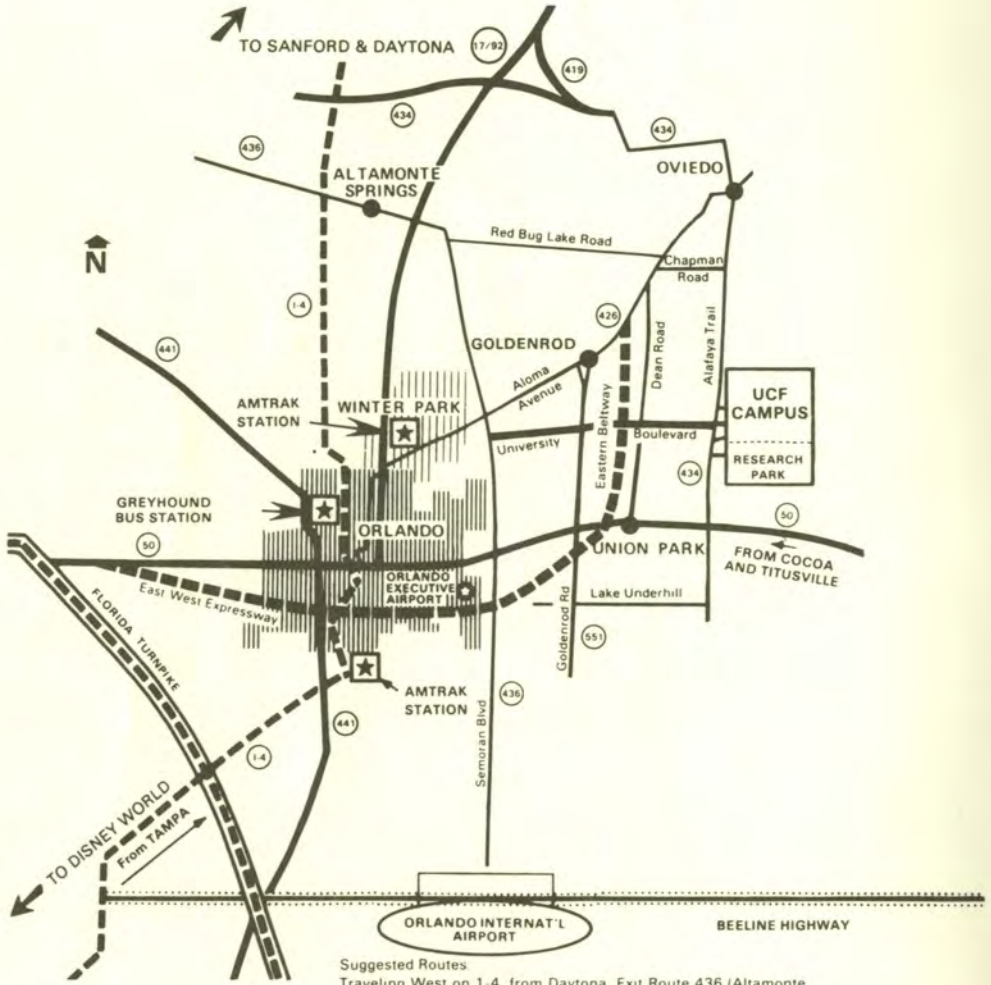


University of Central Florida



**UNDERGRADUATE
CATALOG 89 - 90**

University of Central Florida Orlando Vicinity Map



Suggested Routes

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

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

UNIVERSITY OF CENTRAL FLORIDA

A Member Institution
of the
State University System of Florida
Orlando, Florida 32816
407/275-2000



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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Cover: Instructional Resources

May 1989

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This publication was produced at an annual cost of \$55,547.00 or \$1.38 per copy to inform prospective students of the educational opportunities available at the University of Central Florida and to inform enrolled students of undergraduate academic degree program requirements.

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UNIVERSITY CALENDAR

FALL SEMESTER 1989

*March 15	Priority application deadline.
August 1	Readmission application deadline.
August 14 (10 a.m.)	Residence Halls open for Fall Semester.
August 15-16	Orientation and advisement.
August 16-21	Registration by appointment.
August 22	Classes begin.
August 23-25	Add/Drop.
August 25	Last day to submit Grade Forgiveness Request
August 25	Last day to adjust class schedule
August 25	Last day of late registration—\$25 late fee.
August 25	Last day for refund/fees due
August 28	Audit registration
September 1	Graduation application deadline
September 2	Registration deadline for CLAST to be given October 7.
September 4	Labor Day Holiday (University-wide)
September 16	MCAT
September 19	Last day for removing temporary student status
September 23	LSAT
October 7	CLAST
October 13	Withdrawal deadline.
October 13	Homecoming. No classes noon to 3:00 p.m.
October 14	GRE
October 14-15	Homecoming Weekend
October 21	GMAT
November 10	Veterans' Day Holiday (University-wide)
November 17	Last day to remove an "I" earned last semester
November 23-24	Thanksgiving Holidays (University-wide)
December 2	LSAT
December 7	Classes end for Fall Semester
December 8	Prep day for final exams
December 9	GRE
December 9-15	Final Examination period
December 15	Residence Halls close
December 16	Commencement
December 19 (12 noon)	Grades due in Registrar's Office

*The University of Central Florida reserves the right to modify this deadline subject to funding and the number of applicants.

AUGUST							SEPTEMBER							OCTOBER										
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S				
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13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21				
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NOVEMBER							DECEMBER							
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26	27	28	29	30			24	25	26	27	28	29	30	
							31							

UNIVERSITY CALENDAR

SPRING SEMESTER 1990

*October 15	Priority application deadline
December 1	Readmission application deadline.
January 2 (1 p.m.)	Residence Halls open
January 3	Orientation and advisement
January 3-5	Registration by appointment
January 8	Classes begin
January 9-11	Add/Drop
January 11	Last day to adjust class schedule
January 11	Last day to submit Grade Forgiveness Request
January 11	Last day of late registration—\$25 late fee
January 11	Last day for refund/fees due
January 12	Audit registration
January 12	Graduation application deadline
January 15	Martin Luther King Day. University Holiday.
January 27	GMAT
February 3	GRE
February 5	Last day for removing temporary student status.
February 9	Registration deadline for CLAST to be given March 10.
February 10	LSAT
March 2	Withdrawal deadline.
March 10	CLAST
March 12-16	Spring Holidays
March 17	GMAT
April 6	Last day to remove an "I" earned last semester
April 21	GRE
April 27	Classes end for Spring Semester
April 28	Prep day for final exams
April 30-May 5	Final examination period
May 5	Residence Halls close
May 5	Commencement
May 8 (12 noon)	Grades due in Registrar's Office

*The University of Central Florida reserves the right to modify this deadline subject to funding and the number of applicants.

JANUARY

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FEBRUARY

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APRIL

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MAY

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UNIVERSITY CALENDAR

SUMMER "C" SEMESTER 1990

(See also Summer "A" and "B")

*February 15	Priority application deadline
April 13	Readmission application deadline.
May 4	Registration deadline for CLAST to be given June 2.
May 10	Residence Halls open for Summer Semester
May 11	Orientation and advisement
May 11	*Registration by appointment.
May 14	Classes begin
May 15-16	Add/Drop
May 16	Last day to adjust class schedule
May 16	Last day to submit Grade Forgiveness Request
May 16	Last day of late registration—\$25 late fee
May 16	Last day for refund/fees due
May 17	Audit registration
May 18	Graduation application deadline
May 28	Memorial Day Holiday (University-wide)
June 2	CLAST
June 9	GRE
June 12	Last day for removing temporary student status
June 15	GMAT
June 22	Withdrawal deadline
July 4	Independence Day Holiday (University-wide)
July 13	Last day to remove an "I" earned last semester
August 3	Classes end
August 4	Final exam day
August 4 (6:00 p.m.)	Residence halls close
August 4	Commencement.
August 7 (12 noon)	Grades due in Registrar's Office.

*The University of Central Florida reserves the right to modify this deadline subject to funding and the number of applicants.

MAY						
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JULY						
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AUGUST						
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31						

UNIVERSITY CALENDAR

SUMMER "A" TERM 1990

*February 15	Priority application deadline
April 13	Readmission application deadline.
May 4	Registration deadline for CLAST to be given June 2
May 10 (10 a.m.)	Residence Halls open for Summer "A" term
May 11	Orientation and advisement
May 11	Registration by appointment
May 14	Classes begin for Summer "A" Term
May 15-16	Add/Drop
May 16	Last day to adjust class schedule
May 16	Last day to submit Grade Forgiveness Request
May 16	Last day for refund
May 16	Last day for late registration—\$25 late fee
May 17	Audit registration
May 18	Graduation application deadline
May 28	Memorial Day Holiday (University-wide)
June 1	Withdrawal deadline.
June 2	CLAST
June 12	Last day for removing temporary student status
June 22	Classes end
June 23	Final exam day
June 24 (9:00 a.m.)	Residence Halls close
June 26 (12 noon)	Grades due in Registrar's Office
August 4	Commencement

*The University of Central Florida reserves the right to modify this deadline subject to funding and the number of applicants.

MAY

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JUNE

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JULY

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AUGUST

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UNIVERSITY CALENDAR

SUMMER "B" TERM 1990

*February 15	Priority application deadline
May 11	Registration (see also June 22)
May 15-16	Add/Drop (see also (June 25-26)
May 18	Graduation application deadline
June 8	Readmission application deadline.
June 20	Residence Halls open
June 21	Orientation and advisement
June 22	Registration by appointment
June 25	Classes begin
June 25-26	Add/Drop
June 26	Last day to adjust class schedule
June 26	Fees Due
June 26	Last day of late registration — \$25 late fee
June 26	Last day for refund/fees due
June 27	Audit Registration
June 28	Last day to submit Grade Forgiveness Request
July 4	Independence Day Holiday (University-wide)
July 13	Last day to remove an "I" earned last semester
July 13	Withdrawal deadline
July 23	Last day for removing temporary student status
August 3	Classes end.
August 4	Final Exam day
August 4	Commencement
August 5 (9 a.m.)	Residence Halls close
August 7 (12 noon)	Grades due in Registrar's Office

*The University of Central Florida reserves the right to modify this deadline subject to funding and the number of applicants.

MAY

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JUNE

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JULY

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29	30	31				

AUGUST

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CAMPUS DIRECTORY

A.A. DEGREE APPLICATION	Registrar/Records AD 1st Floor	x2531
ACADEMIC CLASSIFICATION	Registrar AD 1st Floor	x2531
ACADEMIC MATTERS/COUNSELING	Academic Advisor (Degree Program Advisor)	
ACADEMIC RESOURCE CENTER	PC-1 102	x5122
ACADEMIC STATUS	Registrar AD 1st Floor	x2531
	(or Academic Advisor in College)	
ADD/DROP	Registrar/Records (Class Schedule lists dates for current term)	
ADDRESS CHANGE	Registrar/Records AD 1st Floor	x2531
ADMISSIONS/STANDARDS COMMITTEE	Admissions AD 1st Floor	x2511
AUDIT A CLASS	Registrar/Records AD 1st Floor	x2531
	(Details in UCF Catalog & Class Schedule)	
BOARD ROOM (President's)	AD 3rd Floor	
BOOKS, SUPPLIES, & SUNDRY ITEMS	Bookstore, Student Services	x2355
CAMPUS TOURS (By Appointment)	Student Center 198	x5105
CAREER RESOURCE CENTER	AD 124	x2361
CATALOGS	Bookstore, Student Services	x2355
CERTIFICATION OF ENROLLMENT:		
INTERNATIONAL STUDENTS	Registrar/Records AD 1st Floor	x2531
GOOD STUDENT DISCOUNT	Registrar/Records AD 1st Floor	x2531
FINANCIAL AID & LOANS	Registrar/Records AD 1st Floor	x2531
CHANGE OF MAJOR	Present Department	
CHECK CASHING	Bookstore, Student Services	x2355
CHECKING ACCOUNT	Credit Union, Student Services	x2855
CLAST	Student Academic Resource Center, PC1-102	x5130
COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)	Counseling & Testing Center RS 203	x2811
COOPERATIVE EDUCATION	AD 124	x2314
COUNSELING:		
ADMISSIONS	Admissions AD 1st Floor	x2511
CAREER	Counseling & Testing Center RS 203	x2811
	Career Resources Center AD 124	x2361
PERSONAL	Counseling & Testing Center RS 203	x2811
RELIGIOUS	Campus Ministry SC 208	x2468
CREDIT BY EXAMINATION	Dept. Chair within appropriate College	
DECALS (PARKING)	Police Department	x5812
EMERGENCIES:		
AUTOMOBILE	Police Department	x2421
MEDICAL	Police Department	x2421
STUDENT LOANS	Financial Aid AD 120	x2060
EXTENDED STUDIES, COLLEGE OF	AD 145	x2123
FINANCIAL AID	AD 120	x2827
FLORIDA RESIDENT AFFIDAVIT	Admissions AD 1st Floor	x2511
FRATERNITIES	Student Affairs AD 282	x2177
GORDON RULE	Undergraduate Studies AD 210	x2691
GRADE FORGIVENESS	Registrar/Records AD 1st Floor	x2531
GRADUATE ADMISSIONS-LIAISONS	AD 146	x2766
GRADUATION	Dept. Chair/Advisor/Registrar/Records	
HANDICAPPED STUDENTS	Handicapped Student Coordinator AD 282	x2371
HEALTH INSURANCE	Wellness Center	x5841
HELP WITH READING, SPEECH, OR HEARING	Instructional Resources LIB 107	x5489
"HOLD" CLEARANCES	Registrar/Records AD 1st Floor	x2531
HOUSING APPLICATION/PROBLEM	Housing Office SC 137	x2171

