200
News Editing: PR: English 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.

JOU 3600
Photography I: Photography as a communication device; use of still camera; basic photographic technique. Open to all majors.

JOU 3601
Photography II: PR: JOU 3600. Learning darkroom procedures in 35mm black-and-white photography.

JOU 4104
Public Affairs Reporting: PR: English grammar examination and minimum grade of C in JOU 3100 and ability to type 30 wpm. Reporting on the activities of city, county and state government, courts and schools.

JOU 4300
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.

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 4305
Technical and Scientific Writing: PR: English grammar examination and a minimum grade of C in JOU 3100 and ability to type 30 wpm. Practice in gathering of materials for technical and scientific articles; digesting of technical information into more readable forms.

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 and 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.

JOU 4602
Color Photography for the Mass Media: PR: JOU 3600. Taking pictures, photo essays in color; developing and printing via the Cibachrome process.

JOU 4604
The Newspaper in the Classroom: Study of the use of the newspaper as a teaching aid in the classroom. Designed for persons currently teaching or majoring in education.

LAE 3335
English Instructional Analysis: PR: EDG 4321. Course objectives for a school curriculum and methods and materials which have special application for teaching English.
LAH 3470 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 1128 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 1128 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 3001 Legal Research and Writing: PR: LEA 3001 or C.I. The student learns how to find and use material in a law library and how to write a legal memorandum and brief.

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 Compensation for Injuries (Torts): PR: LEA 3001 or C.I. Theories governing liability for civil injuries not arising from contractual obligations; systems and procedures used in preparation, trial and appeal of Torts cases.

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
Estate Administration: 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
Contracts and Agency: The course studies the basic law of contracts and agency as developed in Anglo-American common law and as changed by modern statute, especially the Uniform Commercial Code.

LEA 4312
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 5008
Legal Institutions: PR: C.I. Overview of the American legal system including the court system, major areas of substantive law and principles of procedure.

LEA 5801
Administrative Law: PR: LEA 3001 or PAD 3003 or MMC 4200. The law regarding governmental administrative agencies with emphasis on the administrative process, the administrative procedure act, and special problems of state administrative law.

LEA 5825

LEA 5937

LEI 3140
Philosophy and Trends in Recreation: Provides a philosophical background to the public and private recreation movement in the U.S. Includes also an analysis of the current trends in recreation.

LEI 3310
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
Recreation and Intramurals: Principles and techniques of general and school recreation programs.

LEI 3437
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
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
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 1340
Grammar Review: A systematic review of basic English grammar to improve clarity and accuracy in writing.

LIN 2701
Psychology of Oral Communication: Psychological principles involved in the communicative process with application to individuals and groups.

LIN 3010

LIN 3200
Foundations of Language: This course is designed to explore contributions to language from disciplines of Biology, Neurology, Psychology & Sociology.

Foundations of Language: Students will have practical experience in analyzing children's language samples.


Phonetics: PR: ENC 1102. Study of the sounds of language from an articulatory perspective.

Modern English Grammar: PR: ENC 1102 and Sophomore standing. Emphasis upon the analysis and comparison of traditional, structural and transformational grammar.


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.

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.

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.


Introduction to Media Services: Role and scope of media center. Major concepts, standards, trends, and media specialist functions emphasized.

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.

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.

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.


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.


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.

Reference Sources and Services: PR: C.I. Development of skills in locating information and providing reference services.

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.

Computer Applications in Instructional Technology: Emphasis on the applications of the computer for the media specialist and instructional technologist.
LIS 5312
Advanced Production Techniques: Advanced skills in graphic, photographic, and audio production. Integration of media into instructional packages.

LIS 5454
Administrative Principles in Media Centers: Planning, organizing, directing, supervising and budgeting in school media center. Personnel, public relations, facilities design, and evaluation.

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
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 Moller, Voltaire, Goethe, Pushkin, Balzac, Tolstoy, Ibsen, Mann, Kafka, Camus, and others.

LIT 3313
Science Fiction: PR: ENC 1102. An investigation of science fiction as a literary form, together with selected readings.

LIT 3383

LIT 4312
Fantasy: PR: ENC 1102. A survey of the literature of fantasy with emphasis on such figures as C.S. Lewis.

LIT 4354
Ethnic Literature in America: Contributions of linguistic and ethnic groups of non-English origin to the literature of the United States.

LIT 4373
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
Survey of Technical & 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
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
Studies in Contemporary Fiction: PR: Senior standing or C.I. Fiction in the last 20 years in the United States and Britain.

LIT 5309
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
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
The Victorian Age: PR: Senior standing or C.I. Study of poets and essayists from 1837 to 1900, including Tennyson, the Brownsing, Arnold, Hopkins, Carlyle, Mill; emphasizing Dickens, George Eliot, the Brontes, and Hardy.

MAA 3313

MAA 4227
Advanced Calculus II: PR: MAA 4226 or C.I. Continuation of MAA 4226.

MAA 5210

MAA 5405
Techniques of Complex Variables: PR: MAC 3313 or C.I. Analytic functions. Integration in the complex

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: MAC 1102 or 2 years of high school algebra or C.I. Algebraic equations and inequalities in one variable. Functions and graphs. Polynomial, rational, exponential and logarithmic functions. Systems of equations.

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)
Combinatorics and Graph Theory II: PR: MAD 4203. Polya's theory of counting, Latin squares and rectangles, block designs, coding theory, networks, invariants and extremal graph theory, Ramsey theory, probabilistic methods, hypergraphs, applications.

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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisites</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>MAE 5319</td>
<td>Current Methods in Elementary School Mathematics</td>
<td>PR: Regular Certificate or C.I. Strategies of instruction of computation &amp; concepts of number, geometry, and measurement; instructional materials. (Meets Elementary Education certification requirements.)</td>
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<tr>
<td>MAE 5395</td>
<td>Teaching the Metric System</td>
<td>PR: Regular Certificate or C.I. Linear, area, volume, mass, force, and temperature measures from the metric system will be studied in relation to teaching aids, methods, and content. (K-12).</td>
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<tr>
<td>MAE 5637</td>
<td>Laboratory Programs in Mathematics</td>
<td>PR: Regular Certificate or C.I. Design and development of special materials and projects for mathematics independent study. Emphasis teaching and applying the metric system. (Meets certification requirements for secondary mathematics.)</td>
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</tr>
<tr>
<td>MAN 3025</td>
<td>Management of Organizations</td>
<td>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.</td>
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<tr>
<td>MAN 3301</td>
<td>Personnel Management</td>
<td>PR: Junior standing, MAN 3025 or C.I. Systematic analysis of personnel functions in organizations.</td>
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<tr>
<td>MAN 3504</td>
<td>Production/Operations Management</td>
<td>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.</td>
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<tr>
<td>MAN 3705</td>
<td>Business Concepts</td>
<td>PR: Junior standing. An introductory course in concepts, techniques, opportunities, decisions, and problems in American business. For non-business majors only.</td>
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<tr>
<td>MAN 4120</td>
<td>Business and Society</td>
<td>PR: MAR 3023, FIN 3403, MAN 3025. A study of the interrelationship between the institution of business and other institutions of our society.</td>
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<tr>
<td>MAN 4150</td>
<td>Human Relations in Management</td>
<td>PR: MAN 3025. The study of individual, interpersonal, group and intergroup problems in business organizations through the use of cases and experimental exercises.</td>
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<tr>
<td>MAN 4201</td>
<td>Organization Theory</td>
<td>PR: MAN 3025. Introduces the basic theoretical concepts of integrating both micro and macro approaches to effective management of organizations.</td>
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<tr>
<td>MAN 4310</td>
<td>Personnel Management Issues</td>
<td>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.</td>
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<tr>
<td>MAN 4401</td>
<td>Labor Relations Management</td>
<td>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.</td>
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<tr>
<td>MAN 4590</td>
<td>Procurement Management</td>
<td>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.</td>
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<tr>
<td>MAN 4720</td>
<td>Business Policies</td>
<td>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.</td>
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<tr>
<td>MAN 4722</td>
<td>Information Systems Analysis</td>
<td>PR: Junior standing, MAN 3025, CAP 3001. Introduction to the fundamentals of management information systems development, needs analysis and systems requirements.</td>
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<tr>
<td>MAN 4724</td>
<td>Implementing Information Systems</td>
<td>PR: MAN 4722 and CAP 3001. Study of organizational information needs and systems for planning and control.</td>
<td></td>
</tr>
<tr>
<td>MAN 4854</td>
<td>Management Science</td>
<td>PR: MAN 3025 and MAN 3504 and ECO 3411 and CAP 3001. Study of the application of quantitative models and use of simulation in organizational systems.</td>
<td></td>
</tr>
<tr>
<td>MAN 5051</td>
<td>Management Concepts</td>
<td>PR: Acceptance in MBA program. Theory and practice of managing organizations to include planning, organizational theory, human behavior and control.</td>
<td></td>
</tr>
<tr>
<td>MAN 5501</td>
<td>Introduction to Production/Operations Management</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>
MAN 5830  
Introduction to Management Information Systems: PR: Acceptance into the graduate program. Designed to provide the student with the fundamentals of business data processing and management information systems used by organizations in a modern society.

MAP 3302  

MAP 3401  
Problem Analysis: PR: MAC 3253 or MAC 3311 and COP 3215 or equivalent. Applications of computational techniques to selected problems in the practice of engineering technology. Problems relating to specific option areas.

MAP 4153  
Vector and Tensor Analysis: PR: MAC 3313 or C.I. Vector calculus. The theorems of Green, Gauss and Stokes. Introduction to tensors. Application in engineering and physical sciences.

MAP 4363  

MAP 4364  
Applied Boundary Value Problems II: PR: MAP 4363 or C.I. Legendre polynomials and Bessel functions. The theory of Sturm-Liouville. Separation of variables. Applications involving the wave equation, heat equation and equation of Laplace.

MAP 4411  
Laplace Transforms: PR: MAP 3302 or C.I. Laplace and Z transforms; solutions of ordinary and partial differential equations; application to circuit analysis and difference equations.

MAP 5426  
Special Functions: PR: MAP 3302 or C.I. Series and integral representations, generating functions, recurrence relations and orthogonality properties of the special functions. Emphasis on Bessel, Legendre and hypergeometric functions.

MAR 3023  
Marketing: PR: Junior standing. Study of functions, institutions and basic problems in marketing of goods and services in our domestic economy and abroad.

MAR 3303  
Advertising Management: PR: MAR 3023. Analysis of field of advertising; techniques, media, organization, and role of research; economic and social aspects of advertising.

MAR 3403  
Sales Management: PR: MAR 3023. An overview of the sales management process. Emphasis on sales program formulation and implementation.

MAR 3023  
Consumer Behavior: PR: MAR 3023. Analysis of the buying process, the psychological, social, and economic influences affecting consumer choice.

MAR 3613  
Marketing Research: PR: MAR 3023, ECO 3411. Study of research procedures and techniques for problem solving in marketing. Concepts are explored and the incorporation of information resources into the management function demonstrated.

MAR 3722  
Marketing Management: PR: MAR 3023 and any one additional MAR course or C.I. Operational framework exploring the analysis, planning and control activities of marketing.

MAR 4123  
Product Management: PR: MAR 3023. Components of product management including analysis, strategy formulation and implementation are examined.

MAR 4153  
Retailing Management: PR: MAR 3023. Analysis of the field of retailing. Emphasis on planning for profit through management, inventory control, etc.

MAR 4203  
Marketing Channel Systems: PR: MAR 3023. Marketing functions and relationships within marketing channel systems, primary focus on the needs for interorganizational cooperation and coordination between channel organizations.

MAR 4243  
International Marketing: PR: MAR 3023, GEB 4351, or C.I. Investigates strategy, policy and the variables in international marketing decisions.

MAR 4453  
Industrial Marketing: 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.

MAR 4703  
Contemporary Marketing Issues: PR: Senior standing, marketing major, C.I. Cultural, social, political, economic, and competitive developments and their effects upon marketing activities.

MAR 4713  
Marketing Strategy: PR: Senior standing and marketing courses completed or C.I. Marketing problems are explored with emphasis on strategy formulation and integrative marketing decision making.