"I.D. CARD INFORMATION"	Business Services AD 362	x2624
INTENT TO GRADUATE FORMS	Registrar/Records AD 1st Floor	x2842
INTERNATIONAL STUDENTS	International Student Services AD 225	x2337
INTRAMURALS	Recreational Services RS 101	x2408
LEISURE PROGRAMS	Student Center	x2117
LIBERAL STUDIES PROGRAM	AD 384	x2351
LOST AND FOUND	KIOSK	x2060
MEDICAL WITHDRAWAL	Undergraduate Studies AD 210	x2691
MINORITY STUDENT SERVICES	AD 225	x2716
NAME CHANGE	Registrar/Records AD 1st Floor	x2531
ORIENTATION	Student Center	x2117
PARKING DECALS	Police Department	x5812
PAY UNIVERSITY BILL	Cashier's Office AD 110	x2881
PROBLEMS REGARDING PAYMENT	Student Accounts AD 110	x2881
READMISSION APPLICATION	Admissions AD 1st Floor	x2511
SCHOLARSHIPS	Financial Aid AD 120	x2827
	Undergraduate Studies or College of major	x2691
SENIOR CITIZEN FEE WAIVER	Registrar/Records AD 1st Floor	x2531
SORORITIES	Student Affairs AD 282	x2177
STUDENT CENTER ROOM	Student Center	x2633
RESERVATIONS	Center Resource Center AD 124	x2361
STUDENT EMPLOYMENT	Financial Aid AD 120	x2827
SUMMER CREDIT WAIVER	Undergraduate Studies AD 210	x2691
TESTING: SAT, ACT, MCAT, GRE, GMAT	Counseling & Testing RS 203	x2811
TICKETS: ATHLETIC	Athletic Ticket Office	x2663
THEATRE (Discount tickets)	KIOSK	x2060
TRAFFIC VIOLATIONS	University Police PD	x2422
TRANSCRIPTS:		
ACADEMIC (official & unofficial)	Registrar/Records AD 1st Floor	x2531
FINANCIAL AID	Financial Aid AD 120	x2827
TRANSFER HOURS SENT TO UCF	Admissions AD 1st Floor	x2511
REQUESTS SENT FROM UCF	Registrar/Records AD 1st Floor	x2531
TRANSIENT STUDENT		
FORMS/APPLICATIONS:		
OUTGOING	Registrar/Records AD 1st Floor	x2531
INCOMING	Admissions AD 1st Floor	x2511
VEHICLE REGISTRATION	University Police PD	x2424
VETERANS' BENEFITS	Veterans' Affairs SC 132	x2707
WITHDRAWAL FROM COURSES OR		
UNIVERSITY	Registrar/Records AD 1st Floor	x2531
CAN'T FIND AN ANSWER?	Dean of Students AD 282	x2851

UNIVERSITY OF CENTRAL FLORIDA

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

STATEMENT OF PURPOSE

The University of Central Florida is a general-purpose state university which combines a contemporary and local role with one which is both traditional and universal. As part of the State University System of Florida, UCF seeks to serve the needs of the immediate community and the larger region in which it is located. As a university in the traditional sense, UCF seeks to serve its national and international constituents through its quest for new knowledge, the enrichment of the imagination, and the preservation of the knowledge and learning gleaned from previous generations and civilizations.

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

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

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

INSTITUTIONAL PHILOSOPHY

The University of Central Florida philosophy is based upon two tenets: Accent on the Individual and Accent on Excellence. The University believes in the individual worth of each person and especially encourages the responsible individual who strives for excellence in every activity.

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

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

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

ACCREDITATION

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

In addition to the regional accreditation agencies, a number of scientific, professional, and academic bodies confer accreditation in specific disciplines and groups of disciplines. Currently, the following areas have been approved by the agencies indicated. Within the College of Arts and Sciences accreditation is conferred in Chemistry by the American Chemical Society, in Music by the National Association of Schools of Music (NASM), and in Social Work by the Council of Social Work Education. The College of Business Administration is accredited at the graduate and undergraduate levels by the American Assembly of Collegiate Schools of Business (AACSB). In the College of Engineering the Aerospace,

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). In the Department of Engineering Technology the Design Engineering Technology, Electronics Engineering Technology and, Operations Engineering 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 Technology by the Council on Allied Health Accreditation, Cardiopulmonary Science by the American Registry of Respiratory Therapists (ARRT), and Speech Pathology and Audiology by the American Speech Language and Hearing Association (ASHA). All teacher education programs are fully accredited by the Florida State Department of Education. The Instructional Technology Program is accredited by the National Council for Accreditation of Teacher Education (NCATE).

UCF is listed in *Transfer Credit Practices on Designated Educational Institutions* with the highest level of credit acceptability. This handbook is published by the American Association of Collegiate Registrars and Admission Officers, and lists the acceptability of transfer credits based upon the reporting institutions in the states, commonwealths, territories, and selected international institutions.

EAST CENTRAL FLORIDA AREA

UCF is located in the East Central Florida region with a population estimated at 1.7 million. The area is well endowed with cultural, educational, industrial, and recreational facilities. Cultural opportunities include a symphony orchestra, civic theatre, dinner theatres, art galleries, and museums. The beauty of the Orlando area is evidenced through its numerous parks and flower gardens. In addition to UCF, quality public school systems, public community colleges, and several privately supported colleges and schools serve the educational needs of the area. Recreational opportunities abound in the Orlando area.

THE ORLANDO CAMPUS

The main UCF campus is situated on 1,227 acres some 13 miles east of downtown Orlando. The 44 permanent buildings—representing an investment of nearly \$100 million—are set among pines, palms, cypress and oaks that exemplify the promise by the University's founders to retain a rustic charm while creating a modern experiment in higher education that has won international acclaim. Meanwhile, construction continues on this self-contained "town" that is expected to add three academic buildings, two parking facilities, a student union, five recreational projects, three housing projects and nine service facilities by 1990. The most recent major project was the \$8 million second phase of the Colleges of Engineering and Business Administration complex (CEBA), which physically links the two colleges to provide students and faculty from both areas with a common ground. Recreational facilities include lighted tennis and handball courts, an outdoor swimming pool, golf driving range, volleyball courts and a lighted baseball field. A gymnasium seating 2,500 is located in the Education Complex.

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 programs at Area Campuses in Cocoa and Daytona Beach as well as at a campus located in the southern part of Orlando.

UCF Brevard Area Campus

BCC/UCF Lifelong Learning Center
1519 Clearlake Road
Cocoa, FL 32922

Director:

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

Associate Director

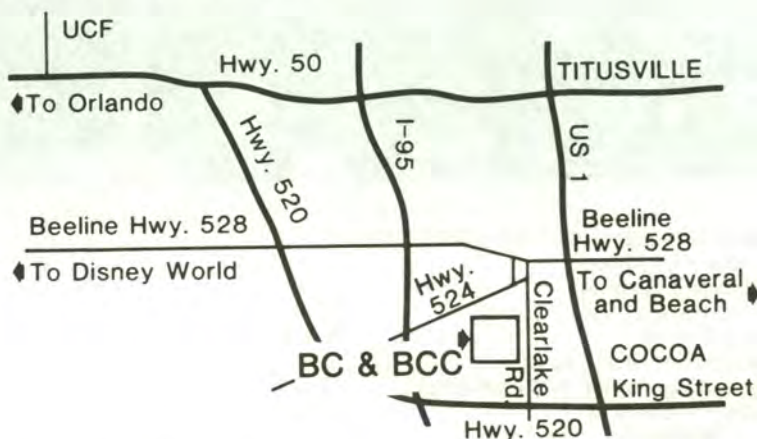
J.P. Griffin
(407) 632-0067 UCF Ext. 2815

Assistant Director, Student Services

James L. Nelson
(407) 632-4127 UCF Ext. 2102 or 2104

Admissions Officer/Registrar

Doyce Walter
(407) 632-4127 UCF Ext. 2102 or 2104



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

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

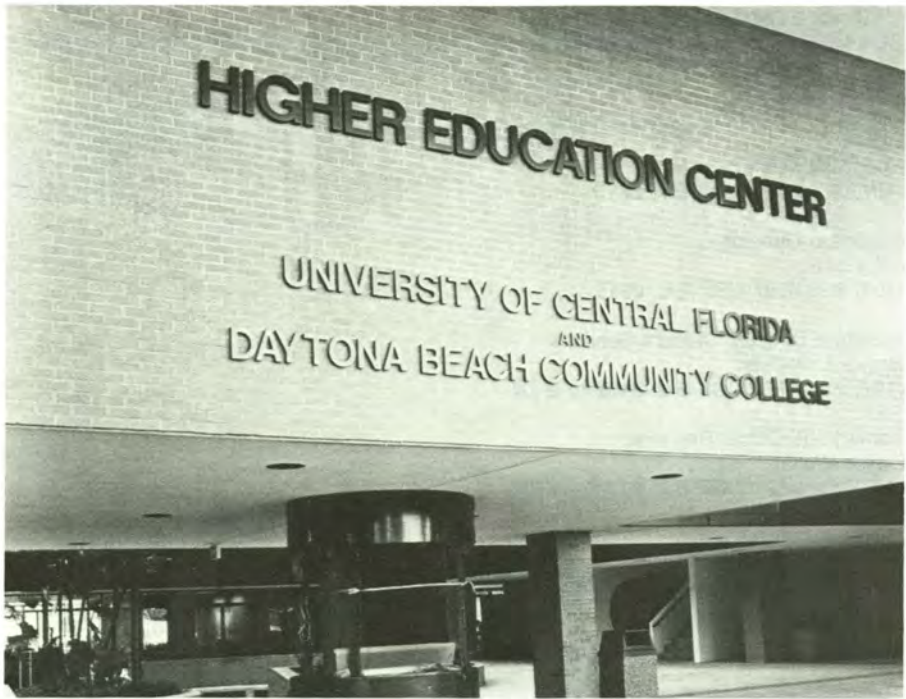
UCF-Brevard is a senior institution offering junior, senior, and graduate-level degree programs in the following academic disciplines:

College of Arts & Sciences (407) 632-4129

Allied Legal Studies
Criminal Justice
Public Administration

College of Business (407) 632-0098

Accounting (coursework only)
General Business Administration



College of Education (407) 631-5339

Elementary Education
Exceptional Education
Mathematics Education
Science Education
Vocational/Technical Education

College of Engineering (407) 631-5366

Computer Technology
Design Technology
Electronics Technology
Information Systems Technology
Operations Technology

College of Health (407) 631-5440

Nursing

Department of Liberal Studies (407) 632-4127

Liberal Studies (B.A.)
Liberal Studies (B.S.)

Graduate Programs

Masters of Business Administration (MBA)
Masters of Education Administration & Supervision (MEd)
Masters of Education Elementary Education (MEd)
Master of Education Exceptional Education (MEd)
Masters in Public Administration (MPA)
Engineering (coursework only)
FEEDS/ITV Graduate Engineering
(Courses on videotape)

Information concerning the campus may be obtained by contacting the Admissions Office at the University of Central Florida-Brevard.

UCF at Daytona Beach

UCF/DBCC Higher Education Center
1200 Volusia Avenue
P. O. Box 1111
Daytona Beach, Florida 32015
(904) 255-7423
Director: Sarah H. Pappas
Associate Director: David C. Jordan
Assistant Director: William J. Wetherell



The Daytona Beach Campus of the University of Central Florida offers upper-level baccalaureate degree programs for area students who have completed two years of college and graduate programs for students who have completed baccalaureate degrees in appropriate fields.

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

At present, degree programs are available in:

Baccalaureate Level

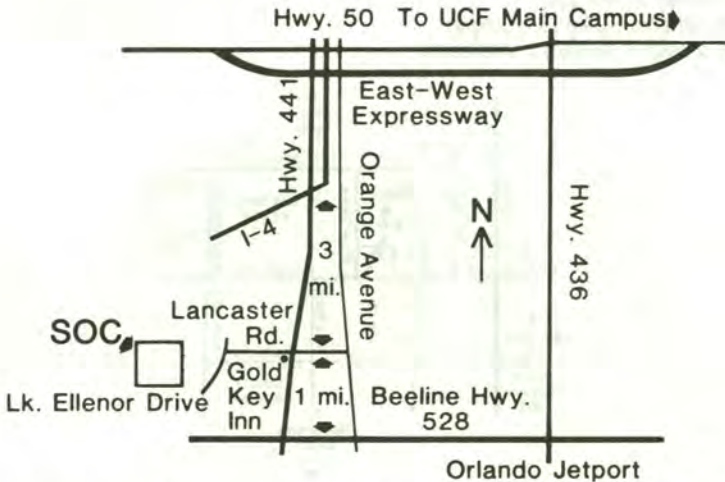
Computer Science (partial)
Criminal Justice
Elementary Education
General Business Admin.
(Day & Evening)
Liberal Studies
Nursing
Psychology
Vocational Education

Master's Level

Admin. & Supervision/Ed.
Business Administration (proposed)
Counselor Education
Elementary Education
Engineering (Video)
Public Administration
Speech Pathology
Vocational Education

UCF South Orlando Campus

Director: Thomas A. Shostak
7300 Lake Ellenor Drive
Orlando, Florida 32809
(407) 855-0881



Located in the middle of Orlando Central Park, near the intersection of I-4 and the Florida Turnpike, the University of Central Florida—South Orlando Campus (SOC) offers a variety of required courses and selected electives at a location convenient to students living or working in the Southern or Western parts of Orange County or Northern Osceola County. Evening offerings include upper division courses in Business Administration and Arts and Sciences, and graduate courses in Engineering and Vocational Education. In a joint-use arrangement with Valencia Community College, a variety of lower division courses are offered during both the day and evening. Times and dates for all courses are listed in the regularly published Schedule of Classes, and students may register on site at SOC for all UCF classes, in the same way as they do at all other campus locations.

ENDOWED CHAIRS

Endowed chairs are established under terms of the 1980 Florida Eminent Scholars Act which provides \$400,000 in state funds to match \$600,000 in contributions from private sources within a 6-year period.

Phillips-Schenck Chair in American Private Enterprise—Created in 1980 as the focal point for a continual dialog on major economic issues, comparative economic systems, and economic decision-making in business. The Chair: Dr. David F. Scott, Jr.

Charles N. Millican Chair in Computer Science—Created in 1983 and dedicated to probing the frontiers of computer science, with emphasis on the direction that the discipline will take over the next decade. The Chair: Dr. Narsingh Deo.

William and Alice Jenkins Chair in Community Arts—Created in 1986 to enable UCF to design and oversee programs covering art administration, art therapy and art education within the Central Florida community. The Chair: Dr. Kristin G. Congdon.

Cobb-L.J. Hooker Chair in Optical Sciences and Engineering—Created in 1988 as the largest academic gift ever received by UCF. The gift will support the work of an internationally recognized scholar in laser and optical sciences.

INTERNATIONAL STUDIES AND PROGRAMS

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

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

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

The office is also a repository of faculty resource capabilities, programs, and research efforts in the field of international studies. These resources are available to the University and the community.

Ten to 15 semester credits may be earned through study abroad programs. Credit earned in these programs may be applied toward satisfying the summer credit requirement and the 30-hour residency requirement. Financial aid may be used on all UCF programs. All programs are approved by the Board of Regents and are open to all students in the State University System.

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

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

Summer Study Program in Oviedo-Seville, Spain

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

Summer Study Program in Urbino, Italy

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

Summer Study Program in Lisieux, France

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

INSA Internship Program in Lyon, France

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

Minor in Soviet Area Studies

Five departments—Foreign Languages, History, Political Science, Sociology and Humanities—have pooled their resources in order to offer students interested in Soviet Area Studies a

basic and well-rounded background. The purpose of the minor is to give students an understanding of the linguistic, cultural, historical, political, and socio-economic issues in this area.

Minor in Latin-American Area Studies

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

Minor in Judaic Studies

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

Florida-Canada Institute

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

Canadian Studies

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

UNIVERSITY LIBRARIES

Director: *Anne Marie Allison*, LR 512, Phone (407) 275-2564

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

Professional Staff: *Joseph Andrews, Janice W. Bain, Norris Bazemore, Carol Brierty, Carol Cubberley, Jeffrey Franks, Suzanne E. Holler, Elba Grovdahl, Phyllis J. Hudson, Chang C. Lee, Elizabeth W. Lloyd, Cheryl G. Mahan, Ted Pfarrer, Peter C. Rossi, Cheryl Ruppert, Phyllis Ruscella, Margaret Scharf, Marilyn Snow, Jeffrey Sowder, June S. Stillman, Linda Sutton, Jeanette Ward.*

The University Library, housed in a new facility of 200,200 square feet, has a collection of over 700,000 volumes with approximately 6,000 subscriptions (journals, newspapers, and other serials) all available on open shelves for students and faculty. Catalog and circulation records for these materials are available in an on-line computer, so that library users can determine whether the UCF Library owns a particular item, and the location and availability of the item. On-line access to catalogs of all state university libraries in Florida is also available.

During school terms the University Library is open approximately 87 hours each week, including evenings and weekends. A shortened schedule is maintained during vacation periods. Student government sponsors extended hours the last few weeks of each semester. A staff of professional librarians and support personnel is available to assist and

advise those using the Library. Arrangements may also be made for class or small group instruction. Interlibrary loan service is available for faculty, staff, and students to obtain materials not available in the Library's collections. Computerized literature searching is available through end-user or mediated searching.

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

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

UNIVERSITY OF CENTRAL FLORIDA PRESS

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

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

UNIVERSITY OF CENTRAL FLORIDA FOUNDATION, INC.

Chartered in 1968, the UCF Foundation, Inc. is a non-profit, tax-exempt corporation receiving and disbursing private gifts for the betterment of the University as a whole.

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

OFFICE OF INSTRUCTIONAL RESOURCES

The primary purpose of Instructional Resources is to improve instruction. To meet both the academic and administrative needs of the University, Instructional Resources provides the faculty with graphic, photographic, radio and television production; a full range of audiovisual and classroom support services; and a wide range of instructional development assistance and consultation. Instructional Resources also administers the Center for Faculty Support, the University Learning Center, the Listening Lab, Cable TV-Channel 35, Brevard Educational Cable Network, and WUCF-FM.

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

UNIVERSITY BOOKSTORE

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

INTERCOLLEGIATE ATHLETICS

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

The University of Central Florida is a member of the National Collegiate Athletic Association (NCAA), Division I. Varsity athletic contests at the University of Central Florida are governed by the rules of play published by NCAA and all established eligibility standards are observed.

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

FLORIDA SOLAR ENERGY CENTER

UCF provides administrative support to the Florida Solar Energy Center, one of the largest renewable energy research centers in the United States. Located on 16 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, hydrogen energy production and use, energy-efficient building design, natural lighting and ventilation, and other energy conservation techniques.

CENTRAL FLORIDA RESEARCH PARK

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

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

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

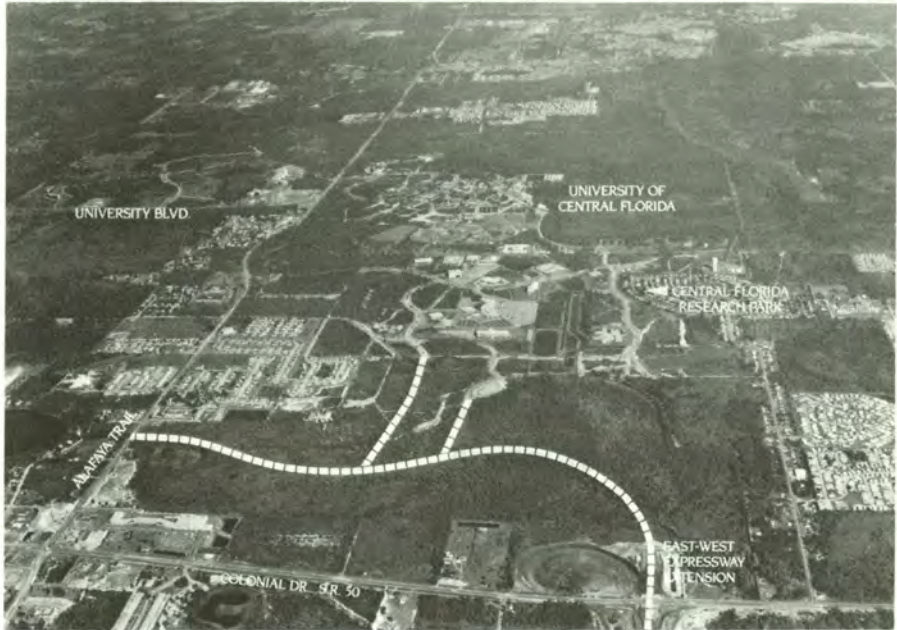
Totally planned to provide a campus-like environment for business adjacent to UCF, the Central Florida Research Park consists of over 1,000 acres of land. Businesses which desire a "university relationship" can purchase or lease land in the Research Park on which to construct a facility or can lease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

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

Currently over 55 companies are located in the Research Park pursuing activities in simulation and training, lasers, optical filters, behavioral sciences, diagnostic test equip-

ment, and oceanographic equipment. Almost 3,500 employees currently work in the Research Park with a projected total of 4,000 by the end of 1989.

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



STUDENT AFFAIRS

INTRODUCTION

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

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

OFFICE OF DEAN OF STUDENTS

Services and programs are provided to facilitate learning and supplement academic instruction. The staff in the Office of the Dean of Students is available to help students in their attempts to become familiar with these services and activities and to become involved in educational experiences beyond the classroom. The Deans plan and assist in the development of University programs which provide for the personal, social, and academic adjustment of students. They counsel students confronted by personal, academic, financial, and social problems, and refer students to specialized professional services as necessary. In addition, the Deans supervise the student disciplinary process. Students are urged to take advantage of the many services and educational programs available beyond the classroom. The Deans are the primary source for students seeking information or assistance in non-academic areas of University operations.

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

STUDENT PRIVILEGES

Confidentiality of Student Records

The practices and procedures at the University of Central Florida for the confidentiality of student records are based upon Florida state regulations and the federal **Family Educational Rights and Privacy Act of 1974**. Students who have questions concerning the confidentiality of records or have specific requests concerning their records should write or call the Office of the Dean of Students. Details of the University practices for confidentiality are presented in The Golden Rule.

Student Government

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



Student Government provides many services to students, including discount movie and attraction tickets, tutor referral, consumer affairs education, carpool coordination, and vehicles for student organization use.