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Mar 4941
Internship: PR: Permission of Dept. Chairperson. Provide qualified undergraduate marketing majors with educational experience not gained in class setting.

Mar 5055
Marketing Concepts: PR: Acceptance into the graduate program. Study of functions, institutions and basic marketing of goods in the U.S. economy.

Mar 5941
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 chairman.

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. The interrelationship between cellular structure 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.

MET 5710
Meteorology for Engineers: PR: MAC 3313. Studies of the atmospheric processes from physical thermodynamics and synoptic viewpoints.

MGF 1124
Principles of Mathematics: PR: Two years of high school mathematics or C.I. Selected topics in mathematics with primary emphasis on developing conceptual understanding and broadening insight into mathematics. Not intended for students in business, engineering or science.

MGF 1203
Finite Mathematics: PR: MAC 1102 or 2 years of high school algebra or C.I. Introduction to logic and sets. Elements of probability. Algebra of matrices. Applications to systems of equations and linear programming.

MHF 2300
Logic and Proof in Mathematics: PR: Two years of high school algebra and one year of geometry or C.I. Basic mathematical logic. Methods of proof in mathematics. Application of proofs to elementary mathematical structures.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHF 3104</td>
<td>Boolean Algebra: PR: MAC 3312 or C.I. Axiomatic development of Boolean algebra.</td>
<td>The algebras of sets, logic and circuits as Boolean algebras.</td>
</tr>
<tr>
<td>MIS 1400</td>
<td>Fundamentals of Leadership Development:</td>
<td>Development of leadership abilities through practical exercises. Fundamentals of Land navigation will be discussed. Field training exercises will allow student practical application of leadership techniques.</td>
</tr>
<tr>
<td>MIS 2120</td>
<td>The Threat:</td>
<td>Comparison of the United States Army with foreign armies. To include current threat and potential use of nuclear, biological and chemical warfare. Introduction to Communications.</td>
</tr>
<tr>
<td>MIS 2300</td>
<td>Small Unit Tactics:</td>
<td>Small Unit tactics with emphasis on patrolling. Advanced map reading, including military geography, land navigation, use of the compass, and military symbols will be discussed.</td>
</tr>
<tr>
<td>MIS 3301</td>
<td>The Small Unit Leader:</td>
<td>Analysis of the leader's role in directing and coordinating efforts of small units in tactical operations. Includes geography, weapon systems, intelligence, and internal defense.</td>
</tr>
<tr>
<td>MIS 4421</td>
<td>Military Law:</td>
<td>A study of military law; the Army's maintenance management system; and a study of the obligations and responsibilities of the newly commissioned officer.</td>
</tr>
<tr>
<td>MIS 4430</td>
<td>Advanced Military Science:</td>
<td>Study of the decision-making process; staff organization, estimating process, and staff studies. Analysis of administration, personnel and Army supply system.</td>
</tr>
<tr>
<td>MSL 3220C</td>
<td>Techniques in Clinical Microscopy:</td>
<td>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.</td>
</tr>
<tr>
<td>MSL 3305</td>
<td>Hematology:</td>
<td>PR: Admission to the professional phase of the MLS program or C.I. Diagnostic procedures and morphologic interpretation; correlation of this data to disease.</td>
</tr>
<tr>
<td>MSL 4334C</td>
<td>Hemostasis:</td>
<td>PR: Admission to the professional phase of the MLS program or C.I. Study of the hemostasis mechanisms; diagnostic procedures and correlation of data to pathological conditions.</td>
</tr>
<tr>
<td>MSL 4405</td>
<td>Clinical Pathogenic Microbiology: PR or CR: MCB 3203 and admission to the professional phase of the MLS program.</td>
<td>Isolation &amp; pathogenic bacteria &amp; serological methods; interpretation of abnormal results, with correlation to disease.</td>
</tr>
<tr>
<td>MSL 4420C</td>
<td>Clinical Mycology:</td>
<td>PR: Admission to the professional phase of the MLS program with C.I. Instruction and laboratory practice in the isolation and identification of fungi associated with mycotic infections of man.</td>
</tr>
<tr>
<td>MSL 4431C</td>
<td>Clinical Parasitology:</td>
<td>PR: Admission to the professional phase of the MLS program or C.I. Instruction and laboratory practice in the examination and study of clinical material for the detection and identification of animal parasites.</td>
</tr>
<tr>
<td>MSL 4511</td>
<td>Immunodiagnostic: PR: PCB 3233.</td>
<td>Theory and application of clinical serologic and immunologic diagnostic testing stressing the utilization of monoclonal technology.</td>
</tr>
<tr>
<td>MSL 4560</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>MSL 4625C</td>
<td>Advanced Clinical Chemistry I: PR: Admission to the professional phase of the MLS program or C.I.</td>
<td>Theory and practice in clinical chemistry techniques; carbohydrates, protein, electrophoresis, enzymes.</td>
</tr>
<tr>
<td>MSL 4630C</td>
<td>Advanced Clinical Chemistry II: PR: MSL 4625C.</td>
<td>Autoanalyzer, flame photometry, blood gases, RIA.</td>
</tr>
</tbody>
</table>
MLS 4830C
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.

MLS 4831C
Clinical Practice II: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4830C.

MLS 4832C
Clinical Practice III: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4831C.

MLS 4833C
Clinical Practice IV: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4832C.

MLS 4834C
Clinical Practice V: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4833C.

MLS 4910
Clinical Research Projects: PR: Admission to professional phase of Medical Technology Program or C.I. Individual projects, requiring library research and laboratory investigation, culminating in a written report and presentation.

MLS 5509
Clinical Immunology: PR: PCB 3233, MLS 4511 or C.I. Advanced theory and application of immunologic diagnostic testing stressing the utilization of monoclonal technology.

MMC 2000
Introduction to the Mass Media: A description of the various media, their roles, responsibilities, and functions.

MMC 4200
Mass Communication Law: The legal rights and responsibilities of the mass media.

MMC 4300

MMC 4602
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.

MMC 4609
Opinion and the Mass Media: Role of the media in influencing public attitudes on both the domestic and international levels.

MMC 4700
Mass Media and Popular Culture: An impact of mass media upon American culture past to present.

MMC 4945
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
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 3800
Directed Practice II: PR: MRE 3810, HSC 3531. Quantitative and qualitative analysis; MPI; release of information; filing; admission/discharge processing performed in a health care facility.

MRE 4102
Medical Word Processing and Transcription: PR: MRE 3110 and HSC 3531. Basic principles, concepts, and applications of word processing in the medical setting. Laboratory experience in medical transcription.

MRE 4206

MRE 4304
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.
MRE 4312 HLTH 3(2,2)
Analysis of Medical Record Department Operations: PR: MRE 3110; MAN 3025; MAN 3301. Personnel administration; budgeting; forms analysis, design and control; work distribution and simplification; other evaluation techniques.

MRE 4400 HLTH 4(2,4)

MRE 4402 HLTH 4(4,0)

MRE 4420 HLTH 4(2,0)

MRE 4500 HLTH 3(2,3)
Health Information Retrieval Systems: PR: MRE 3110. Utilization review; principles and mechanics of medical audit and quality assurance; risk management.

MRE 4830 HLTH 1(0,4)
Directed Practice III: PR: MRE 3110; MRE 3202; MRE 3810. Incomplete record control; coding; health/vital statistics; microfilm.

MRE 4832 HLTH 1(0,4)
Directed Practice IV: PR: MRE 3110; MRE 4102; 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 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.

MRE 4850 HLTH 2(2,0)
Medical Record Research: PR: MRE 4500, ENC 3210, COM 3110. Basic research topic design; completion of research project; oral presentations, grantsmanship.

MRE 5217 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.

MRE 5218 HLTH 3(3,0)
Management of Health Information Systems: PR: MAN 5830. Administration of computer-based information systems; security; policy formulation; health data in decision-making, interpretation of health data.

MRE 5219 HLTH 3(3,0)

MRE 5556 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.

MTG 4212 AS 4(4,0)
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.

MTG 4302 AS 3(3,0)
Introduction to Topology: PR: MHF 2300 or C.I. Metric spaces, topological spaces, limit points, continuity, compactness, and connectedness.

MUC 1101 AS 1(1,1)
Composition I: Creative work in small forms. Open to qualified non-music majors with C.I. May be repeated for credit.

MUC 3202 AS 1(1,0)
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.

MUE 3210 ED 3(2,1)
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 ED 2(2,0)
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.

MUE 4360 ED 2(2,0)
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.
MUE 4480 AS 1(1,1)
Marching Band Techniques: PR: C.I. Principles of organizing and training marching bands: Planning,
charting football shows, rehearsal problems. Guided observations. May be repeated for credit.
MUE 5811 ED 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.
MUG 3010 AS 2(1,1)
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 3116. Continuation of MUH 4211.
MUH 4218 AS 1(1,0)
Review of Music History: PR: C.I. A review of music history from Ancient Greece to the present.
MUH 4350 AS 2(2,0)
Seminar: Music through Bach: PR: Satisfactory music history placement exam. Study of selected
music from Dunstable through Bach and Handel. Emphasis on stylistic development and performance
practices.
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 nineteenth 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)
Piano Literature I: PR: Major in Music or C.I. Survey of stringed keyboard literature from the sixteenth
century to the present with emphasis on technical, formal and performance problems.
MUL 3401 AS 2(1,1)
Piano Literature II: PR: MUL 3400. Continuation of MUL 3401.
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 3100 AS 1(0,1)
Pep Band: PR: C.I. Preparation for appearance at basketball games and special occasions.
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
Chamber Chorus: Open to all students by audition. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3380
Oratorio Choir: Open to all students, faculty, and members of the community for performance of large works. May be repeated for credit.

MUN 3410
String Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3420
Woodwind Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3430
Brass Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3440
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

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 3401

MUS 4401
Studio Teaching: PR: C.I. Management of the music studio; responsibilities and techniques of private instruction for the studio teacher; principles of psychology of music. May be repeated for credit.

MUS 4905
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 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 3248
Ear Training and Sight Singing III: PR: MUT 2247. Continuation of MUT 2247. Intended to be taken with MUT 4561.

MUT 3311
Jazz Skills I: PR: C.I. Elements of jazz improvisation. Emphasis on listening, harmony, basic arranging and jazz forms.

MUT 3354 AS 1(0,2)
Jazz Skills II: PR: MUT 3353 or C.I. Continuation of Jazz Skills I.

MUT 4031 AS 1(1,0)
Review of Music Theory: PR: C.I. A comprehensive review of harmonic and analytic skills. May be repeated for credit.

MUT 4249 AS 2(2,0)
Review of Sight-Singing and Ear Training: An intensive review of aural skills. May be repeated for credit.

MUT 4344 AS 1(1,0)

MUT 4561 AS 3(3,0)
Music Theory III: PR: MUT 3117. Continuation of MUT 3116-3117; writing, performance, and analysis of music of various stylistic periods.

MUT 5325 AS 2(2,0)

MVB 1211 AS 1(0,1)

MVB 1212 AS 1(0,1)
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.

MVB 1213 AS 1(0,1)

MVB 1214 AS 1(0,1)

MVB 1215 AS 1(0,1)
Secondary Tuba: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in tuba. Intended for non-music majors. May be repeated for credit.

MVB 2411 AS 2(1,1)
Trumpet I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVB 2412 AS 2(1,1)
French Horn I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVB 2413 AS 2(1,1)
Trombone I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVB 2414 AS 2(1,1)
Baritone I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVB 2415 AS 2(1,1)
Tuba I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVB 3421 AS 2(1,1)
Trumpet II: PR: MVB 2411 and competence determined by faculty jury. Continuation of MVB 2411. May be repeated for credit.

MVB 3422 AS 2(1,1)
French Horn II: PR: MVB 2412 and competence determined by faculty jury. Continuation of MVB 2412. May be repeated for credit.

MVB 3423 AS 2(1,1)
Trombone II: PR: MVB 2413 and competence determined by faculty jury. Continuation of MVB 2413. May be repeated for credit.

MVB 3424 AS 2(1,1)
Baritone II: PR: MVB 2414 and competence determined by faculty jury. Continuation of MVB 2414. May be repeated for credit.