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

STUDENT LEGAL SERVICES

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

STUDENT RESPONSIBILITIES

Classroom Responsibility

Students are responsible for maintaining a classroom decorum appropriate to the educational environment. When the conduct of a student or group of students varies from

acceptable standards to such an extent that it becomes disruptive to normal classroom procedures, the instructor has the authority to remove the offending party from the room.

Student Conduct

Students are subject to federal and state laws and local ordinances as well as regulations prescribed by the University of Central Florida and the Florida Board of Regents. The breach or violation of any of these laws or regulations may result in disciplinary action. Detailed conduct regulations and procedures are presented in The Golden Rule.

A person applying for admission to UCF who has been charged with a criminal offense may have circumstances of the case reviewed by the appropriate Student Affairs administrator to consider eligibility for admission.

SERVICES

Orientation

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

Academic Peer Advisement Program

The Academic Peer Advisement Team consists of 50 outstanding sophomores, juniors, seniors, and graduate students selected each spring to assist faculty with the academic advisement of entering freshmen for the academic year. The central office is located in the Counseling and Testing Center, Recreational Services Building, Room 203, 275-2811.

University Counseling and Testing Center

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

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

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

Career Resource Center - Career Planning and Placement

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

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

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

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

Housing

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

Priority for assignment is given to incoming Freshmen who will occupy approximately 50 percent of the University's housing capacity, and current residents who will occupy most of the remaining space. The spaces set aside for incoming Freshmen are limited by the University's overall housing capacity. Therefore, those desiring to reside on campus should apply for admittance to the University as soon as possible.

Applications for housing can be accepted only from those applicants who have been admitted to the University. Priority for room assignments for new applicants is based on the date of receipt of the completed housing application in the Housing Office. Applicants should CAREFULLY READ the application before submitting it to the Housing Office along with the Letter of Acceptance to the University and the \$150.00 prepayment.

2. Housing contracts, when issued for Fall Semester occupancy, serve as a two-semester (Fall AND Spring) obligation between the applicant and the Housing Office. Housing contracts issued for the Summer Semester are a one-semester (Summer Only) obligation, and do not extend to include an assignment to Fall housing accommodations.
3. Applicants have the option of choosing one of several Meal Plans available at the University. Specific information concerning University Meal Plans is available from Marriott Corporation, P. O. Box 26029, UCF, Orlando, FL 32816.

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

Student Health Services

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

The Student Health Center (SHC) is staffed by medical doctors, a certified nurse practitioner, physician's assistant, Registered Nurses, and a full complement of other medical support personnel. Full referral service to Orlando area specialists is established. Charges incurred outside the Student Health Center are the responsibility of the student. A variety of laboratory and x-ray tests are able to be done at the Student Health Center. Testing for HIV (AIDS virus) is not done in our laboratory. Referral arrangements may be made for anonymous AIDS testing by contacting the Chief Nurse at the Student Health Center at (407) 275-2701, ext. 5275.

When the Student Health Center is not open, students can use the "Hot Line" phones at the front and back doors of the building to obtain help for urgent needs.

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

Each health fee paying student is entitled to the benefits outlined in the SHC brochure; faculty and staff can only be seen on an emergency basis, and then for a fee (except Worker Compensation cases). Optional health and accident insurance may also be purchased by contacting the office of Student Affairs or Student Government (please note optional health and accident insurance is not part of the Student Health Center program and will provide a variety of coverages for health needs outside of the Student Health Services).

Blood drives are held several times annually by the Central Florida Blood Bank. Students, faculty and staff are eligible for credits from the blood bank upon demonstrating need.

Student Center

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

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

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

Student Organizations

Clubs and organizations make up an important part of life on the UCF campus. Over 125 clubs are listed in *The UCF Knight Clubs* in the following categories. In order to become a club the group must follow the procedures outlined in the publication listed above.

Academic/Pre-professional Organizations	36
Honorary	10
Military — ROTC	2
Minority/International	5
Religious	11
Service	3
Social	22
Special Interest	27
Sports	12

For further information on clubs and organizations, contact the Student Center (SC 198), phone (407) 275-2633.

Recreational Services

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

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

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

Office of Student Information and Evening/Weekend Student Services

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

Information Booth & Evening Student Services

9:00 a.m. to 9:00 p.m.	Monday through Thursday in second floor Admin. Bldg. and Education Bldg. Lobby.
9:00 a.m. to 5:00 p.m.	Friday (same locations as above)

Weekend Student Services

10:00 a.m. to 2:00 p.m.	Saturday at SG Kiosk (407) 275-2060
2:00 p.m. to 5:00 p.m.	Sunday at SG Kiosk (407) 275-2060

International Student Services

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

Handicapped Student Services

Handicapped Student Services provides information and orientation to campus facilities and services, assistance with classroom accommodations, assistance with course registration, handicapped parking decals, counseling, and referral to campus and community services for students who are handicapped.

Services are available to students whose disabilities include, but are not limited to, hearing impairment, manual dexterity impairment, mobility impairment, specific learning disability (such as dyslexia), speech impairment, visual impairment, or other disabilities which require administrative or academic adjustments.

The University application for admission contains no question regarding disability. Therefore, students who have a disability or handicap which may require special assistance are requested to voluntarily contact the Office of Handicapped Student Services. All information is confidential and will be used only to assist the student.

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

A Telecommunication Device for the Deaf (TDD) is available for hearing-impaired or speech-impaired persons with TDD's to contact the University (phone (407) 275-2116 TDD calls ONLY).

Creative School for Children

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

The school conducts a Summer Day Camp for elementary school children during Summer "B" semester.

Office of Veterans' Affairs

The Office of Veterans' Affairs (SC 132) is a center for students who are using VA educational benefits to further their education. The Office has a professional staff augmented by student veterans to assist in providing information concerning entitlements, filing claims to the Veterans Administration, and certifying enrollment at the University. The Office also provides counseling for personal and academic concerns as well as referral to various community agencies. Veterans and eligible dependents must be certified through the Office of Veterans' Affairs to receive VA educational benefits. The Office monitors the academic progress of all those receiving VA educational benefits.

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

Veterans' Benefits

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

Undergraduates must carry at least 12 semester hours for full-time VA benefits, 9

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

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

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

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

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



ADMISSION

APPLICATION FOR ADMISSION

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

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

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

1. A satisfactory academic record. Each applicant must furnish a complete chronological record of educational institutions previously attended. Official transcripts must be submitted in accordance with instructions on the application form.
2. Satisfactory scores on the Scholastic Aptitude Test (SAT) or the American College Test (ACT). Students whose native language is not English must also submit a Test of English as a Foreign Language (TOEFL) score. The required minimum TOEFL score is 550.
3. A satisfactory conduct record.

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

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

ADMISSIONS AND STANDARDS COMMITTEE

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

REACTIVATION

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

READMISSION

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

Readmission of a suspended (disqualified or excluded) student is never automatic.

Students who have been disqualified or excluded must complete a readmission application. The student is also encouraged to write a letter of appeal to the Chair of the Admissions and Standards Committee describing the particular circumstances since the time of disqualification or exclusion. Students may make a personal appearance before the committee if they desire.

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

LIMITED ACCESS PROGRAMS

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

RECORDS

Validity of Documents

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

Medical History Report

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

Students 40 years of age or over are exempt from the Immunization Requirement but are required to submit the Medical History Report.

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

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

Deadline

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

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

FRESHMAN APPLICANTS

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

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

High School Diploma

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

Entrance Examination Scores

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

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

High School Academic Units and Grade Point Average

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

The high school academic unit requirements are as follows:

ACADEMIC SUBJECT	UNITS REQUIRED
English	4 ¹
Mathematics	3 ²
Natural Science	3 ³
Social Science	3 ⁴
Foreign Language	2 ⁵
Additional academic electives from the above five subject areas and courses recommended by the Florida Association of School Administrators, or other groups, and courses recommended by the Articulation Committee, and approved by the Department of Education.	4
TOTAL	19

1. Three of which must have included substantial writing.
2. At or above the Algebra I level.
3. Two of which must have included substantial laboratory requirements.
4. Included: History, Civics, Political Science, Economics, Sociology, Psychology, and Geography.
5. Both credits must be in the same language.

Eligible Applicants

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

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

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

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

TRANSFER APPLICANTS

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

Applicants with Fewer Than 60 Credit Hours

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

Applicants with an A.A. Degree from a Florida Public Institution

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

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

1. At least 60 semester hours of academic work exclusive of occupational courses and basic required physical education courses.
2. An approved general education program of at least 36 semester hours.
3. A grade point average of at least 2.0 on a 4.0 system on all college-level academic courses attempted, provided that only the final grade received in courses repeated by the student shall be used in computing the average.

4. One year of college instruction in a single foreign language. (This requirement applies to those students without the required two units of foreign language in high school.) Students who receive an Associate of Arts degree from a Florida public community college or university but have not met the foreign language requirement and do not qualify in one of the exempt groups defined below may only be admitted to the lower division of the University. Admission to the upper division will be granted when the foreign language requirement is satisfied.

Two groups of students are exempt from the foreign language portion of the admission requirement. These groups are:

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

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

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

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

Applicants with an A.S. Degree

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

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

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

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

1. A minimum of 60 semester hours of academic coursework.
2. The English and mathematics requirements of the Gordon Rule.
3. Passing scores on three of the four parts of the College Level Academic Skills Test.
4. Eight to 10 semester hours of college instruction in a single foreign language. (This requirement applies to those students admitted to the University without the required two units of foreign language in high school.)

Applicants who have not met the above requirements may only seek admission into the lower division, and consequently must meet freshman application requirements (defined in "Freshman Applicants" paragraph of this section), which include high school units, entrance examination scores, and high school GPA, in addition to meeting requirements which apply to all transfer applicants.

Applicants from Unaccredited Institutions

Transfer applicants who otherwise meet all requirements, but who enter from a "regionally" unaccredited college or university will be considered on an individual basis. Admission may be granted on a probationary and/or non degree-seeking basis, depending upon the applicant's record including high school units, entrance examination scores, and high school GPA. The "Transfer Credit" portion of this section provides information relating to transfer of credit for courses taken at unaccredited colleges or universities.

TRANSFER CREDIT

All grades earned at a regionally accredited college or university in transfer courses that are normally a part of a baccalaureate degree program are shown on the student's permanent record. Credits earned in courses transferred with "D" grades will count toward

the credits required for the baccalaureate degree; however, the department or college offering the major determines whether courses with "D" grades in the major may satisfy requirements in the major field.

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

Military Service School Courses

Completed military service school courses may be evaluated on the basis of the recommendations of the American Council of Education (A.C.E.) when official credentials have been properly presented. Credit may be granted when courses are equivalent to those offered by the University. However, recommendations by the A.C.E. are not binding upon the University.

General Education Credits Transfer

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

Grade Forgiveness Transfer

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

Credits from Private and Out-of-State Institutions

The credits of transfer applicants from private junior and senior colleges and out-of-state institutions will be evaluated on a course-by-course basis. Each student must submit the necessary petition(s) to the appropriate office(s) to determine which courses will transfer with regard to degree progress at UCF. Transfer courses which meet the requirements of the General Education Program and the Gordon Rule are determined through the process described in this catalog under "University Degree Requirements." Each College has different petition procedures, but generally the petitioning of transfer courses for satisfaction of college and major requirements should be done during the second full term of the student's residency at UCF in order that the accepted transfer courses are clearly understood by the student and the faculty advisor early in the student's program.

Credits from a Previous Baccalaureate Degree

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

ACCREDITED INSTITUTIONS

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

New England Association of Schools and Colleges

Middle States Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education

North Central Association of Colleges and Schools, Commission on Colleges and Universities

Northwest Association of Secondary and Higher Schools, Commission on Higher Schools

Southern Association of Colleges and Schools

Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities and Accrediting Commission for Junior Colleges.

Foreign institutions are evaluated through World Education Services, Inc.

COLLEGE PREPARATORY INSTRUCTION

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

INTERNATIONAL STUDENTS

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

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

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

TEMPORARY STUDENTS

Any student who applied before the application deadline date and is permitted to register and attend classes without a complete admission file is granted a maximum of 4 weeks (first 20 class days) to furnish all required records. Records indicating ineligibility may result in cancellation of the student's registration.

TRANSIENT STUDENTS

Students in good standing with a 2.0 overall academic average in any accredited college or university who wish to enroll for one term at UCF may be considered for admission as transient students. Such enrollment terminates at the end of one term and does not presuppose regular acceptance by any college or department of the University. A transient form indicating the parent institution's willingness to accept the credits and that the student is in good standing with a minimum "C" (2.0) grade point average and an official transcript are required to support the application for admission.

AUDIT STUDENTS

To audit a class, a student must file a regular application and be accepted as a degree-seeking or non degree-seeking student, obtain an audit application at the records counter, and take it to the instructor for his/her signature of approval. Requests to audit a class will be processed the first working day following the add/drop period and will be

approved on a space-available basis. Finance and Accounting will bill students for audit classes separately from credit classes. Students registering for credit during regular or late registration, or during add/drop may not change to audit status, but must remain in the course or withdraw through normal withdrawal procedures.

NON DEGREE-SEEKING STUDENTS

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

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

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

SENIOR CITIZENS

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

FINANCIAL INFORMATION

SCHEDULE OF FEES

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

Required fees are established by the Board of Regents and the Florida State Legislature and are subject to change without notice. Fees are affected by residency status. Information on residency is contained in the "Admission" section of this catalog.

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

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

General Fees and Costs

- A. Application fee. Must be paid by U.S. check or money order (required with all applications for admission to the University and not refundable) \$15.00.
- B. Registration Fees per semester for campus, centers, and continuing education courses. Minimum registration of one credit hour (at the level the student is classified) must be charged for students registering for zero hours (co-op student on work assignment, applicant for graduation during the semester that student is not registered).

Fall, Spring and Summer Semesters 88-89 Rates (A rate increase is anticipated for 1989-90)

	Florida Resident	Non-Florida Resident
Lower Division*	\$34.88 per hour	\$117.83 per hour
Upper Division*	35.57 per hour	122.72 per hour
Graduate Level and Thesis*	62.86 per hour	187.81 per hour

*Lower division courses are those courses numbered 0-2999

*Upper division courses are those courses numbered 3000-4999

*Graduate courses are those courses numbered 5000-7999

- C. Room and Board (Based on meal plan and accommodations selected)
per semester \$1,235.00-\$1,580.00
Charge for late payment \$25.00
- D. Books and supplies (estimated) per semester \$225.00
- 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 \$15.00
- 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.
Fall & Spring Semesters \$28.00
Summer Semester \$21.00
- H. Intern Participation Holder \$ 4.76/hr.
- I. I.D. Card replacement \$ 5.00
- J. (Scientific Laboratory fees--fee per student on specific course(s) \$2.00 - \$15.00

FLORIDA RESIDENCE

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

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

AND

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

AND

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

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

OR

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

OR

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

OR

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

OR

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

AND

File a notarized residence affidavit with the Admissions Office.

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

FINANCIAL AID OFFICE

AD 120, Phone (407) 275-2827

OFFICE HOURS

9:00 a.m. to 7:00 p.m. Mon.-Thurs.

9:00 a.m. - 5:00 p.m. Friday

Determining Eligibility for Financial Aid

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

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

Financial Aid Application Procedures

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

1. Complete a need analysis. UCF requests that students use the ACT Family Financial Statement* and makes this form available after January 1. Completing the need analysis involves several steps and can take four to six weeks, so it is important to file the need analysis well before the deadline date or the beginning of the term for which aid is needed.
2. Fill out a UCF Financial Aid Application.
3. Request a Financial Aid Transcript from each post-secondary school previously attended whether or not financial aid was received.
4. Respond to all requests for additional information and documentation. Students may request assistance from the Financial Aid Office by letter, by phone, or in person.

*A CSS need analysis will also be accepted.

Financial Aid Programs

Grants

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

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

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

Loans

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

Stafford Loan (formerly GSL): long-term loans presently made at eight percent interest to students enrolled at least half-time at UCF.

Student Employment

College Work-Study: on-campus jobs authorized as part of students' financial aid packages according to their financial need; 6 hours minimum enrollment required.

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

Financial Aid for Graduate Students

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

Award Notice and Disbursement Procedures

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

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

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

Legal Requirements

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

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

Employment and Loan Programs Not Based on Financial Need

Loans

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

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

Employment

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

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

Scholarships

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

TUITION FEE WAIVERS FOR STATE OF FLORIDA EMPLOYEES

State employees, faculty, and staff who utilize a tuition fee waiver for coursework without payment of the registration fees must register on the day and time provided by the Registrar. Employees who register prior to the prescribed time and date will have an invalid fee waiver, and will be liable for all applicable fees on courses enrolled. The employee is

held responsible to register only on a space-available basis, and only during the prescribed times indicated by the Registrar. In addition, the tuition fee waiver can not be used for courses involving increased costs (such courses as Thesis, Dissertation, and Directed Individual Study).

TUITION FEE WAIVERS FOR SENIOR CITIZENS

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

APPEALS

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

REFUND OF FEES

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

1. A FULL REFUND will be made when:
 - A. Withdrawal is made before the end of the add/drop period. Summer refunds will not be made until after Term B Registration and add/drop, except by written application to Student Accounts, Room 112 Administration Building.
 - B. The course is cancelled by the University, or
 - C. A student is denied admission to an offered course by the University for any reason.
2. A partial refund (25 percent of the total fees paid, less building and capital improvement fees) will be made when complete withdrawal from the University is made prior to the end of the fourth week of classes, during a 16 (or 17) - week semester or at the end of the first quarter of classes during a mini-semester or summer semester (rounded to the end of the week in which the first quarter occurs).
3. Refunds up to 100 percent of tuition and registration fees will be made upon withdrawal from one or more courses when exceptional circumstances, as determined by the University, exist. Exceptional circumstances include, but are not limited to sickness, death, involuntary call to military service, and administrative errors created by the University.

PAST-DUE ACCOUNTS

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

CHECKS

The University cashier will accept personal checks for accounts due to the University. Students are urged to make their own financial arrangements through their choice of commercial banks. For a nominal fee the University Bookstore will cash personal checks not exceeding \$50.00. The University is required to collect a \$10.00 Service Fee for any check, draft, or order which may be returned by the bank for any reason, and future check-cashing privileges will be denied.

ACADEMIC POLICIES AND PROCEDURES

ACADEMIC ETHICS

Policy

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

1. Dishonesty consisting of cheating of any kind with respect to examination, course assignments, or illegal possession of examination papers. Any student helping another to cheat is considered as guilty as the student assisted.
2. Plagiarism consisting of the deliberate use and appropriation of another's work without any indication of the source and the presentation of such work as the student's own. Any student who fails to give credit for ideas or materials taken from another source is guilty of plagiarism.

Procedure

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

STUDENT CLASSIFICATIONS

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

FRESHMAN:	Through 29 semester hours.
SOPHOMORE:	30-59 semester hours.
JUNIOR:	60-89 semester hours and have fulfilled CLAST and Gordon Rule requirements.
SENIOR:	90 or more semester hours, prior to completion of baccalaureate requirements.
POST-BACCALAUREATE:	Any student enrolled in courses, regardless of course level (except one working toward another baccalaureate degree), who has a baccalaureate degree but has not been admitted to a graduate program.
GRADUATE:	Any student enrolled in graduate courses who has been admitted to a graduate program.
	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 Veterans' Benefits for co-ops.)
SPECIAL STUDENT:	A student of demonstrated academic ability who does not meet the regular requirements for admission (Early Admission, non degree-seeking, transient, and auditor).
TEMPORARY:	A student who applied before the deadline and is permitted to register and attend class pending completion of the admission file.
TRANSIENT:	Students temporarily registered (for one semester) at the University of Central Florida with the approval of some other university or college where they are regularly enrolled, or a UCF student temporarily in attendance at another university or college,



with the approval of UCF. A UCF student may not be enrolled as a transient student in another institution during the term in which the baccalaureate degree or the Associate of Arts degree is to be awarded.

**NON DEGREE-SEEKING:
PROVISIONAL:**

A student earning credit, but not working on a degree program.
A student entering from a regionally unaccredited high school, college, or university may be admitted on provisional status where appropriate. By obtaining a 2.0 GPA ("C" average) or better at the end of the first semester of attendance, the provisional status will be removed. Earning less than a "C" average the first term would result in disqualification.

SEMESTER HOURS EXPLAINED

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

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

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

GRADING SYSTEM

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

Grades

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

Other Actions

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

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

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

ACADEMIC STANDING

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

Semester Average	Grade Point Average on work attempted during any given semester.
UCF Average	Grade Point Average on all work attempted while in attendance at the University of Central Florida.
Overall Average	Grade Point Average on all work attempted since entering college, including work from all previously attended institutions.
Academic Warning	Some first-time-in-college applicants who do not meet University admission requirements may be admitted on Academic Warning. By obtaining a 2.0 GPA ("C" average) or better at the end of the first semester of attendance, Academic Warning will be removed. Earning less than a "C" average the first term will result in Academic Probation. A student may be on Academic Warning only once.
Academic Probation	Action taken when a Student's UCF cumulative or overall GPA drops below 2.0. A student may also be admitted on Academic Probation. Academic Probation will continue until the current term, UCF cumulative, and overall GPA reach 2.0 or better.
Disqualified (First Suspension)	A student on Academic Probation is disqualified upon failure to achieve a 2.0 GPA during the subsequent semester. A student who is disqualified may not enroll at the University for two semesters following disqualification. <i>Readmission after two semesters is not automatic.</i> A disqualified student must submit an application for readmission supported by a letter indicating the reasons for previous academic difficulties and plans for achieving a GPA of 2.0 or better. The total record will be reviewed and action on readmission will be taken by the Director of Admissions. When the Director of Admissions can not make a favorable decision, cases will be referred to the Admissions and Standards Committee.

Exclusion (Second Suspension)	A student readmitted following disqualification who fails to achieve a 2.0 GPA is excluded from the University. Exclusion is most serious and readmission will not be considered prior to a minimum suspension period of one year.
Readmission	If a student has dropped out of the University <i>for any reason</i> , 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 students making unsatisfactory progress of their 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

Students disqualified or excluded while a Freshman or Sophomore who subsequently receive an A.A. degree with a "C" average (2.0 GPA) on all college work attempted from a Florida public community college may be readmitted to the University with credit earned in accordance with standard University policies.

Students who attend other colleges or universities following disqualification will be classified as transfer students and their readmission will be based on their total educational record.

INCOMPLETE GRADE

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

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

SCHEDULE CHANGES--ADD/DROP POLICY

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

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

WITHDRAWAL POLICY

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

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

No withdrawal is permitted after the deadline except in extraordinary circumstances such as serious medical problems. Unsatisfactory academic performance is not an acceptable reason for withdrawal after the deadline. Students who need to petition for a late withdrawal should consult the Office of Undergraduate Studies, Administration Building, Room 210. At the time of the request an Assistant Dean from the Office of Undergraduate Studies will ascertain from the instructor whether the student was passing or failing the course. If the

student was passing, a "WP" will be recorded on the student's permanent record; if failing, a "WF" will be entered.

Students who seek a late withdrawal from class on medical grounds must apply for the withdrawal no later than that term following the one from which the withdrawal is sought. Students seeking a late withdrawal because of medical conditions must follow the medical withdrawal procedure. The student's physician provides the University physician with the appropriate medical information, using the forms available in the Office of Undergraduate Studies. The University physician evaluates this information and forwards a recommendation to Undergraduate Studies.

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

If a medical withdrawal is not approved, the request may be approved as a late withdrawal, and grades of "WP" or "WF" will be recorded.

A grade of "WF" will affect the calculation of the student's grade point average (the procedure used for calculating is further defined in the paragraph titled "Grading System" earlier in this section).

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

TRANSIENT ENROLLMENT AT OTHER INSTITUTIONS

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

GRADE FORGIVENESS

Policy

Limits: Grade forgiveness is limited to two courses.