MVB 3425 AS 2(1,1)
Tuba II: PR: MVB 2415 and competence determined by faculty jury. Continuation of MVB 2415. May be repeated for credit.

MVB 4431 AS 2(1,1)
Trumpet III: PR: MVB 3421 and competence determined by faculty jury. Continuation of MVB 3421. May be repeated for credit.

MVB 4432 AS 2(1,1)
French Horn III: PR: MVB 3422 and competence determined by faculty jury. Continuation of MVB 3422. May be repeated for credit.

MVB 4433 AS 2(1,1)
Trombone III: PR: MVB 3423 and competence determined by faculty jury. Continuation of MVB 3423. May be repeated for credit.
<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>AS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVB 4434</td>
<td></td>
<td>2(1,1)</td>
<td>Baritone III: PR: MVB 3424 and competence determined by faculty jury. Continuation of MVB 3424. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4435</td>
<td></td>
<td>2(1,1)</td>
<td>Tuba III: PR: MVB 3425 and competence determined by faculty jury. Continuation of MVB 3425. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4441</td>
<td></td>
<td>2(1,1)</td>
<td>Trumpet IV: PR: MVB 4431 and competence determined by faculty jury. Continuation of MVB 4431. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4442</td>
<td></td>
<td>2(1,1)</td>
<td>French Horn IV: PR: MVB 4432 and competence determined by faculty jury. Continuation of MVB 4432. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4443</td>
<td></td>
<td>2(1,1)</td>
<td>Trombone IV: PR: MVB 4433 and competence determined by faculty jury. Continuation of MVB 4433. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4444</td>
<td></td>
<td>2(1,1)</td>
<td>Baritone IV: PR: MVB 4434 and competence determined by faculty jury. Continuation of MVB 4434. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4445</td>
<td></td>
<td>2(1,1)</td>
<td>Tuba IV: PR: MVB 4435 and competence determined by faculty jury. Continuation of MVB 4435. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 5451</td>
<td></td>
<td>2(1,0)</td>
<td>Trumpet V: PR: C.I.</td>
</tr>
<tr>
<td>MVB 5452</td>
<td></td>
<td>2(1,0)</td>
<td>French Horn V: PR: C.I.</td>
</tr>
<tr>
<td>MVB 5453</td>
<td></td>
<td>2(1,0)</td>
<td>Trombone V: PR: C.I.</td>
</tr>
<tr>
<td>MVB 5454</td>
<td></td>
<td>2(1,0)</td>
<td>Baritone V: PR: C.I.</td>
</tr>
<tr>
<td>MVB 5455</td>
<td></td>
<td>2(1,0)</td>
<td>Tuba V: PR: C.I.</td>
</tr>
<tr>
<td>MVB 5456</td>
<td></td>
<td>2(1,0)</td>
<td>Piano I: Class instruction for beginning piano students. Not open to music majors whose major performing medium is piano.</td>
</tr>
<tr>
<td>MVB 5457</td>
<td></td>
<td>2(1,0)</td>
<td>Piano II: PR: MVB 5456 and competence determined by faculty jury. Continuation of MVB 5456. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 5458</td>
<td></td>
<td>2(1,0)</td>
<td>Piano III: PR: MVB 5457 and competence determined by faculty jury. Continuation of MVB 5457. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 5459</td>
<td></td>
<td>2(1,0)</td>
<td>Piano IV: PR: MVB 5458 and competence determined by faculty jury. Continuation of MVB 5458. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 5460</td>
<td></td>
<td>1(1,0)</td>
<td>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.</td>
</tr>
</tbody>
</table>
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 1211

MVP 2411
Percussion I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVP 3421
Percussion II: PR: MVP 2411 and competence determined by faculty jury. Continuation of MVP 2411. May be repeated for credit.

MVP 4431
Percussion III: PR: MVP 3421 and competence determined by faculty jury. Continuation of MVP 3421. May be repeated for credit.

MVP 4441
Percussion IV: PR: MVP 4431 and competence determined by faculty jury. Continuation of MVP 4431. May be repeated for credit.

MVP 5451
Percussion V: PR: C.I.

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 chairperson; audition. May be repeated for credit.

MVS 2412
Viola I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVS 2413
Cello I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVS 2414
Bass I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVS 2415
Harp I: Major in music or consent of chairperson; audition. May be repeated for credit.

MVS 2416
Guitar I: PR: Major in music or consent of chairperson; 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
Cello II: PR: MVS 2413 and competence determined by faculty jury. Continuation of MVS 2413. May be repeated for credit.

MVS 3424
Bass II: PR: MVS 2414 and competence determined by faculty jury. Continuation of MVS 2414. May be repeated for credit.

MVS 4431
Violin III: PR: MVS 3421 and competence determined by faculty jury. Continuation of MVS 3421. May be repeated for credit.

MVS 4432
Viola III: PR: MVS 3422 and competence determined by faculty jury. Continuation of MVS 3422. May be repeated for credit.

MVS 4433
Cello III: PR: MVS 3423 and competence determined by faculty jury. Continuation of MVS 3423. May be repeated for credit.

MVS 4434
Bass III: PR: MVS 3424 and competence determined by faculty jury. Continuation of MVS 3424. May be repeated for credit.

MVS 4435
Harp III: PR: MVS 3425 and competence determined by faculty jury. Continuation of MVS 3425. May be repeated for credit.

MVS 4436
Guitar III: PR: MVS 3426 and competence determined by faculty jury. Continuation of MVS 3426. May be repeated for credit.

MVS 5451
Violin V: PR: C.I.

MVS 5452
Viol V: PR: C.I.

MVS 5453
Cello V: PR: C.I.

MVS 5454
Bass V: PR: C.I.

MVS 5455
Harp V: PR: C.I.

MVS 5456
Guitar V: PR: C.I.

MVV 1211
Class Voice: Class instruction in beginning voice. May be repeated for credit.

MVV 2411
Voice I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.
MVV 3421  
Voice II: PR: MVV 2411 and competence determined by faculty jury. Continuation of MVV 2411. Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVV 4431  
Voice III: 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.

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 5451  
Voice V: PR: C.I.

MVW 1211  

MVW 1212  

MVW 1213  

MVW 1214  

MVW 1215  

MVW 2411  
Flute I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVW 2412  
Oboe I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVW 2413  
Clarinet I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVW 2414  
Bassoon I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVW 2415  
Saxophone I: PR: Major in music or consent of chairperson; 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 3425  
Saxophone II: PR: MVW 2415 and competence determined by faculty jury. Continuation of MVW 2415. 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.
AS 2(1,1)
Saxophone III: PR: MVW 3425 and competence determined by faculty jury. Continuation of MVW 3425. May be repeated for credit.

AS 2(1,1)
Flute IV: PR: MVW 4431 and competence determined by faculty jury. Continuation of MVW 4431. May be repeated for credit.

AS 2(1,1)
Oboe IV: PR: MVW 4432 and competence determined by faculty jury. Continuation of MVW 4432. May be repeated for credit.

AS 2(1,1)
Clarinet IV: PR: MVW 4433 and competence determined by faculty jury. Continuation of MVW 4433. May be repeated for credit.

AS 2(1,1)
Bassoon IV: PR: MVW 4434 and competence determined by faculty jury. Continuation of MVW 4434. May be repeated for credit.

AS 2(1,1)
Saxophone IV: PR: MVW 4435 and competence determined by faculty jury. Continuation of MVW 4435. May be repeated for credit.

AS 2(1,0)
Flute V: PR: C.I.

AS 2(1,0)
Oboe V: PR: C.I.

AS 2(1,0)
Clarinet V: PR: C.I.

AS 2(1,0)
Bassoon V: PR: C.I.

AS 2(1,0)
Saxophone V: PR: C.I.

NUR 3066
Health Assessment: Theory and skills of physical/mental assessment of clients.

NUR 3066L
Pathophysiology and Physical Assessment: Clinical concepts of disease processes integrated with physical assessment of clients.

NUR 3119
Introduction to Baccalaureate Nursing: Overview of baccalaureate nursing philosophy, objectives, conceptual framework, scope of practice, history, legal and ethical issues.

NUR 3166
Critical Inquiry: A study of approaches to problematic situations in nursing. Selected experiences in investigating, analyzing, and interpreting nursing research.

NUR 3709

NUR 3749C
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
Scientific Theories of Nursing I: PR: NUR 3748C. Theories/nurses role in health maintenance, preventive, acute and rehabilitative care with individuals of all ages in varied clinical settings.

NUR 3755C
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
Nursing Seminar I: CR: NUR 3749C. Discussion of current issues related to nursing practice. Exploration of specific problems associated with NUR 3207C.

NUR 3796
Nursing Seminar II: CR: NUR 3755C. An opportunity to explore maternal/infant, fathering, sibling and family relationships.

NUR 4756C

NUR 4757C
Scientific Theories of Nursing IV: 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 4797
Nursing Seminar III: CR: NUR 4756C. Discussion of current trends and issues related to community health and psychiatric/mental health nursing.

NUR 4798
NUR 4799C  
Complex Nursing Problems: PR: NUR 3755C. Comprehensive nursing care to individuals with complex and critical problems.

NUR 4905C  
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 3210  
Interpretation III: PR: ORI 3001 or C.I. 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 2211  
Principles of Shorthand I: Introduction to basic theory of Gregg shorthand, vocabulary development, and speed building.

OST 3120  
Professional Typewriting Production: PR: OST 2110 or C.I. Develop pro-fessional level speed, accuracy and production skills in the use of the type-writer.

OST 3213  
Advanced Shorthand: CR: OST 2110. PR: OST 2211 or equivalents. Extend and refine Gregg shorthand dictation, speed and vocabulary; introductory typewritten communication production skills.

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.

OST 4214  
Shorthand Dictation and Transcription: CR: OST 3120 and OST 3213. Professional level shorthand dictation for transcription and refinement of typewritten communications production skills.

OST 4402  

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 budgetmaking, 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: Examination of the issues of ethics in the public
sector-basis for public concern, past practice, present patterns of response; individual/societal aspects of ethical behavior.

PAD 5335  AS 4(4,0)

Strategic Planning and Growth Management: Development and utilization of demographic economic and geographic information systems; strategic planning concepts as basis for management control in an urban environment.

PAD 5424  AS 4(4,0)

Labor Relations in the Public Sector: A study of current trends and developments in employment relations in the public sector, especially employee organization, negotiations, and the collective bargaining process.

PAD 5806  AS 4(4,0)

Local Government Operations: Operational Functions of municipal and county governments and the role of the chief executive officer.

PAD 5807  AS 4(4,0)

Administrative Practice in the Public Sector: The application of various theoretical concepts to the "real world" of public administration. Policy formulation and execution, is examined through the case study mode.

PCB 3023  AS 3(3,0)

Cell Physiology: PR: 8 hours in biological sciences or C.I. CR: CHM 3211. Basic physiological processes, cellular organization, exchange of materials conversion of energy, irritability and contractility.

PCB 3043  AS 3(3,0)

Principles of Ecology: 8 hours in biological sciences. Elements of ecosystems, biogeochemical cycling, environmental factor interactions, population dynamics and community development.

PCB 3043L  AS 1(0,3)


PCB 3063  AS 3(3,0)

Genetics: PR: BSC 2010C. Basic principles of heredity as applied to prokaryotes and eukaryotes.

PCB 3063L  AS 1(0,3)

Genetics Laboratory: CR: PCB 3063. Introduction to laboratory techniques of genetics.

PCB 3233  AS 3(3,0)

Immunology: PR: BSC 2010C. Basic principles of immune reactions, antigen antibody interactions, cell mediated immunity, tumor immunology and immuno therapy.

PCB 3233L  AS 1(0,3)

Immunology Laboratory: CR: PCB 3233. Introduction to laboratory techniques in immunology.

PCB 3301C  AS 4(3,3)


PCB 3703C  AS 4(3,3)

Human Physiology: PR: BSC 2010C or equivalent. The physiology and interrelationships of organ systems of the human body.

PCB 4183C  AS 3(1,8)

Microtechnique: PR: 1 yr. biology. Preparation of plant and animal tissue of microscopic study.

PCB 4302C  AS 4(2,6)

Limnology 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  AS 4(2,6)

Limnology II: PR: PCB 4302C or C.I. Primary and secondary productivity and interaction among factors such as nutrients, pollutants, temperature radiation, turbidity, and seasons.