Grade forgiveness can be used only for courses taken at UCF. Grade forgiveness is not retroactive, and therefore may not be used for a course repeated before Fall 1981.

UCF does not honor grade forgiveness granted at other institutions unless it is part of an Associate of Arts degree transferred to UCF from a Florida public community college or university. Because of the two-course limit, a student who has used grade forgiveness twice at another institution, and has included those courses in the transfer of an Associate of Arts degree may not use grade forgiveness again at UCF.

A course taken at UCF may not be repeated at another institution for forgiveness by UCF.

Grade forgiveness may not be used twice for the same course.

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

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

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

Grade forgiveness awarded for repeated courses will not retroactively alter any previous academic action. For example, a Probation or Disqualification status will not be removed from the records of the quarter or semester in which the student originally took the course. In addition, no academic records can be altered after a student graduates.

If it is determined that the student is ineligible for the forgiveness policy, neither a refund of fees nor automatic withdrawal from the course will be made.

Procedure

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

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

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

ACADEMIC HONORS

1. President's Honor Roll Certificate

The President's Honor Roll Certificate is awarded in recognition of scholastic honors to regular undergraduate students who register for and complete 12 or more hours, excluding pass-fail coursework, and maintain a 4.0 GPA with no incomplete or "U" grades for the given term or who complete 15 semester hours during any 2 consecutive terms at UCF with no more than 11 hours in any one term, excluding pass-fail work, and maintain a 4.0 GPA for the 2 terms.

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

2. Dean's List

The Dean's List is compiled in recognition of scholastic honors for students who earn a 3.4 GPA with no grade less than "C" and no incomplete or "U" grades during a term. To be eligible for the Dean's list students must register for and complete a minimum of 12 semester hours in a Fall or Spring semester or 9 semester hours in a Summer semester.

3. Baccalaureate Honors

The University shall confer baccalaureate honors recognition on those students who have completed a minimum of 48 semester hours at UCF and who:

- A. Attain an overall grade point average which is in the upper 15% of the range established by all students graduating in the same college during the previous two years
- B. Attain at least a 3.0 overall grade point average
- C. Honors awarded will be
 1. **Summa Cum Laude** for those students in the upper 5%
 2. **Magna Cum Laude** for those students in the upper 10%, but not in the upper 5%
 3. **Cum Laude** for those students in the upper 15%, but not in the upper 10%

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

TIME-SHORTENED DEGREE OPPORTUNITIES

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

Early Admission Program

Students who have demonstrated exceptional academic ability may be permitted to enroll as students at the University of Central Florida any time after completion of their junior year in high school. To be considered for Fall Semester Early Admission, applicants must have:

1. Superior test scores (SAT 1100 or above, ACT 27 or above).
2. "A"- "B" grades in high school.

3. A recommendation from the student's high school counselor.
4. A letter of permission from parents or guardian.
5. A campus interview to ascertain the student's maturity and ability to adjust to collegiate responsibilities.

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

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

College Level Examination Program (CLEP)

The University of Central Florida grants University credit for examinations taken under the CLEP program provided the score obtained is at the 50th percentile or above on the National Sophomore CLEP norms. The University of Central Florida will award up to 45 semester hours of University credit under the CLEP program.

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

Awarding of CLEP credit is subject to the conditions listed below.

1. Credit may be awarded in the CLEP general examination area, CLEP general subtest area, or CLEP subject examination area provided the student (a) is not within 60 semester hours of graduation, (b) has not previously received comparable college course credit in the CLEP examination area, (c) does not receive comparable college credit in the CLEP examination area in the same semester the examination is taken or in a subsequent semester, (d) has not previously completed nor received credit by UCF (transfer or otherwise) in a more advanced course in the examination area, and (e) does not complete nor receive credit by UCF (transfer or otherwise) in a more advanced course during the semester in which the CLEP examination is taken.
2. Partial credit may be awarded in Humanities and Social Science-History general examinations to students who have course duplication in one subtest area but not in the other subtest area. For example, a student who has completed Humanities but has not completed Introductory Literature or a more advanced literature course would be eligible to receive credit in the literature subtest area provided that he receives a satisfactory total score and a satisfactory subtest score.

The following table provides information related to the CLEP general examination areas and subtest areas for which credit may be awarded. In addition, this table delineates the number of credit hours per examination, and the minimum qualifying score. A table is also provided which contains information about CLEP subject examinations. The table delineates CLEP subject examinations which are available, qualifying scores for each examination, the UCF course for which each examination can substitute, and semester hours which will be awarded.

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

CLEP GENERAL EXAMINATIONS

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

CLEP General Examination	Qualifying Score	Semester Hours
English Composition with Essay*	500	6
Humanities	489	6
Mathematics	497	6
Natural Science		
Biological Science	50	3
Physical Science	49	3
Social Science	488	6

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

CLEP SUBJECT EXAMINATIONS

CLEP Subject Exam	Semester Hours	Qualifying Score	UCF Courses
Afro-American History	3	50	None
American Government	3	50	POS 2041
American History I***	3	49	AMH 2010
American History II***	3	49	AMH 2020
American Literature***	6	50	AML 3031 and AML 3051
Analysis and Interp. Lit.***	6	51	ENC 1101 and LIT 3000
Calculus w/Elem. Functions and	6	49	MAC 3311 and 3312 or
Calculus w/Anal. Geometry	6	49	MAC 3253 and 3254
Clinical Chemistry**	6.7	50	MLS 4630
College Algebra	3	48	MAC 1104
College Algebra & Trig	3	50	MAC 1104 or
(Duplicate CLEP Exam - Subj: Trig)			MAC 1114
College Comp. w/Essay***	6	50	ENC 1101 and
(Duplicate CLEP Exam - Subj: Freshman Comp. w/Essay)			ENC 1102
Computer & Data Proc.	3	51	CGS 1060
Educ. Psychology	3	49	None
Eng. Literature***	6	49	ENL 3031 or
			ENL 3051
Freshman Eng. w/Essay***	6	51	ENC 1101 and ENC 1102
General Biology	6	49	BSC 1020
General Chemistry	6	50	CHM 1020 and 1032 or CHS 1440
General Psychology	3	50	PSY 2013
Hematology**	6.7	51	MLS 3305
Human Growth and Devel.	3	51	None
Immunohematology**	6.7	50	MLS 4550
Intro. Accounting	6	50	ACG 2001 and 2011 or ACG 3023
Intro. Business Law	6	51	BUL 3111
Intro. Management	3	49	None
Intro. Macroeconomics	3	50	ECO 2013
Intro. Microeconomics	3	50	ECO 2023
Intro. Marketing	3	50	MAR 3023
Intro. Sociology	6	50	SYG 2000
Languages: French	6/9/12	44/49/56	Corresponding
German	6/9/12	43/52/55	1120 and 1121,
Spanish	6/9/12	45/48/55	2200* and 2201*, 2230 and 2231* language courses
Microbiology (Clinical)**	6	49	MLS 4405
Programming - Fortran IV	3	48	COP 1200
(Duplicate CLEP Exam - Subj: Comp. and Data Proc.)			
Trigonometry	3	54	MAC 1114
(Duplicate CLEP Exam - Subj: College Alg & Trig)			
Western Civilization I***	3	49	EUH 2000
Western Civilization II***	3	48	EUH 2001

* Those students receiving six or nine hours are allowed to complete these courses.

** Each student must also satisfactorily complete a lab and an essay exam. Both exams will be given by the College of Health.

***Satisfactory completion of these exams does not reduce the 24,000 word requirement of the Gordon Rule.

Advanced Placement Program (AP)

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

ADVANCED PLACEMENT EXAMINATIONS

Examination	Passing Scores	Semester Hours Awarded	UCF Courses
Biology*	3-4	3	BSC 1020
	5	6	BSC 1020 + 3 hours general elective
Chemistry*	3	3	CHM 2045
	4-5	7	CHM 2045 and 2046
Computer Sci A	3-4	3	General Elective
Computer Sci A	5	3	
Computer Sci AB	3-5	3	
Language & Composition**	3-5	3	ENC 1101
Literature & Composition**	3-5	3	ENC 1101
French	3-4	3	FRE 1120
	5	6	FRE 1121 + 3 hours general elective
German	3-4	3	GER 1120
	5	6	GER 1120 + 3 hours general elective
History (AM)***	3-4	3	AMH 2010
	5	6	AMH 2010 + 3 hours general elective
History (EUR)***	3-4	3	EUH 2001
	5	6	EUH 2001 + 3 hours general elective
Latin	3-4	3	LAT 1120
	5	6	LAT 1120 + 3 hours general elective
Math—Cal AB	3-5	4	MAC 3311
Math—Cal BC	3-5	4	MAC 3312
Am. Gov.	3-5	3	POS 2041
Comp. Gov.	3-5	3	CPO 3103
Music—List & Lit	3-4	3	MUL 2010
	5	6	MUL 2010 + 3 hours general elective
Music Theory	3-4	2	MUT 2111
	5	5	MUT 2111 + 3 hours general elective
Physics B*	3	3	PSC 1512
	4	3	PHY 3053
	5	6	PHY 3053 and PHY 3054
Physics C* (Mechanics)	3	3	PHY 3053
	4 or 5	3	PHY 3048
Physics C* (Electricity and Magnetism)	3	3	PHY 3054
	4 or 5	3	PHY 3049

Spanish	3-4	3	SPN 1120
	5	6	SPN 1120 + 3 hours general elective
Classics	3-4	3	HUM 2211
	5	6	HUM 2211 + 3 hours general elective
History of Art	3-4	3	ARH 2050
	5	6	ARH 2050 + 3 hours general elective
Studio Art	3-5	3-6	to be assigned by Art Department

* DOES NOT SATISFY GENERAL EDUCATION PROGRAM SCIENCE LABORATORY REQUIREMENT

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

*** DOES NOT SATISFY GORDON RULE COMPOSITION REQUIREMENT

University Course Credit by Examination

Regularly enrolled* undergraduate students at the University of Central Florida may obtain credit for specific university courses through departmental examinations. Those who feel they have acquired the knowledge and/or skills of a specific University course should consult their advisor and the chair of the department in which the course is offered to arrange for an examination. Degree credit will be awarded for those courses successfully completed by departmental examination. Credit by examination may not be attempted in a course in which the student has previously enrolled and may not be used to reduce the last 30 semester hours residency requirement. *Credit by examination will not be given for any course lower in content than courses in the same discipline (i.e., with the same rubric) in which students are currently enrolled or which they have already completed.* Permission to take an examination is approved by the chair of the department and the Dean of the college in which the course is offered. Standard forms requesting University credit by examination may be obtained from the Registrar's Office by presentation of an I.D. card.

*Excludes transient and non degree-seeking students.

TRANSCRIPT REQUESTS

Transcripts of a student's UCF academic record may be requested by the student through the Office of the Registrar. **A student's academic record can be released only upon written authorization by the student.** Include in the request the full name and social security number. Indicate names and addresses to whom transcripts are to be sent. If grades or degree statements for the current term are needed, indicate that the transcript request is to be held until the final semester reports are posted. No charge is assessed for transcripts at the present time. Students requesting transcripts may do so in person or by writing to: Office of the Registrar, Transcript Request, University of Central Florida, Orlando, FL 32816-0114.

UNDERGRADUATE DEGREE REQUIREMENTS

REQUIREMENTS FOR GRADUATION

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

To earn a bachelor degree from UCF students must:

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

CHOICE OF CATALOG

Student's Options

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

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

A.A. Transfer Student's Options

A.A. transfer students from Florida public community colleges or universities may use the UCF catalog in effect at the time they began continuous enrollment, (as defined below) at the public institution which awarded the A.A. degree.

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

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

Definition of Continuous Enrollment:

Continuous enrollment is interrupted by non-attendance for either:

- consecutive fall and spring semesters
- consecutive spring, summer, and fall semesters

GENERAL EDUCATION PROGRAM

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



Courses which fulfill the General Education requirements are specified, but in some cases an advanced course in the same discipline may be substituted for GEP requirements with the approval of the Office of Undergraduate Studies. Students should consult both with an advisor and with the Office of Undergraduate Studies before substituting any course.