PCB 4723  AS 4(4,0)

Animal Physiology: PR: PCB 3023 or C.I. Functions of body processes occurring in animals with emphasis on vertebrate physiology.

PCB 5045  AS 4(3,2)

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  AS 5(3,4)


PCB 5675C  AS 4(3,2)

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  AS 3(3,0)

Endocrinology: PR: PCB 4723 and BCH 4053 or C.I. Mechanisms of action of hormones; interrelationship between the nervous and endocrine systems.

PCB 4203  AS 4(3,2)

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.
Objectives for the secondary school child.

Anatomic and mechanical principles involved in producing skilled human movement; with applications.

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.

PET 4310C

Anatomic and Mechanical Kinesiology: Anatomic and mechanical principles involved in producing skilled human movement; with applications.

PET 4035C

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.

PET 3463C

Physical Education in the Elementary School: PR: Admission to Junior Block or C.I. Organization, practice and conduct of elementary school physical education with emphasis on teaching methods.

PET 3461C

Teaching Physical Education in the Elementary School: PR: Admission to Junior Block or C.I. Organization, practice and conduct of elementary school physical education with emphasis on teaching methods.

PET 3453

Coaching and Officiating: Theory and methods of coaching and officiating techniques.

PET 3453

Sports Psychology: A review of principles of psychology related to the enhancement of satisfaction and performance in sports.

PET 3210

Games for the Elementary School Physical Education Program: The understanding, designing and teaching the low-organizational game-activities for the elementary school child.

PET 3041

Physical Education Professional Development: The development in the profession of physical education, and action participation in current activities.

PET 3012

Physical Safety Instruction: PR: PEN 3113 or equivalent competency. Methods of teaching water safety. Includes practical application and certification.

PET 3115

Water Safety Instruction: PR: PEN 3113 or equivalent competency. Methods of teaching water safety. Includes practical application and certification.

PET 3005

Advanced Sports Analysis: Advanced analysis of sports for the purpose of teaching and coaching.

PEO 3031


PEO 3011

Instructional Sports Activities: Analysis of individual sports for purposes of teaching and coaching. Includes techniques, conditioning, strategy.

PEO 3101

Instructional Analysis in Aquatics: PR: Sophomore standing or C.I. Analysis of aquatic activities for purposes of teaching and coaching. Includes techniques, conditioning, strategy.

PEO 3101

Gymnastics: Analysis of gymnastics including techniques, conditioning and strategy.

PEEQ 3201

Aquatics: PR: PEN 3122 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.

PEEQ 3101

Instructional Analysis in Aquatics: PR: Sophomore standing or C.I. Analysis of aquatic activities for purposes of teaching and coaching. Includes techniques, conditioning, strategy.

PEQ 3115

Life Saving: Instruction, training and certification in basic life saving swimming skills.

PET 3113

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.

PET 3101

Aquatics: PR: PEN 3122 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.

PET 1121

Elementary Swimming: For non-swimmers and beginning swimmers. Development and study of technique in the basic skills of water safety and swimming.

PET 3122

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.

PET 3011


PET 3005

Advanced Sports Analysis: Advanced analysis of sports for the purpose of teaching and coaching.

PET 3122

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.

PET 3113

Life Saving: Instruction, training and certification in basic life saving swimming skills.

PET 3101

Instructional Analysis in Aquatics: PR: Sophomore standing or C.I. Analysis of aquatic activities for purposes of teaching and coaching. Includes techniques, conditioning, strategy.

PET 4310C

Anatomic and Mechanical Kinesiology: Anatomic and mechanical principles involved in producing skilled human movement; with applications.
PET 4312 Biomechanics: Anatomic and mechanical principles involved in producing skilled human movement with applications.

PET 4351 Physiology and Human Performance: Physiological factors that contribute to performance, with emphasis on energetics, gas transport, pulmonary mechanisms, nutrition assessment, training and performance strategies.

PET 4382 Fitness Assessment and Exercise Intervention: Aerobic function and coronary risk factors - testing, interpretations and exercise strategies.

PET 4401 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.


PHH 3100 Ancient Philosophy: PR: PHI 2010 or C.L. Foundations of Western philosophy in ancient Greek thinking about man and nature, including the pre-Socratics, Socrates, Plato, Aristotle.

PHI 1100 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.

PHI 2010 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.

PHI 2130 Formal Logic I: Analysis of logical form and of procedures used in deductive inference, of the kind underlying mathematical reasoning.

PHI 3600 Philosophy of Religion: An examination of basic ideas, beliefs, attitudes and functions of religion; the significance of religion in human experiences.

PHI 3603 Philosophy and Creativity: A companion course to PHI 3800, Aesthetics. Examines the empirical and metaphysical claims made for creativity; attempts to account for intuition, genius and intelligence.

PHI 3800 Aesthetics: An investigation into the nature of human artistic experience with special reference to questions of form, perception and style.

PHI 4220 Philosophy of Language: PR: PHI 2010 and 2130. Develops philosophically illuminating descriptions of certain general features of language, such as reference, truth meaning, and necessity.

PHI 4360 Theory of Knowledge: PR: PHI 2010 and PHI 2130. The study of knowledge: What is it? Can we have it? Topics include skepticism, "other minds," certainty, and belief.

PHI 4400 Philosophy of Science: An examination of the conceptual foundations and methodology of modern science.
PHI 4500

Metaphysics: PR: PHI 2010 and PHI 2130. Investigates "first principles" and inquiries into the ultimate nature of reality through consideration of being, substance, essence, space, time, cause and effect.

PHI 4770

Atheism: A study of the principal theoretical and practical objections to theism.

PHM 3100

Social Philosophy: Philosophical analysis and evaluation of selected issues arising from interaction of the individual, society, and the state.

PHM 3350

Introduction to Marxist Philosophy: A study of the fundamental principles of Marxist philosophy, developed by Marx, Engels and Lenin.

PHP 3786

Existentialism: Study of existentialist analysis and criticisms of the human situations as found in the writings of such philosophers as Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus.

PHP 4786

Contemporary Marxism: An examination of major issues in current Marxist-Leninist philosophy.

PHS 3151

Computer Methods in Physics: PR: PHY 3048 and COP 1110 or C.I. Nonanalytical problems in physics and astronomy solved by approximation with computer assistance.

PHS 3271

Geophysics: PHY 3049 and MAP 3302. Introduction to the methods and techniques used in applied geophysics. Seismic wave propagation, flow through porous media, electromagnetic remote sensing, gravitation.

PHS 3805

Physical Basis of Music: PR: MUT 2112 or C.I. Lectures, demonstrations, and student practicum; covers topics in wavemotion, acoustics of musical instruments, musical scales, timbre, architectural acoustics, human ear, sound reproduction.

PHS 5404


PHS 5505

Plasma Physics: PR: PHY 4043, PHY 3044, or C.I. Introduction to theory and experimental basis of both weakly and highly ionized plasmas. Instabilities, plasma waves, nonlinear effects, controlled thermonuclear fusion.

PHY 2050C

College Physics I: PR: MAC 1104 or MGF 1202. Kinematics, Newton's Law, circular motion, torque, center of gravity, work, energy, power, machines, waves, sound, electricity, currents, magnetism, induction, generators, motors, geometrical optics, eye, camera, telescope, microscope.

PHY 2051C

College Physics II: PR: PHY 2050C or one year of high school physics. Fluids, Bernoulli, viscosity, kinetic theory, osmosis, heat, thermodynamics, latent heat, conduction, convection, radiation, DC-AC circuits, instrumentation, semiconductors, physical optics, interference, polarization, X-rays, radioactivity, detectors, shielding, dosimetry.

PHY 3014C

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.

PHY 3034

Physics of Science Fiction: PR: PSC 1512 or C.I. Study and discussion of physical principles which form the basis of selected science fiction themes.

PHY 3044


PHY 3048

Physics for Engineers and Scientists I: PR: MAC 3311, PHY 2050C or high school physics. Mechanics, properties of matter, fluids, thermodynamics.

PHY 3048L

Physics Laboratory for Engineers and Scientists I: CR: PHY 3048. Laboratory experiments covering selected topics in physics related to PHY 3048.

PHY 3049

Physics for Engineers and Scientists II: PR: PHY 3048, MAC 3312. Optics, light, sound, electricity, magnetism, alternating current.

PHY 3049L

Physics Laboratory for Engineers and Scientists II: CR: PHY 3049. Laboratory experiments covering selected topics in physics related to PHY 3049.

PHY 3101

Modern Physics: PR: PHY 3049 or C.I. Thermal radiation, quanta, photoelectric effect, Compton effect, Bohr theory, de Broglie, Schrodinger equation, barrier and square well potentials, applications to atomic, molecular, solid state and nuclear physics.

PHY 3421C

Optics and Modern Physics: PR: PHY 3049 or C.I. Geometric optics, ray diagrams, polarization,
diffraction, interference, atomic, molecular, nuclear, solid state physics, spectroscopy, x-rays, nuclear radiation.

PHY 3503

Thermodynamics: PR: PHY 3049 and MAP 3302 or C.I. Introduction to equilibrium thermodynamics. Equations of state, enthalpy, entropy, internal energy, free energy, phase transitions.

PHY 3722C


PHY 3752C


PHY 3802L

Intermediate Physics Laboratory: PR: PHY 3101 or C.I. Laboratory work in basic measurements of physical constants; experiments in electronics, modern physics, nuclear physics, optics and solid state physics. May be repeated for credit.

PHY 4043


PHY 4424

Optics: PR: PHY 3101 and PHY 3044. Wave optics, absorption, stimulated emission, lasers, transforms, coherence, holography.

PHY 4804

Wave Mechanics: PR: PHY 3101. Basic concepts of Schrodinger wave mechanics, the quantum theory. Forms of wave function under boundary conditions. Application to the one electron atom and many particle systems.

PHY 4803L


PHY 4942C

Practicum in Physics: PR: C.I. Physics laboratories and demonstrations, and the study of recent research on the learning of physics.

PHY 5015C


PHY 5100

Topics in Contemporary Physics for Teachers: PR: C.I. The study of recent findings in a selected area such as: Particle Physics; Surface Physics; Planetary Atmospheres; Lasers; Geophysics; etc.

PHY 5200C

Newtonian Mechanics for Teachers: PR: C.I. A lab, lecture, demonstration course studying selected topics in classical mechanics.

PHY 5228


PHY 5300C

Electricity for Teachers: PR: C.I. Circuits, Multimeters, Oscilloscopes, Circuit elements.

PHY 5302C


PHY 5304

Nuclear Physics: PR: PHY 4604. Nuclear forces, structure, models, reactions, radioactivity, fission, fusion, strange particles.

PHY 5346

Electrodynamics I: PR: PHY 3044, MAP 3302, or C.I. Boundary value problems in electrostatics and magnetostatics. Maxwell equations. EM fields in matter; wave generation and propagation; wave guides, resonant cavities.

PHY 5401C

Optics for Teachers: PR: C.I. Geometrical and physical optics, spectrometers and lasers.

PHY 5446


PHY 5524

PHY 5500C: AS 1(0.5,1.5)

PHY 5601: AS 1(1,0)

PHY 5606: AS 3(3,0)
Quantum Mechanics: PR: PHY 4604 or C.I. Basic postulates of quantum mechanics, operators, eigenvalues, parity, potential wells, harmonic oscillator, time dependent and time independent Schrödinger equation, matrix formulation, perturbation theory.

PHZ 5150C: AS 1(0.5,1.5)
Computer Methods in Physics for Teachers: PR: C.I. Trajectories with air resistance, trajectories in rotating space colonies, refraction of waves in continuous media, luminosity patterns, temperature profiles.

PHZ 5301C: AS 1(0.5,1.5)
Nuclear Physics for Teachers: PR: C.I. The interaction of ionizing radiation with matter, alpha, beta, gamma decay, fission, fusion, neutron activation, half lives and equilibrium.

PHZ 5600: AS 1(1,0)

PHZ 5800C: AS 1(0.5,1.5)
Wave Motion for Teachers: PR: C.I. Water Waves, Waves on Strings, Sound and Vibrations.

POS 2041: AS 3(3,0)

POS 3122: AS 3(3,0)

POS 3173: AS 3(3,0)
Southern Politics: PR: POS 2041 or C.I. Study of southern politics past and present. Emphasis on factors effecting changes in the region and the states. Southern and national relationship examined.

POS 3233: AS 3(3,0)
Public Opinion: A substantive and theoretical study of public opinion with emphasis on opinion formation, opinion measurement, policy linkages. May include field experiences in polling.

POS 3235: AS 3(3,0)
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.

POS 3253: AS 3(3,0)
Contemporary Revolution and Political Violence: Theories and cases of revolutionary change and political violence in the contemporary world.

POS 3273: AS 3(3,0)
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: AS 3(3,0)
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: AS 3(3,0)
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: AS 3(3,0)
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: AS 3(3,0)
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: AS 3(3,0)
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: AS 3(3,0)
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: AS 3(3,0)
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.
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.

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.

Judicial Process & Policies: Study of the formal and informal judicial process. Legal culture, bureaucratic model, judicial recruitment and outputs, comparative judicial behavior.

Presidential Campaigning: PR: C.I. Introduces the process of candidate selection, convention behavior, actual campaign process and the transition of power.

Comparative Political Parties: The study of political party systems and processes. The course may include U.S., Canada and other political systems.

American Constitutional Law: PR: POS 2041 or C.I. Development of American federalism and national power, commerce clause and nationalization of the economy.

American Constitutional Law II: PR: POS 2041 or C.I. Development of civil liberties and civil rights in the American federal system.

Politics and Civil Rights: Examination of development and issues of civil rights in the second reconstruction. Course emphasis process and analysis of policy.

American Political Thought: From its sources to the 20th century, including liberalism, puritanism, the Federalist, the rise of industrialism, resulting social movements, modern variations.

Modern Political Ideologies: A study of modern ideologies since the French Revolution including liberal, 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.


Physical Science: PR: MAC 1104 or MGF 1202. 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.
PSY 2013 AS 3(3,0)
General Psychology: An introductory survey of the basic principles, theories, and methods of contemporary psychology.

PSY 2023 AS 1(1,0)
Careers in Psychology: PR: PSY 2013. An examination of various career opportunities in Psychology including educational entry requirements, and related professional issues.

PSY 3204 AS 4(3,2)
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.

PSY 3214 AS 4(3,2)

PSY 3302 AS 3(3,0)

PSY 3303 AS 3(3,0)

PSY 3624 AS 3(3,0)
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.

PSY 3951 AS 3(1,5)
Undergraduate Field Work: PR: C.I. Placement in a community agency for supervised experience in applications of psychology to community problems.

PSY 4604 AS 3(3,0)
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 4802 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.

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 4027 HLTH 5(5,0)
Radiation Oncology I: Malignant conditions, their etiology, methods of TX, diagnosis and the effects of continued therapies. Radiation TX: application, dose measurement, verification and machine calibration.

RAT 4028 HLTH 5(5,0)
Radiation Oncology II: Continuation of Radiation Oncology I.

RED 3012 ED 3(3,0)
Basic Foundations of Reading: PR: Junior Standing or C.I. Introduction to reading: principles,
procedures, and current practices. Study of specific techniques and materials for word attack and comprehension.

RED 4519  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.

RED 5147  Developmental Reading: Principles, procedures, organization, and current practices in the elementary reading program. Materials and methods of instruction.

RED 5337  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.

RED 5514  Classroom Diagnosis and Treatment of Reading Difficulties: PR: RED 5147 or equivalent. Classroom diagnosis and corrective teaching in reading; instructional materials. Case Study required.

REE 3043  Fundamentals of Real Estate: PR: Junior Standing. Emphasis placed upon the application of basic tools of economics, finance and marketing to solve private and public sector real estate problems.

REE 4303  Real Estate Investment Analysis: PR: FIN 3403. Focus on real estate decision making in the private sector utilizing tools of financial and economic analysis.

REL 2302  World Religions: Basic features and historical background on Confucianism, Taoism, Hinduism, Buddhism, Judaism, Christianity and Islam.

REL 3188  Classical Mythology: Myths of the Greeks & Romans studied through excerpts from ancient sources and experienced through works of art, literature and music.

REL 3203  The Hebrew and Christian Heritage: The Old and New Testaments as religious documents; their socio-political context in the Ancient Near East.

REL 3314  Religions of China and Japan: A study of basic concepts in Shinto, Taoism, Confucianism, Buddhism, and Zen.

REL 3342  Hinduism: A study of Hindu religious ideas and scriptures; the Vedas, the Upanishads, the Bhagavad Gita, and later works.

REL 3353  Islam: An inquiry into the foundations and development of Islamic thought from earliest times to modern in various parts of the world.

REL 3432  The Prophets: Ancient and Modern: Ancient prophets (e.g. Moses, Buddha, Jesus, Mohammed) as originators of new faiths, the role of men like Ghandi and Mao as prophets in the modern world.

REL 3506  Studies in Christianity: An inquiry into the foundations and development of Christian thought in various parts of the world.

REL 3690  Seminar In Jewish Studies: An inquiry into the foundations and development of Jewish thought in various parts of the world.

REL 4182  Mysticism: The models and aims of the mystic, both Eastern and Western, as seen in art, music, and literature.

REL 4187  World Myths and Their Meaning: A comparative study of myths from various cultures; common themes and their archetypal meaning.

REL 4420  Modern Theology: Explores the revolution in religious thought prompted by Kierkegaard, Tillich, Barth, Niebuhr, and Bonhoeffer; and the secular trends suggested by Nietzsche, Altizer, Cox, and Hamilton.

RET 3026C  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.

RET 3244C  Life Support Systems: PR: RET 3026C. Lecture-laboratory, measures utilized to support the critically ill patient, intubation, airway maintenance, arterial line insertion and care, post operative care are all covered.

RET 3264C  Mechanical Ventilation: PR: RET 3026C. Function and use of mechanical ventilators, patient evaluation methods. All forms of ventilatory support will be studied. Lecture -Laboratory.
Respiratory Disease Assessment: PR: RET 3026C. Physical examination of the chest, demonstrating equipment use, methods and theory. Chest radiography will be extensively covered. Lecture - demonstration.


Clinical Practice II: PR: C.I. Patient care with advanced respiratory equipment. Tracheostomy care. Introduction to cardiopulmonary resuscitation. Introduction to critical care units. Advanced life support techniques and equipment.


Cardiopulmonary Diagnostics I: PR: RET 3244C. Non-invasive cardiac diagnostics including echocardiography, nuclear cardiology and stress testing.

Cardiopulmonary Diagnostics II: PR: RET 3244C and RET 4284C. Invasive cardiac diagnostic and therapeutic measures including cardiac catheterization, PTCA, streptokinase use and heart surgery.

Pulmonary Function Studies: PR: RET 3902C. Detailed procedures and tests to provide information for diagnosis of pulmonary disease, lecture-laboratory.

Chest Medicine: PR: APB 3263. Disease states treated medically in conjunction with one or more modalities of respiratory therapy.


Pediatric Respiratory Care: PR: C.I. Lung development, prenatal physiology, gas transport in the fetus and newborn. IRDS, congenital anomalies, infections, resuscitation of the neonate, childhood respiratory disease. Mechanical ventilators and their use in neonatal respiratory care.


Medical Research Seminar: PR: STA 3023. Introduction to 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.

Principles of Risk and Insurance: PR: STA 2051 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.


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.


Medical Physics: PR: RET 3884C or C.I. The clinical application of physics in radiation medicine; detection, measurements, techniques and equipment, radiation protection and safety; state and federal regulations; radiation biology.

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.

RTE 3412C  
**Principles of Radiographic Exposure I:** An introduction to properties of electromagnetic radiation, X-ray production, exposure factors, X-ray equipment and accessory devices.

RTE 3457C  
**Principles of Radiographic Exposure II:** PR: RTE 3412C or C.I. Continuation of RTE 3412C with emphasis on exposure technique, evaluation and use of imaging accessories, processing techniques.

RTE 3528C  
**Radiographic Procedures I:** PR: Admission to the professional phase of the RAS program or C.I. A study of patient positioning, equipment manipulation and quality evaluation of radiographic studies of the appendicular skeleton, chest, and abdomen.

RTE 3549  
**Radiographic Procedures II:** PR: RTE 3528C or C.I. A study of patient positioning, equipment manipulation and quality of radiographic studies of the organ systems, skull and facial bones, contrast studies.

RTE 3564  
**Radiologic Sciences Seminar:** PR: RTE 3549 or C.I. An introduction to Special Imaging Techniques in Radiology including vascular and nonvascular procedures.

RTE 3566  
**Advanced Imaging Modalities:** PR: RTE 3564 or C.I. A study of the physical principles and applications of Computed Tomography, Digital Imaging, Ultrasound, Magnetic Resonance Imaging and other specialized modalities.

RTE 3564C  
**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.

RTE 3720  
**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.

RTE 3806  
**Clinical Education II:** PR: RTE 3932L or C.I. Supervised clinical practice in radiographic procedures, radiation protection, patient care, equipment.

RTE 3816  
**Clinical Education III:** PR: RTE 3806 or C.I. Supervised clinical practice in performing radiographic or radiation therapy procedures with emphasis on competency evaluation of clinical practices.

RTE 3826  
**Clinical Education IV:** PR: RTE 3816 or C.I. Supervised clinical practice in radiographic or radiation therapy procedures, with emphasis on competency evaluation of clinical practices.

RTE 3932L  
**Clinical Education Orientation:** PR: Admission professional phase of the RAS program, RTE 3002. Orientation to patient care, introduction to areas involving field of radiology and Clinical Orientation to the function of radiologic technologists, chest, abdomen, radiography.

RTE 3841  
**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.

RTE 4205C  
**Quality Assurance Management:** PR: RTE 4569 or C.I. A study of radiological equipment and imaging modalities for specialization, selection and installation of equipment designed for specific functions, quality assurance testing.

RTE 4207  
**Methods in Radiology Management:** Concepts of Radiology department management, including principles, personnel management, evaluation and improvement techniques, budgeting, financial considerations and legal aspects.

RTE 4209  
**Radiological Administrative Practice:** A directed practice in the management of a Radiology department with application of theory and methodology.

RTE 4236L  
**Directed Study in Clinical Education:** PR: HSC 4243 or C.I. Directed activity in classroom instruction in radiologic technology.

RTE 4362  
**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.

RTE 4569  
**Quality Assurance:** PR: RTE 3387C or C.I. Quality assurance programs with evaluation of radiographic imaging modalities and information retrieval systems. Tube output evaluation, sensitometry, and flow studies.

RTE 4843  
**Clinical Education VI:** PR: RTE 4876 or C.I. Advanced clinical practice in diagnostic radiography, radiation therapy, nuclear medicine, special procedures, and other diagnostic imaging.
Intermediate Russian Conversation: PR: RUS 3240 or C.I. Supervised Clinical experience in all categories of Clinical Competency evaluation.

RTE 4876
Clinical Education V: PR: C.I. Supervised clinical practice; emphasis on competency evaluation of routine radiographic examinations.

RTV 3000
Foundations of Broadcasting: Nature of the media, the mechanics of operation, history, economics, programming, and internal and external control.

RTV 3200
Broadcast Techniques: PR: RTV 3000. Introduction to the radio and television studio. Utilization of studio operating techniques and equipment (consoles, recorders, cameras, etc.) for use in educational and commercial broadcasting. Lab TBA.

RTV 3210
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.

RTV 3220
Television Production: PR: RTV 3200 or C.I. Emphasis on the coordination of talent, visuals, audio and lighting with the dramatic values of the presentation.

RTV 3231
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.

RTV 3300
Broadcast Newswriting: PR: Ability to type 30 wpm; Grammar Proficiency Examination. The study and practice of writing news for radio and television.

RTV 3501
Broadcast Copywriting: PR: Ability to type 30 wpm; Grammar Proficiency Examination. Preparation of written commercial copy for radio and television and public service.

RTV 4206
Television Directing: PR: RTV 3220. Preparation and direction of programs with emphasis on dramatic values of composition. Typing skills required.