Undergraduate students who have not completed requirements for the Associate of Arts degree and who wish to transfer to another Florida public university can have their transcripts stamped GENERAL EDUCATION REQUIREMENTS MET if they have completed UCF's GEP requirements with a GPA of 2.0 or better. UCF will accept a similar statement on transcripts received from Florida public community colleges and universities in lieu of completion of the University's General Education Program.

GENERAL EDUCATION PROGRAM COURSES

(40 semester hours required)

A. Communication Foundations	9
1. *ENC 1101 English Composition I	3(3,0)
2. *ENC 1102 English Composition II PR: ENC 1101	3(3,0)
3. SPC 1600 Fundamentals of Oral Communication	3(3,0)
B. Cultural and Historical Foundations	9
1. <i>Take one of the following two-semester sequences:</i>	6
*EUH 2000 Western Civilization I	3(3,0)
*EUH 2001 Western Civilization II	3(3,0)
or	
*HUM 2211 Western Humanities I	3(3,0)
*HUM 2230 Western Humanities II	3(3,0)
or	
*AMH 2010 U.S. History: 1492-1877	3(3,0)
*AMH 2020 U.S. History: 1877-present	3(3,0)
2. <i>Take one course from the following:</i>	3
ARH 2050 The History of Art I	3(3,0)
ARH 2051 The History of Art II	3(3,0)
MUL 2010 Enjoyment of Music	3(2,1)
THE 1020 Theatre Survey	3(2,1)

THE 2071 Cinema Survey	3(2,2)
REL 2300 World Religion	3(3,0)
PHI 2010 Introduction to Philosophy	3(3,0)
*LIT 2110 World Literature I PR: ENC 1102	3(3,0)
*LIT 2120 World Literature II PR: ENC 1102	3(3,0)
C. Mathematical Foundations	3
<i>Take one course from each group. Some majors require a specific course or a higher level course in this area. Consult your advisor.</i>	
1. **MAC 1104 College Algebra	3(3,0)
**MGF 1203 Finite Mathematics	3(3,0)
2. **CGS 1060 Introduction to Computer Science	3(3,0)
**STA 2014 Principles of Statistics	3(3,0)
D. Social Foundations	9
1. ECO 2013 Principles of Economics I	3(3,0)
2. POS 2041 American National Government	3(3,0)
3. <i>Choose one:</i>	
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
<i>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.</i>	
1. PSC 1512 Physical Science PR: MAC 1104 or MGF 1203	3(3,0)
PHY 3053C College Physics PR: MAC 1104 or MGF 1203	4(3,3)
CHM 1020 Concepts in Chemistry PR: MAC 1104 or MGF 1203	3(3,0)
2. BSC 1020C Biological Principles	4(3,2)
BSC 1030C Biology and Environment	4(3,2)
GLY 1030 Geology & Its Applications	3(3,0)
GEO 1200 Physical Geography	3(3,0)
BOT 1000C Plant Science	4(3,2)
ANT 3511 Human Species	3(3,0)
*A grade of "C" or better in this course satisfies three hours of the Gordon Rule requirement in English composition. In addition, any upper-division course in composition or literature taught by the UCF English Department and selected upper-division courses taught by the UCF History Department also satisfy three hours of the English composition requirement, if the course is completed with a grade of "C" or better. A list appears in "The Golden Rule" this section.	
**A grade of "C" or better satisfies three hours of the Gordon Rule requirement in mathematics. In addition, a grade of "C" or better in any higher level course in mathematics, statistics, or computer science also satisfies three hours of the mathematics requirement.	

Substitution Of Courses - General Education Program

The Student Academic Support System (S.A.S.S.) Office routinely coordinates the evaluation of transfer courses for the university's General Education Program and Foreign Language Proficiency requirements. When the transfer coursework is entered into the UCF computer system (usually during the first semester at UCF), the SASS Office will request course descriptions and other information to provide a sufficient basis for evaluation. Courses are evaluated on the basis of equivalency with the content of the courses required by the university. The evaluation conducted by the SASS Office is entered into a computerized Degree Audit System and is then available to the colleges and departments through the university's computer network.

Appeals of decision made by the SASS Office should be directed to Dr. David Dees, Assistant Dean, Undergraduate Studies. Further appeal of decisions made by Dr. Dees should be directed to the University Appeals Committee, Administration 210.

Substitution requests for college or major requirements are processed within those administrative offices.

Alternative Courses - General Education Program

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

GEP REQUIREMENTS

MAC 1104 (College Algebra)

ECO 2013 (Macro Economics)

PHY 3053C (Physics)

CHM 1020 (Chemistry)
BSC 1020C or BSC 1030C (Biology)
GEO 1200 (Geography)
CGS 1060 (Intro to Computer)
STA 2014 (Statistics)

ACCEPTABLE SUBSTITUTIONS

MAC 1114, MAC 3233, MAC 3253,
MAC 3254, MAC 3311, MAC 3312,
MAC 3313
Any higher level ECO course which has
ECO 2013 as a prerequisite.
PHY 3048, PHY 3049, PHY 3054C,
PHY 3014C, PHY 5015,
CHM 2045, CHM 1032, CHS 1440
BSC 2010C
GEO 3370
CGS 3000, CGS 3422, COP 1200, COT 3100
STA 3023, STA 3032

FOREIGN LANGUAGE PROFICIENCY REQUIREMENT

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

Important aspects of the requirement are:

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

THE GORDON RULE

The Gordon Rule (State Rule 6A-10.30) applies to students who first enrolled in any college or university after October 1982. The rule requires students to complete 24,000 words of composition in 4 courses (12 semester hours) and to complete 2 courses (6 semester hours) of mathematics at the level of college algebra or higher. Each course must be completed with a grade of "C" or better. CLEP and other forms of credit by examination may not be used to satisfy the composition portion of the Gordon Rule Requirement.

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

Gordon Rule Requirement:

1. 6 hours of math at the level of college algebra or higher

GEP Courses Which Satisfy:

- (1) college algebra or finite math
- (2) statistics or computer science

Any 3000-level or above course in math, statistics, or computer science may also be used toward fulfillment of the math portion of the Gordon Rule Requirement.

2. 12 hours of coursework in which the student must complete 24,000 words of composition
- (1) 6 hours of English Composition
 (2) 6-hour sequence of Western Humanities, U.S. History, or Western Civilization

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

ADV 4101 Adv Copy & Campaigns	JOU 4306 Critical Writing
JOU 3100 News Reporting	PUR 4800 Public Relations Campaigns
JOU 4302 Editorial/Column Writing	RTV 3501 Broadcast Copywriting
JOU 4310 Freelance Writing	RTV 3300 Broadcast Newswriting
JOU 4300 Feature Writing	RTV 4402 Broadcast Criticism
JOU 4104 Public Affairs Reporting	THE 4072 Principles of Motion Picture Art

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

AMH 3402 History of the South to 1865	ASH 4404 China in 19th and 20th Centuries
AMH 3403 History of the South Since 1865	ASH 4442 Modern Japan, 19th & 20th Centuries
AMH 3441 History of the Frontier: Eastern America	EUH 3121 Age of Transition
AMH 3442 History of the Frontier: Western America	EUH 3122 Medieval Society and Civilization
AMH 3445 Spanish Borderlands	EUH 3142 Renaissance and Reformation
AMH 3460 History of Urban America	EUH 3235 Romanticism and Realism
AMH 3540 Military History	EUH 3242 The Emergence of Modern Soc. 1870-1930
AMH 3560 Women in American History	EUH 3281 Second World War & Rebirth of Europe
AMH 3570 Black American History	EUH 3401 Ancient Greece
AMH 3800 Canadian History	EUH 3411 Ancient Rome
AMH 4110 Colonial America, 1607-1763	EUH 3651 War and Society
AMH 4130 The Age of the American Revolution 1763-1789	EUH 4284 Facism & the Totalitarian Dictatorships
AMH 4140 Jeffersonian America	EUH 4456 France, 1914-Present
AMH 4160 Jacksonian America	EUH 4461 Rise of Modern Germany
AMH 4170 Civil War and Reconstruction	EUH 4465 Hitler's Third Reich
AMH 4201 Robber Baron Era	EUH 4500 English History to 1485
AMH 4231 United States History: 1914-1945	EUH 4501 English History to 1485-1815
AMH 4270 United States History: 1945-Present	EUH 4502 British History: 1815-Present
AMH 4311 American Culture I	EUH 4530 British Empire & Commonwealth
AMH 4313 American Culture II	EUH 4571 History of Russia to 1801
AMH 4510 Rise of the US to World Power, 1776-1914	EUH 4574 History of Russia 1801-1917
AMH 4511 US as a Great Power: 1914-Present	EUH 4576 History of the Soviet Union: 1917-Present
ANT 3145 Archae of Complex Soc	EUH 4620 European Great Powers: 1815-1914
ANT 3162 Archae of Mid & S. Am	EUH 4621 War & International Politics in Europe 1914 to present
ANT 3163 Mesoam Arch	FIL 4201 Film Production II
ANT 3328 Maya Arch	HIS 4150 History and Historians
ANT 3930 Seminar in Arch Meth	HUM 3431 Ancient World: Greece
ARH 4350 Baroque Art	HUM 3432 Ancient World: Rome
ARH 4430 19th Century Art	JOU 4300 Feature Writing
ARH 3456 Art After 1945	JOU 4104 Public Affairs Reporting
ARH 3530 Asian Art	JOU 4306 Critical Writing
ARH 4450 20th Century Art	LAH 3130 Latin American History I
ARH 4655 Meso American Art	LAH 3200 Latin American History II
ARH 4311 Early Italian Renaissance Art	
ARH 4312 Late Italian Renaissance Art	
ASH 3300 Survey of East Asia	

LAH 3400 History of Mexico & Central
America
LAH 3470 History of the Caribbean
LEA 3012 Legal Writing
PHH 3100 Ancient Philosophy
PHH 3400 Modern Philosophy
PHI 1100 Critical Thinking
PHI 3600 Ethics

PHI 3800 Aesthetics
PHI 3803 Philosophy & Creativity
REL 3203 Hebrew & Christian Heritage
RTV 4403 Radio TV & Society
SOW 3104 Assessing Human Development
SYP 3400 Social Change
THE 3112 Theatre History I
THE 3113 Theatre History II

COLLEGE LEVEL ACADEMIC SKILLS TEST—(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. All students seeking an Associate of Arts or Baccalaureate degree from UCF are required to pass CLAST. CLAST must be taken no later than the term in which a student enrolls for the 55th credit hour. Transfer students with more than 55 credit hours who have not had the opportunity to take CLAST may be admitted, but must take CLAST during their first term at UCF. Students with 60 or more hours of credit must pass 3 of the 4 CLAST subsections to be permitted to enroll in additional upper division courses.

CLAST is offered only once per term. Students must register in advance at the Office of the Registrar, AD, 1st Floor. Further information regarding CLAST may be obtained from the Office of Undergraduate Studies, AD 210, Phone (407) 275-2691.

SUMMER ATTENDANCE REQUIREMENT

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

ADMISSION TO THE UPPER DIVISION

To be classified as an upper-division student at the University of Central Florida, a student must complete the following:

1. A minimum of 60 semester hours of academic work.
2. The English and mathematics requirements of the Gordon Rule.
3. Passing scores on three of the four parts of the College Level Academic Skills Test (CLAST).
4. One year of college instruction in a single foreign language. (This requirement applies to those students admitted to the University without the required two units of foreign language in high school.)

STEPS IN THE GRADUATION PROCESS

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

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

The following steps are required of students who are near or in their 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 first full week of the term of graduation.
2. The candidate for graduation must initiate a checksheet for graduation with his/her advisor. At the end of the semester the checksheet will be completed and forwarded for approval to the Dean of the college in which the student is enrolled. If approved, the Dean will forward the checksheet through appropriate channels to the Registrar's Office for inclusion in the student's permanent University record.

Successful completion of the degree requirements stated in the catalog under which the student wishes to graduate shall constitute a recommendation of the respective college

faculty that the degree be awarded, assuming the student is in good standing in the University.