RTV 4402
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.

RTV 4403
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.

RTV 4404
International Broadcasting: Comparative analysis of national broadcast systems. World broadcasting as a social, political and economic force.

RTV 4600
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.

RTV 4700
Regulation of Broadcasting: PR: RTV 3000. Federal, state, local and self-regulatory agencies and practices which govern electronic media.

RTV 4800
Broadcast Management: PR: RTV 4700. Consideration of broadcast management problems in station operations at the local, regional, and national levels.

RUS 1120
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


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.

SED 4371

Directing Extracurricular Speech Activities: Debate, extemporaneous speech and other speech events; selection and training of contestants, interschool and intramural speech activities.

SLS 2311

Overview of Selected Medical Careers: Introduction to medical careers in medicine, dentistry, veterinary medicine, osteopathic medicine, optometry, chiropractic medicine, podiatry, and pharmacy.

SLS 3301

Career Development Analysis: Analysis of job core areas. Community, state and federal information services, educational requirements and employment prospects in selected areas. Application and job interview techniques.

SOP 3004


SOP 3706

Television and Behavior: The influence of television viewing on such behaviors as scholastic achievement, aggression, prosocial behavior, sex-role and racial stereotypes, and consumer behavior.

SOP 3724

The Psychology of Racial Prejudice: 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.

SOP 3772


SOW 3104


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 3232


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 4341

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 4343  
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 4361  
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 3001  
Introduction to Communicative Disorders: Etiology, symptoms, and methods of diagnosing and treating communicative disorders. For beginning and prospective majors in communicative disorders.

SPA 3003  

SPA 3052  
Clinical Observation and Practice: PR: SPA 3550, C.I. Observation and supervised participation in speech pathology and audiology in the university clinic and local clinics.

SPA 3101  
Physiological Bases of Speech and Hearing: PR: SPA 3001. An introduction to the anatomical, physiological, and physical elements underlying the communication process.

SPA 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  

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 4030  
Basic Audiology: Introduction to physics of sound, anatomy of hearing mechanism, pure tone audiometry, hearing aids, problems of the hearing handicapped. Clinical skills development will be required.

SPA 4201  

SPA 4201L  
Communicative Disorders: Articulation Laboratory: Students will have practical experience in diagnosis and treatment in articulation disorders.


Nonorganic Speech Disorders Laboratory: Students will have practical experience in diagnosis and treatment in nonorganic speech disorders.


Organic Speech Disorders Laboratory: Students will have practical experience in observations of organic speech disorders.


Augmentative Communications Systems: PR: LIN 3710, SPA 4030. Students will learn the rudiments of nonverbal communication systems, for example, Bliss, Rebus, Manual Signing, Language Boards, and finger spelling.


Communicative Disorders: Language Laboratory: Students will have practical experience in diagnosis and treatment in language disorders.

Practicum in Communicative Disorders.

Survey of Communicative Disorders: A survey of speech, language, and hearing disorders for habilitative personnel and other interested professionals.

Physiological Acoustics: PR: Graduate status or C.I. Lectures, readings and experiments pertaining to the subjective reception of sound.

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.

Fluency Disorders Laboratory: PR: Graduate status or C.I. Practical application of clinical skills in fluency disorders.

Differential Diagnosis of Auditory Disorders: PR: Graduate status or C.I. Clinical techniques in pure tone speech, acoustic impedance and electrophysiologic response audiometry.

Aural Habilitation/Rehabilitation: PR: C.I. Principles and procedures involved in speech and language acquisition management, utilization of residual hearing, speech reading and the use of hearing aids.

Therapeutic Communication: PR: Graduate status or C.I. Practical interviewing and counseling in the area of communicative disorders.

Differential Diagnostic in Speech and Language: PR: Graduate status or C.I. Administration and interpretation of evaluation techniques, including standardized tests, will be presented. Emphasis on techniques allowing for differential diagnosis of speech and language disorders.

Differential Diagnosis in Speech and Language Laboratory: PR: Graduate status or C.I. Assignment to diagnostic teams to apply the diagnostic techniques presented in SPA 5553. Experiences include test administration, interviewing, writing diagnostic reports, oral presentations.

Administration and Management of Communicative Disorders Programs: PR: Graduate status or C.I. Methods and techniques for organization and administration of speech-language and hearing disorders in public school, hospital, rehabilitation center and private practice facilities.

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.

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 AS 3(1,2)
Fundamentals of Oral Communication: Use of the body and voice; participation in various speaking situations; planning, organizing, and delivering public speeches.

SPC 3050 AS 3(1,2)
Voice and Articulation: An introduction for non-majors to the anatomy and speech production. Analysis of voice and articulation of each student. Exercise for individual improvement.

SPC 3250 AS 3(1,2)
Speech and Human Relations: Introduction to semantics; symbols and meaning and the relationship with human behavior.

SPC 3301 AS 3(1,2)
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 AS 2(2,0)
Parliamentary Procedures: Principles and rules governing participation and leadership in the conduct of formal business meetings.

SPC 3425 AS 3(2,1)
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 AS 3(3,0)
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 AS 3(1,2)
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 AS 3(2,1)
Persuasion: Motivation: PR: SPC 1014 or C.I. A study of motivational factors involved in persuasive speaking to secure belief and action.

SPC 3601 AS 3(1,2)
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 AS 3(3,0)
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 AS 3(3,0)
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 AS 3(3,0)
Group Dynamics: A study of human behavior in group situations.

SPC 4450 AS 3(3,0)
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 AS 3(3,0)
Rhetoric of Social and Political Action: PR: Junior standing. A critical investigation of social and political speaking within contemporary American society including agitative rhetoric of political dissent.

SPC 5200 AS 3(3,0)
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 AS 4(4,1)
Elementary Spanish Language and Civilization I: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.

SPN 1121 AS 4(4,1)
Elementary Spanish Language and Civilization II: PR: SPN 1120 or equivalent. Continuation of SPN 1120.

SPN 1170 AS 8(16,10)
Elementary Spanish Study Abroad: Elementary Spanish language and civilization taught in the native environment.

SPN 2230 AS 4(4,1)
Intermediate Spanish Language and Civilization I: PR: SPN 1121 or equivalent. Designed to continue development of language skills at the intermediate level.

SPN 2231 AS 4(4,1)
Intermediate Spanish Language and Civilization II: PR: SPN 2230 or equivalent. Continuation of SPN 2230 with emphasis on Spanish civilization.

SPN 2240 AS 4(4,0)
Intensive Spanish Conversation: PR: One year of Spanish or equivalent. Practical use of the language leading toward fluency and correctness in speaking.

SPN 3241 AS 8(16,10)

Spanish Conversation: PR: SPN 2231 or equivalent. Development of skills in conversation and comprehension through practice. This course may be repeated for credit. When repeated, credit will apply to general electives only.

SPN 3420 AS 3(3,0)

Spanish Composition: PR: SPN 2231 or equivalent. Development of skills in composition. This course may be repeated for credit. When repeated, credit will apply to general electives only.

SPN 4410 AS 3(3,0)

Advanced Spanish Conversation: PR: SPN 3241. Advanced conversation on directed topics from various disciplines: Literature, art, psychology, philosophy, music, business and the sciences.

SPN 4420 AS 3(3,0)

Advanced Spanish Composition: PR: SPN 3420. Readings and written imitations of modern literary styles in the form of themes, sketches, poems and original stories.

SPN 4450 AS 3(3,0)

Stylistics: PR: SPN 3420 or equivalent. An intense study of textural criticism. An examination of the relationship between language and literature, expliciations and linguistic analysis of literary texts.

SPN 4510 AS 3(3,0)

Spanish Civilization and Culture: PR: SPN 3241 or SPN 3420. A study of Spanish civilization and culture from Pre-Roman times to the present. Conducted in Spanish.

SPN 4520 AS 3(3,0)

Latin American Civilization and Culture: PR: SPN 3241 or SPN 3420. An overview of the currents in Latin American culture and civilization from the Pre-Columbian period to the present. Conducted in Spanish.

SPN 4800 AS 3(3,0)

Spanish-American Syntax: The course examines the Spanish language from its beginning to the present with special emphasis as it is written and spoken in Latin America and the U.S.

SPW 3100 AS 3(3,0)

Survey of Spanish Literature I: PR: SPN 2231 or equivalent. Main literary currents and works from the Middle Ages through the Eighteenth Century.

SPW 3101 AS 3(3,0)

Survey of Spanish Literature II: PR: SPN 2231 or equivalent. Main literary currents and works of the Nineteenth Century to the present.

SPW 3130 AS 3(3,0)

Survey of Latin-American Literature I: PR: SPN 2231 or equivalent. Main literary currents and works from the colonial period to the Nineteenth Century浪漫ism.

SPW 3131 AS 3(3,0)

Survey of Latin-American Literature II: PR: SPN 2231 or equivalent. Main literary currents and works of the Nineteenth Century from the Realism to the present.

SPW 3370 AS 3(3,0)

Spanish Short Story: PR: SPN 2231 or equivalent. A study of representative 19th and 20th Century Spanish short stories and their authors.

SPW 4310 AS 3(3,0)


SPW 4460 AS 3(3,0)

Nineteenth Century Spanish Literature: PR: SPW 3101. A study of the representative authors and works in Spanish Romanticism, Realism and Naturalism.

SPW 4480 AS 3(3,0)

Twentieth Century Spanish Literature: PR: SPW 3101. A study of the representative authors and works in drama and the novel.

SPW 4600 AS 3(3,0)


SPW 4601 AS 3(3,0)

Cervantes II: PR: SPW 3100. Don Quixote (Part II).

SPW 4720 AS 3(3,0)


SPW 4770 AS 3(3,0)

Caribbean Spanish Literature: An overview of the literature of the Spanish-speaking Caribbean countries from colonial time to the present.

SSE 3312 ED 4(4,0)

Teaching Social Science in the Elementary School: PR: Admission to Phase II or C.I. Selected themes, problems, and concepts; organizing for instruction; techniques; evaluation procedures.

SSE 3333 ED 4(3,2)

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.

STA 5205


STA 5206

Statistical Analysis: PR: One course in statistics; 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.
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 4350
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 change.

SYD 4680
Soviet Sociology: Analysis of relations of various Soviet institutions such as education, religion, and the Communist party to society; class structure and social problems.

SYG 2000
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.

SYO 3000
educational institutions including the impact of the social structure on learning and the role of education in social change.

SYO 4300 AS 3(3,0)
Political Sociology: Sociological analysis of political and parapolitical groups; socioeconomic variable of voting behavior, power elites; societies and systems of government.

SYO 4370 AS 3(3,0)
Sociology of Occupations and Professions: An examination of occupations and professions from the sociological perspective. Emphasized are professional and occupational socialization, marginality and choice as well as women and work.

SYO 4400 AS 3(3,0)
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 AS 3(3,0)
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 3400 AS 3(3,0)

SYP 3510 AS 3(3,0)
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 AS 3(3,0)
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 AS 3(3,0)
Juvenile Delinquency: Types of delinquency behavior found among juveniles; possible causes and ways society attempts to treat the various forms of delinquency.

SYP 3551 AS 3(3,0)
Sociology of Alcoholism: Introduction to the nature of alcoholism and review of its impact on society.

SYP 4000 AS 3(3,0)

SYP 4550 AS 3(3,0)
Sociology of Drug Abuse: Analysis of the socio-culture elements of the drug culture.

SYP 4730 AS 3(3,0)
Sociology of Aging: Sociological aspects of aging in America.

TAX 3000 BA 3(3,0)
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 BA 3(3,0)
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 BA 3(3,0)
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 1020 AS 3(2,1)

THE 2071 AS 3(2,1)
Cinema Survey: A broad cultural approach to the study of cinema.

THE 2925 AS 2(0,10)
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 AS 3(3,0)
Theatre History I: Development of theatre art from the earliest times through the seventeenth century.

THE 3113 AS 3(3,0)
Theatre History II: Development of theatre art from the seventeenth century to the twentieth century.

THE 3251 AS 3(3,0)
History of the Motion Picture: Development of the film industry; its social and economic impact. Major films and trends in context.

THE 3260 AS 3(2,2)
Theatrical Costume History and Design: History and theory of theatrical costumes.

THE 3305 AS 3(3,0)
Drama Analysis: A study of a method of analysis for dramatic scripts and an intensive examination of selected modern and period play scripts.

THE 3312 AS 3(3,0)
Drama Development I: Study of dramatic literature from the Greek theatre through the seventeenth century.
THE 3313
Drama Development II: A study of dramatic literature from the 18th through 20th centuries. Continuation of THE 3312.

THE 3370
Modern Drama: Drama from Ibsen to Theatre of the Absurd, with reference to developing production styles and dramatic movements.

THE 3925
Theatre Practicum II: PR: THE 2925 and C.I. Primarily an activity course. Student will serve in some position of responsibility in production. May be repeated for credit.

THE 4072
Principles of Motion Picture Art: PR: THE 3251 or C.I. Aesthetic consideration of the motion picture as art. May be repeated for credit.

THE 4073
Film Production: PR: C.I. Professional 16mm film production, scripting, production, sound, and editing of theatre department ensemble films. May be repeated twice.

THE 4800
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.

TPA 2082
Stage Properties: PR: C.I. Design, construction, operation, and management of stage properties. Service on crew as required.

TPA 2210

TPA 3060
Scene Design I: PR: THE 1020, TPA 2210. Study of and practice of scene design; perspective drawing, fundamentals of design, and techniques of scene painting. (Service on crew as required).

TPA 3081
Scene Painting: PR: THE 1020, 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.

TPA 3220
Stage Lighting: PR: THE 1020 and TPA 2210. Study of stage lighting techniques, practices, and equipment. (Service on light crew as required).

TPA 3221
Lighting Design: PR: TPA 3220. Continuation of Stage Lighting with emphasis on theory, style and individual lighting design projects.

TPA 3230
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.

TPA 3250
Make-up Technique: Analysis and design of stage make-up.

TPA 3400
Theatre Management: Study of the development, organization, management, funding, and promotion of Theatre programs.

TPA 4061
Scene Design II: PR: TPA 3060, 3220. A continuation of TPA 3060 in which the emphasis is placed on independent planning and execution of scene designs.

TPP 2110
Acting I: Emphasis on movement, motivation, voice, characterizational techniques, makeup, and other basic requirements for acting.

TPP 3111
Acting II: PR: TPP 2110 or C.I. Continuation of TPP 2110. May be repeated for credit.

TPP 3130
Classical Mime: PR: TPP 2110 or C.I. Introduction to the art of mime with an emphasis on mask work and illusion.

TPP 3310
Directing I: PR: C.I. Fundamental principles of theatrical directing. Each student to direct short scenes and one-act play for laboratory presentation and critique.

TPP 3700
Stage Diction: The role of the voice in the art of acting through practice in vocal characterization.

TPP 4150
Scene Study and Character Development: The study, development and training of performance skills with an emphasis on scene study and character development.

TPP 4220
Audition Techniques: Preparation of audition material for musical, dinner, outdoor and repertory theatres, as well as graduate schools. Emphasis on resumes and unions.

TPP 4260
TTP 4311 Directing II: PR: C.I. Techniques of period styles directing. Cuttings from Greek theatre, Shakespeare, Restoration, Experimental and Musical theatre will be presented and criticized in a laboratory format.
TTE 4004 Transportation Engineering: PR: EGN 3613 and STA 3032. Investigation of all forms of transportation - highway, rail, water, air. Systems approach to planning, design, construction, operation, and administration of transportation networks.
TTE 4501 Urban Systems Design. PR: TTE 4004. Project course on design of transportation and urban systems using engineering design methodologies.
TTE 5204 Traffic Engineering: PR: STA 3032. Study of operator and vehicle characteristics, and design for street capacity, signals, signs and markings.
TTE 5720 Geometric Designs of Transportation Systems: PR: TTE 4004. Study of geometric and construction design elements in the engineering of transportation systems.
URP 4026 Community Planning and Development: Contemporary planning concepts, roles of the planning practitioner, and the influence of the political, economic, and social environments on public and quasi-public agencies.
VIC 3000 Visual Communication: A study of the visual system of man, and the influences of the visual media on modern society.
WOH 3281 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.
WOH 3282 The Jewish People II: The life and history of the Jews in the medieval and modern worlds.
ZOO 1020 Biology of Man: An introduction to man as a member of the animal kingdom; his taxonomy, anatomy, growth, reproduction, development, heredity, evolution, behavior, diseases, and population growth.
ZOO 2010C General Zoology: PR: High school biology or C.I. Introduction to zoology; structure, function and representative groups; current concepts in zoological sciences.
ZOO 3303C Vertebrate Zoology: PR: 6 hours of zoology or C.I. Evolution and classification followed by an introduction to vertebrate ecology, natural history and behavior.
ZOO 3713C Comparative Vertebrate Anatomy: PR: ZOO 2010C. The vertebrate animals; relationship of organs and systems; and their phylogenetic significance.
ZOO 3733C Human Anatomy: PR: BSC 2010C or equivalent. Structure of the human body. Not open to students in ZOO 3713 or equivalent.
ZOO 4203C Invertebrate Zoology: PR: 8 hours of biology or C.I. Taxonomy, anatomy and ecology of the invertebrate animals.
ZOO 4753C Vertebrate Histology: 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.
ZOO 4880C Fisheries Management: PR: ZOO 2010C or C.I. Fisheries Management of freshwater environments to include identification, sampling methods, framing and hatchery operations, propagation and population estimates.
ZOO 5456C Ichthyology: PR: ZOO 3303C or C.I. Introduction to the biology of the fishes, their classification, evolution and life histories.
ZOO 5483C Herpetology: PR: 6 hours of zoology or C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution and life histories.
ZOO 5475C Ornithology: PR: 6 hours of zoology or C.I. Introduction to the biology of birds, their classification, evolution and life histories.
ZOO 5483C
Mammalogy: PR: 6 hours of zoology or C.I. Introduction to the biology of mammals, their classification, evolution and life histories.

ZOO 5745C
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
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)

ALIDINA, MOHAMED, Assistant Professor of Accounting
(1983), B.S., M.B.A., M.A., Ph.D. (Temple University), C.P.A.

ALLEN, WILLIAM D., Professor of Sociology
(1969), B.S., M.S.W., Ph.D. (Ohio State University)

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
(1983), B.A., M.S., Ph.D. (University of Missouri - Columbia), C.P.A.,
C.M.A., C.C.A.

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, JOHN H., Director Student Internships and Associate
Professor of Education
(1970), B.S., M.S., Ed.D. (Oklahoma State University)

ARMSTRONG, LEE H., Assistant Dean 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., Assistant Professor of Finance

avery, CLARENCE G., Professor of Accounting
(1972), B.S., B.A., M.S.A., Ph.D. (University of Illinois),
C.P.A.(State of Illinois, State of Ohio)

Azimi, cyrus, visiting Instructor of Psychology
(1985), B.S., M.A., Ph.D. (Michigan State)

Baker, graeme L., Professor of Chemistry
(1968), B.S., M.S., Ph.D. (Montana State University)

BANDY, DALTON D., Professor of Accounting
(1985), B.S., M.B.A., Ph.D. (The University of Texas at Austin), C.P.A.

BARR, MURRAY P., Assistant Professor of Mathematics
(1968), B.S., M.S. (Adelphi University)

Barsch, Karl-Heinrich, Assistant Professor of Foreign Languages
(1977), B.A., M.A., Ph.D. (University of Colorado)

Bassiouni, Mostafa, Assistant Professor of Computer Science
(1981), B.S., M.S., Ph.D. (Pennsylvania State University)
BAUER, CHRISTIAN S., JR., Chairman, Department of Computer Engineering and Professor of Engineering  
(1970), B.S.I.E., M.S.E., Ph.D. (University of Florida), P.E. (Florida)

BAUMBACH, DONNA J., Associate Professor of Education  
(1978), B.S., M.S., Ed.D. (Indiana University)

BEADLE, JAMES S., Associate Professor of Education  
(1968), B.S., M.S., Ph.D. (Michigan State University)

BECK, BARRY F., Associate Professor of Engineering Science and Director, Florida Sinkhole Research Institute  
(1983), B.S., M.S., Ph.D. (Rice University), P. Geol. (Georgia)

BECK, JAMES K., Associate Professor of Engineering  
(1970), B.S.A.E., M.S.E. (University of Central Florida), P.E. (Florida)

BECKER, DONALD C., Assistant Professor of Public Service Administration  
(1976), B.A., M.Ed. (Wayne State University)

BELKERDID, MADJID A., Assistant Professor of Engineering  
(1979), B.S.E., M.S.E., Ph.D. (University of Central Florida), P.E. (Florida)

BELL, MARTHA SCOTT, Assistant Professor of Education  

BENSON, CYNTHIA, Visiting Instructor of Political Science  
(1985), B.S., M.A. (Ohio University)

BERGMER, JOHN F., JR., Professor of Health Sciences  
(1975), B.S., M.S.P.H., Ph.D., M.P.H. (University of North Carolina)

BERRINGER, ORVILLE M., Preprofessional Coordinator and Professor of Biological Sciences  
(1981), B.S., M.S., Ph.D. (University of Oregon)

BERRY, WALDRON, Associate Professor of Management  
(1970), B.S., M.B.A., Ph.D. (University of Florida)

BIEGEL, JOHN E., Professor of Engineering  
(1982), B.S.I.E., M.S.E.S., Ph.D. (Syracuse University), P.E. (Florida and New Mexico)

BIRAIMAH, KAREN L., Assistant Professor of Education  

BIRD, ROBERT C., Associate Professor of Education  
(1971), B.S., M.Ed., Ph.D. (Florida State University)

BISHOP PATRICIA J., Associate Professor of Engineering  
(1978), B.S.E., M.S.M.E., Ph.D. (Purdue University), P.E. (Florida)

BLAU, BURTON I., Associate Professor of Psychology  
(1972), B.A., M.A., Ph.D. (Southern Illinois University)

BLEDSOE, CAROL C., Instructor in Communication  
(1970), B.S., M.A. (University of Oklahoma)

BLEDSOE, ROBERT L., Associate Professor of Political Science  
(1968), A.B., M.A., Ph.D. (University of Florida)

BLOCK, DAVID L., Director, Florida Solar Energy Center and Professor of Engineering, P.E. (Florida)  
(1968), B.S., M.S., Ph.D. (Virginia Polytechnic Institute), P.E. (Florida)

BLUME, DELORYS M., Associate Professor of Education  

BOGUMIL, WALTER A., JR., Assistant 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., Associate Vice President for Academic Affairs and Professor of Physics  
(1968), B.A., M.A., M.S., Ph.D. (State University of Iowa)

BONDURANT, FRANK B., Instructor in Management  
(1979), B.S., M.B.A. (Harvard University)

BOOTH, JAY, Visiting Assistant Professor of Humanities  
(1985), B.A., M.A., Ph.D. (University of Florida)

BOREMAN, GLENN D., Assistant Professor of Engineering  
(1984), B.S., M.S., Ph.D. (University of Arizona), E.I. (Florida)
BOSMENY, ALAN, Visiting Instructor in Radiologic Sciences
(1984), B.S. (Medical College of Georgia)
BOSTON, RALPH C., Director of High School & 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
BRADLEY, CHARLES W., Chairman, Department of Aerospace Studies and Professor of Aerospace Studies
(1983), B.S., M.S., Ph.D. (St. Louis University)
BRAIN, PRISCILLA V., Instructor in English
(1984), B.A., M.A. (University of Central Florida)
BRENNAN, DAVID C., Assistant Professor of Public Service Administration
(1983), B.S., J.D. (University of Florida)
BRENNAN, JOHN J., Professor of Physics
(1968), B.S., M.S., Ph.D. (Georgia Institute of Technology)
BRIDGES, JOHN C., Assistant Professor of Sociology
(1985), B.A., M.A., Ph.D. (University of Notre Dame)
BRIGHAM, ROBERT C., Professor of Mathematics and Computer Science
(1970), B.S., M.S., Ph.D. (New York University)
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WODZINSKI, RUDY J., Professor of Biological Sciences
(1970), B.S., M.S., Ph.D. (University of Wisconsin)
WOLF, J. GARY, Professor of Music
(1972), B.M.Ed., M.M., D.M.A. (Eastman School of Music)
WOLFE, JOSEPH R., Assistant Professor of Military Science
(1976) B.S. (University of Maryland)
WOOD, ALEXANDER T., Associate Professor of Education
(1969), B.A., M.S., Ph.D. (Florida State University)
WOOD, SUSAN, Instructor of English
(1985), B.A., M.A. (University of Central Florida)
WOOTEN, WILLIAM, Assistant Professor of Psychology
(1974), B.S., M.A., Ph.D. (Memphis State University)
WORBS, HELMUTH E., Assistant Professor of Engineering Technology
(1978), B.S.M.E., M.S.M.E. (Stanford University), P.E. (Florida, California)
WORKMAN, DAVID A., Associate Professor of Computer Science
(1976), B.S., M.S., Ph.D. (University of Iowa)
WORRELL, LEWIS T., Assistant Professor of Cardiopulmonary Sciences
(1976), B.S., M.P.H. (University of Central Florida)
WRANCHER, ELIZABETH A., Associate Professor of Music
(1974), B.M. (Indiana University), Prima Soprano Koblenz, Augsburg and Detmold
WYATT, WYATT L., Professor of English
(1970), B.A., M.A. (Columbia University)
WYCOFF, EDGAR B., Associate Professor of Communication
(1972), B.S., M.B.A., Ph.D. (Florida State University)
XANDER, JAMES A., Associate Professor of Economics
(1969), B.S., Ph.D. (University of Georgia)
YOUSEF, YOUSEF A., Professor of Engineering and Director, Environmental Systems Engineering Institute
(1970), B.S.C.E., M.S., Ph.D. (University of Texas), P.E. (Florida, Texas)

PROFESSIONAL LIBRARIANS

ALLISON, ANNE MARIE, Director of Libraries
(1983), B.A., M.A.L.S. (Rosary College)
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)
CUBBERLEY, CAROL W., Head, Acquisitions and Collection Development and
Associate University Librarian
(1983), B.Ed., M.S.L.S. (Florida State University)
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)
GROVDHAL, ELBA, Associate University Librarian
(1973), B.A., M.S.L.S., A.M.D. (Florida State University)
HOGUE, MARGARET, Associate University Librarian
(1980), B.A., M.S.L.S. (Florida State University)
HOWARD, 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)

LAWRENCE, BETTY A., Head, Access Services Department and Associate
University Librarian
(1985), B.S., M.L.S. (Case Western Reserve University)

LEE, CHANG C., Head, Circulation Department and University Librarian
(1983), L.L.B., M.S., Ph.D. (Florida State University)

LINSLEY, LAURIE, University Librarian
(1971), B.A., M.S.L.S. (Florida State University)

LLOYD, LUCILLE, Associate University Librarian
(1971), B.A., M.A. (University of South Florida)

MAHAN, 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., University Librarian and Instructor

SNOW, MARY, Associate University Librarian
(1984), B.A., M.L.S. (George Peabody College)

ST. CLAIR, NORBERT, Associate University Librarian
(1968), 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, Assistant 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

CRAIG, ALBERT
(1970), B.S., M.A., Ed.D. (Florida State University)
Professor Emeritus of Education

HUBLER, J. W.
(1967), B.S.C.E., C.E., M.S.E., M.S.C.E. (Yale University), 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

FOWLER, EARL C.
Professor Emeritus of Education

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

REIDENBACH, RICHARD C.
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
William H. Dial, Doctor of Commercial Science
John W. Young, Doctor of Applied Science
Louis C. Murray, Doctor of Public Service
Fred Elmo Clayton, Doctor of Professional Engineering
Richard F. Livingston, Doctor of Business Administration
Howard Phillips (Posthumous), Doctor of Public Service
Thelma Dudley, Doctor of Humanities
Gene Burns, Master of Letters
John, Ferdinand, and Andrew Duda, Doctor of Agricultural Service
Robert J. Whalen, Doctor of Engineering Science
William E. Davis and Mary Jo Stroud Davis, Doctor of Public Service
Joseph A. Boyd, Doctor of Engineering Science
J. W. Hubler, Doctor of Engineering Science
Allan E. Gottlieb, Doctor of Laws
D. Robert Graham, Doctor of Public Service
Jerry Collins, Doctor of Public Service
George J. Becker, Jr., Doctor of Public Service
Walter O. Lowrie, Doctor of Engineering Science
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)

BALDWIN, ERIKA, Clinical Faculty, Medical Record Administration
RRA, B.S. (Florida Technological University)

BOARDMAN, WILLARD H., Clinical Faculty, Cardiopulmonary Sciences
M.D. (University of Buffalo, School of Medicine)

BROWN, ASHMUN, Clinical Faculty, Health Sciences
J.D. (University of Michigan)

BUSCHE, VINCE, Staff Therapist, Cardiopulmonary Sciences
RRT, B.S. (University of Central Florida)

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)

CORRELL, BARBARA A., Clinical Faculty, Medical Laboratory Sciences
B.S., MT(ASCP) (University of South Florida)

COSTELLO, GERALD E., Clinical Faculty, Health Sciences
Ed.D. (Temple University)
CURRY, RUPERT C., JR., Clinical Faculty, Cardiopulmonary Sciences
M.D. (University of Florida)
DAS, DINES C., Clinical Faculty, Cardiopulmonary Sciences
M.D. (Calcutta Medical College)
DENNISON, JOLENE, Clinical Faculty, Radiologic Sciences
RT. (ARRT)
DORN, JAMES S., Clinical Faculty, Health Sciences
D.V.M. (Cornell University)
DRYDEN, TOM, Clinical Faculty, Medical Laboratory Sciences
B.S. (Florida Southern College)
DUERR, JANICE L., Clinical Faculty, Medical Laboratory Sciences
B.A. (Florida State University)
FISHER, STEVEN, Clinical Faculty, Cardiopulmonary Sciences
B.S. (University of Central Florida)
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)
GETTING, VLADO A., Clinical Faculty, Health Sciences
B.A., M.D., M.P.H., Dr.P.H. (Harvard University)
GILES, JO ANN, Clinical Faculty, Medical Laboratory Sciences
B.S., MT (ASCP) (University of Florida)
GILLIARD, LAWRENCE M., Clinical Faculty, Respiratory Therapy
M.D. (University of Miami)
GRAHAM, ELEANOR, Clinical Faculty, Medical Laboratory Sciences
M.S. (Wayne State University)
GREENBERG, HAROLD, Clinical Faculty, Cardiopulmonary Sciences
M.D. (University of Miami)
GRIFFIN, DARRELL R., Clinical Faculty, Cardiopulmonary Sciences
B.S. (Florida Technological University)
HESS, JOHN C., Clinical Faculty, Cardiopulmonary Sciences
RRT, B.S. (University of Central Florida)
HINKLE, LEWIS O., Clinical Faculty, Radiologic Sciences
RT. (ARRT), B.S. (Alderson Broaddus College)
HINKLE, C. ROSS, Assistant Professor of Biological Sciences
Ph.D. (University of Tennessee)
HOLCOMB, RODNEY F., Clinical Faculty, Medical Laboratory Sciences
M.D. (Tulane University)
HOLIMON, JAMES L., Clinical Faculty, Medical Laboratory Sciences
M.D. (Medical College of Virginia)
HOOGERWERF, RUSSELL, Clinical Faculty, Radiologic Sciences
RT, (ARRT)
JACKSON, BARBARA, Clinical Faculty, Medical Record Administration
RRA, B.S. (Florida Technological University)
JULIAN, NANCY L., Clinical Laboratory Faculty, Nursing Department
R.N.
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)
KARUNARATNE, HARISCHANDRA B., Clinical Faculty, Cardiopulmonary Sciences
M.D. (University of Ceylon)
KARSON, PATRICK J., Clinical Faculty, Cardiopulmonary Sciences
D.O. (College of Osteopathic Medicine and Surgery)
KERMAN, HERBERT D., Clinical Faculty, Radiologic Sciences
M.D. (Duke University)
KLOTZ, SOL D., Professor of Biological Sciences and
Clinical Faculty, Cardiopulmonary Sciences
B.S., M.S., M.D. (New York Medical College)
KNOTT, 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.P. (College of Medicine of South Africa)

LIPSIT, LALA, Clinical Faculty, Medical Laboratory Sciences
S.S.B., M.T. (ASCP), B.A. (Florida State University)

LOBER, CLIFFORD W., Clinical Faculty, Cardiopulmonary Sciences
M.D. (Duke University)

MARVIN, PAUL W., Clinical Faculty, Radiologic Sciences
B.S., M.S. (Bucknell University)

MATTIE, E. L., Jr., Clinical Faculty, Health Sciences
B.S., M.D., M.P.H. (Jefferson Medical College)

MAURER, DAVID A., Clinical Faculty, Medical Laboratory Sciences
M.D. (Tulane University)

McGEE, CARLA F., Clinical Faculty, Medical Laboratory Sciences
B.S. MT (ASCP) (Winona State University)

MEANS, MICHAEL A., Clinical Faculty, Cardiopulmonary Sciences
B.S., M.A. (University of Florida)

MEYERS, RAYMOND, Clinical Faculty, Radiologic Sciences
R.T. (R), (ARRT)

MOSELEY, PATTERSON W., Clinical Faculty, Cardiopulmonary Sciences
M.D. (Louisiana State University)

MUSHOCK, CATHY, Clinical Faculty, Medical Record Administration
RRA, B.S. (University of Western Carolina)

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)

OFFENBACK, FRED H., Clinical Faculty, Health Sciences
M.A. (Andrews University)

PENTELLA, MICHAEL A., Clinical Faculty, Medical Laboratory Sciences
B.S., M.S. (Thomas Jefferson University)

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)

ROBERTS, W.J., JR., Clinical Faculty, Medical Laboratory Sciences
A.A., B.S. MT (ASCP) (Florida International University)

ROGERS, PATRICIA W., Clinical Faculty, Medical Laboratory Sciences
S.B.B., MT, (ASCP), B.S. (East Tennessee State University)

ROGERS, ROBERT L., JR., Clinical Faculty, Cardiopulmonary Sciences
RRT, B.S. (University of Central Florida)

ROSENBERG, STEVEN, Clinical Faculty, Cardiopulmonary Sciences
M.D. (Downstate Medical School)

ROTH, DAVID, Clinical Faculty, Cardiopulmonary Sciences
B.S. (State University of New York of Stony Brook)

SAGERT, REBA, Clinical Faculty, Medical Record Administration
B.S., RRA (Loma Linda University)

SCHWARTZ, ARTHUR, Clinical Faculty, Radiologic Sciences
M.D. (University of State of New York)

SCOTT, MEREDITH LEE, Clinical Faculty, Cardiopulmonary Sciences
M.D. (University of Florida Medical School)

SMITH, JUDITH, Clinical Faculty, Medical Record Administration
RRA, B.S. (Florida Technological University)

SNYDER, ROBERT C., Clinical Faculty, Cardiopulmonary Sciences
B.S., M.D. (University of Pittsburgh)

STERLING, JO, Clinical Faculty, Medical Laboratory Sciences
B.S. MT (ASCP) (Southwest Missouri State University)

STEVENs, CHRISTY, Clinical Faculty, Cardiopulmonary Sciences
RRT, A.S. (Valencia Community College)
STRAYER, RICHARD F., Assistant Professor of Biological Sciences
Ph.D. (Michigan State University)

THOMPSON, CORLEY M., Associate Professor of Chemistry and Research Chemist
B.S., M.S., Ph.D. (Auburn 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)

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)

WEISS, ELLEN H., Clinical Faculty, Cardiopulmonary Sciences
B.S. (Florida Technological University)

WHISLER, MARILYN W., Associate Professor in Political Science
B.A., M.A., Ph.D. (University of Wisconsin)

WOODCOCK, JUNE, Clinical Faculty, Medical Record Administration
B.S. (University of Central Florida)

YOUNG, HENRY E., Clinical Faculty, Medical Record Administration
B.S., M.B.A. (University of Illinois)

ZIMMERMAN, DUANE, Clinical Faculty, Cardiopulmonary Sciences
B.S., M.A. (Rollins College)
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