A student must complete all requirements for a baccalaureate or graduate degree no later than the date of the semester graduation ceremony. A student may not be enrolled as a transient student in another institution during the term in which the baccalaureate degree or the Associate of Arts degree is to be awarded.

TEACHER CERTIFICATION REQUIREMENTS

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

1. General Preparation

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

2. Teaching Specialization

Courses included in this category are normally classified as the major area in a student's college program. Other subjects can be shown if the specific requirements in 6A-4.07 through 6A-4.35 Florida Requirements for Teacher Certification have been met.

3. Professional Preparation

Students can complete a program of Professional Preparation by one of two means at UCF. These means are:

A. The State-Approved Program of Teacher Education (i.e., a major in the College of Education) and satisfaction of state requirements for SAT or ACT scores.

B. The Basic Certification Program (i.e., a major in some other college) and admissibility to the professional phase of the program.

4. Comprehensive Examination

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

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

OFFICE OF UNDERGRADUATE STUDIES

Associate Vice President and Dean: *Charles N. Micarelli*, AD 210, Phone (407) 275-2691

Associate Dean: *Paul R. McQuilkin*, AD 210, Phone (407) 275-2691

Assistant Dean: *David Dees*, AD 210, Phone (407) 275-2691

Assistant Dean: *Lawrence Tanzi*, AD 210, Phone (407) 275-2691

Assistant to the Dean: *C. Barth Engert*, AD 158, Phone (407) 275-2842

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

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

AEROSPACE STUDIES

Chair: *R. E. Ceruti*, FA 214, Phone 275-2264

Faculty: *Beavers, Cannon, Chapoy, Daly, Dennehy, Willis*

The Department of Aerospace Studies provides pre-commissioning education for qualified students who desire to serve as commissioned officers in the active duty Air Force. The department offers both the four-year and two-year Air Force ROTC programs. The four-year program provides on-campus study during the freshman through senior years. The two-year programs allow community college transfer students and other students with two academic years remaining in either undergraduate or graduate status to earn an Air Force commission while completing their studies. Both programs offer scholarships for selected students. Students are invited to write or visit the Department of Aerospace Studies to obtain additional information.

CURRICULUM

Students enrolled in the Air Force ROTC program may major in any academic discipline and earn a minor in Aerospace Studies. A major is not offered by this department. An Aerospace Engineering Degree is offered under the College of Engineering. AFROTC courses are listed under the prefix AFR. The curriculum is divided into two phases:

1. General Military Course (GMC)

The General Military Course of the freshman and sophomore courses for students in the four-year AFROTC program. These courses deal with the mission, organization, and structure of the U.S. Air Force, and the development of air power into a prime element of American national security.

2. Professional Officer Course (POC)

The Professional Officer Course consists of Aerospace Studies offered during the junior and senior years. The POC must be completed by all students who seek a commission through the Air Force ROTC. The curriculum involves the study of concepts of leadership and management in the Air Force and an analysis of the formulation and implementation of American defense policy.

REQUISITE FOR ADMISSION TO THE PROFESSIONAL OFFICER COURSES (POC)

1. Be at least 17 years of age at the time of acceptance.

2. Be able to complete the Professional Officer Course and complete all degree requirements prior to reaching age 26½ if entering Flight Training, or before age 30 if entering a non-flying Air Force specialty.
3. Pass the Air Force Officer Qualifying Test.
4. Pass an Air Force medical examination.
5. Complete the application and examination process, preferably prior to January 14 of the year in which they plan to enroll.
6. Selection by the Professor of Aerospace Studies and acceptance by the University.
7. Successful completion of a summer Field Training Course.
8. Enlistment in the Air Force Reserve certifying agreement to complete the POC and accept an Air Force Commission. This enlistment is terminated upon receipt of a commission.

MONETARY ALLOWANCE

All students enrolled in the Professional Officer Course receive a tax-free monetary allowance of \$100 per month.

AIR FORCE ROTC SCHOLARSHIP PROGRAM

Scholarships are phased at 4, 3½, 3, 2½, and 2-year intervals. This system provides opportunities to those enrolled in both the four-year and two-year programs. These scholarships provide for full tuition, and an allowance for fees and textbooks. Scholarship recipients also receive the \$100 monthly tax-free monetary allowance.

SUMMER TRAINING

All students must attend a summer Field Training course conducted at an Air Force base. This course includes junior officer training, officer career orientation, and physical conditioning. Students enrolled in the four-year AFROTC program will attend a four-week summer course, normally upon completion of the General Military Course, and they will receive approximately \$550. A six-week summer course, which includes a modified version of the General Military Course, is required for students entering the two-year AFROTC program. These students must complete their summer training prior to their formal enrollment in the Professional Officer Course. Students who complete the six-week course receive approximately \$800.

OFFICER COMMISSIONS

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

MINOR

The Department of Aerospace Studies offers a minor consisting of a minimum of 16 semester hours. Required courses: AFR 1101, 1111, 2130, 2131, 3220, 3230, 4201, 4210.

ARMY ROTC-MILITARY SCIENCE

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

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

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

MINOR

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

CURRICULUM

The Military Science curriculum is divided into three phases:

1. Basic Military Science

The Basic Military Science courses are designed for four-year participants and are normally offered during the freshman and sophomore years. These courses address military organization, equipment, weapons, map reading, land navigation, use of a compass, grade structure, the Threat, communications, and leadership. There are no contractual obligations for students in the basic course and no commitments. It's an opportunity to see what Army ROTC is all about.

2. Advanced Military Science

The Advanced Military Science courses are normally taken during the junior and senior years. These courses specialize in small unit tactics, how to prepare and conduct military training, military justice system, staff procedures, decision making, and leadership. Students who desire a commission as a second lieutenant are contracted and paid a subsistence allowance of \$100.00 a month up to ten months during the school year.

3. Summer Camp

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

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

SUMMER TRAINING

1. A summer training program is offered for students who are to be academic juniors without previous ROTC or military training. A student can earn placement credit for the Basic Course classes and allow entry into the Advanced Courses by attending a six-week course at Fort Knox, Kentucky, thereby allowing completion of all requirements for commissioning within two years. Students attending the summer course at Fort Knox will receive approximately \$650 pay for the period. Additionally, all lodging, meals, transportation, and uniforms will be provided at no expense.
2. Qualified students can be selected to attend specialized military training during the summer months. Some of the areas of training available are:
 - a. Airborne Training
 - b. Air Assault Training
 - c. Ranger Training
 - d. Northern Warfare Training

MONETARY ALLOWANCE

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

SCHOLARSHIPS

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

REQUISITES FOR ADMISSION TO THE BASIC COURSE

1. Enrollment in a Baccalaureate or Masters degree program.
2. 18 years of age at the time of entry but not more than 30 years of age at the time of commissioning.
3. U.S. citizenship.
4. Full-time student status.

REQUISITES FOR ADMISSION TO THE ADVANCED COURSE

1. Successful completion of Basic Course, Basic Camp, JROTC, prior military service, or permission of Department Chair.

2. Successful completion of an Army physical examination.
3. Agreement to complete the Advanced Course requirements and serve on active, reserve, or national guard duty as a commissioned officer.
4. Full-time student status.

COMMUNITY COLLEGE RELATIONS

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

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

COOPERATIVE EDUCATION

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

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

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

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

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

GERONTOLOGY CERTIFICATION PROGRAM

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

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

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., Professor and Chair, Psychology, PH 317.

Social Work - Eileen M. Abel, M.S.W., Assistant Professor, Sociology, FA 414.

Sociology - Charles M. Unkovic, Ph.D., Professor of Sociology, FA 408.
Students whose major does not fall within one of these departments should report to the Office of Undergraduate Studies for advisement.

UNIVERSITY HONORS PROGRAM

Director: *Mark Stern, FA 415, Phone (407) 275-2076*

The University Honors Program is designed to enhance and broaden the talents and abilities of the most able students who matriculate at the University of Central Florida. The program includes intensified course work within traditional discipline boundaries, as well as interdisciplinary, integrated courses, independent study, international studies work, and activities beyond the classroom. The University Honors Program is oriented to accepting the best available students and expanding their horizons so that they can perform at the highest level of excellence. It is the intent of this program to prepare students for entry into the best graduate and professional schools, as well as for distinguished career in business and public service.

Although entry into the Honors program is predicated on excellence in academic work, students are also expected to participate in extracurricular activities of the Honors Program, e.g., receptions, retreats, or attendance at special guest lectures and presentations, and to participate in University-related service activities, such as peer advising and tutoring. The Honors program is designed to provide students with the advantages of both an excellent undergraduate college experience and a major research university experience.

There are two distinct Honors curricula available to the student: University Honors and Honors in the Major.



University Honors. Admissions into the University Honors program will usually be by invitation of the University Honors Committee. The student will normally be required to meet the following sliding scale of minimal admission criteria:

HIGH SCHOOL ACADEMIC GRADE GRADE POINT AVERAGE (WTD)		COMBINED SAT SCORE		COMBINED ACT SCORE
3.9 +	and	1000	or	24
3.7 - 3.89	and	1100	or	25
3.5 - 3.69	and	1200	or	28
3.3 - 3.49	and	1300	or	30
3.0 - 3.29	and	1400>	or	33>

All Florida Academic Scholars, Merit and Achievement finalists, and International Baccalaureate graduates with a 3.2+ GPA, are automatically eligible for admission into the University Honors program. Students who do not meet the above requirements are encouraged to apply for admission to the program if they have done outstanding work after one or more semesters at the University of Central Florida. Mature students who are returning to do college work after having been out of college for a period of several years, or who have never been previously enrolled in college, are strongly encouraged to apply for admission to the program after one or more semesters of outstanding work at the University of Central Florida. Transfer students who seek admission will have their requests granted automatically if they meet the high school GPA and SAT/ACT criteria listed above and have a 3.2 GPA in their transfer work.

Students must maintain a 3.2 overall GPA and 3.0 GPA in Honors Courses in order to remain in the University Honors Program. In addition to meeting the GPA requirements, to graduate with University Honors a student must also meet the following requirements: (1) complete 12 hours of course work in Honors Sections of the General Education Program;¹ (2) complete, with a "satisfactory" grade, "Honors Symposium I" and "Honors Symposium II";² (3) complete one "Honors Lecture" course;³ and (4) complete two upper division "Honors Seminars" outside of the major field of study.⁴

Students who complete a semester abroad or receive six or more hours of upper division credit for study abroad as part of the University International Studies Program, will receive credit for completion of one upper division "Honors Seminar."

A student who completes all of the requirements for University Honors will have the designation of "Graduation with University Honors" entered on the Diploma and the University transcript.

¹When a student has an exceptionally high number of dual enrollment, Advanced Placement, CLEP or other work which is substituted for GEP course hours, he or she may petition the University Honors Committee to substitute, on a credit for credit basis, Honors Lecture course work or Honors Seminar course work for Honors GEP course work.

²"Honors Symposium I" and "Honors Symposium II" designate one credit hour courses which will be offered, respectively, in the Fall and Spring semester of each year. This course will include guest lectures, video and film presentations, and live performances by guest artists, e.g., musicians or poets. Normally, during each semester, a field trip will be included as part of the Honors Symposium. Attendance at this series will be mandatory for all students seeking University Honors. The course is graded on a "satisfactory"/"unsatisfactory" basis.

³Each Fall and Spring term a three credit "Honors Lecture" course will be offered. The Lecturer will offer an integrative and original course that will be open only to Honors students. The purpose of this course is to explore cross-disciplinary domains and broaden the student's perspective beyond the usual notion of a "major" field of study. Students may take more than one Honors Lecture course, but only one such course must be taken as part of the requirements for graduation with University Honors.

⁴The three credit hour "Honors Seminar" is offered within the department major areas or programs, but is broad-based in the topics which are pursued. These seminars are designed especially for Honors students and are intended for non-major participation. With the consent of the Instructor, majors will also be invited into an Honors Seminar.

Honors in the Major⁵. Application for admission to the Honors in the Major program will be made to the department or college in which Honors is sought. Requirements for admission to Honors in the Major are: the completion of sixty hours of college credits; a cumulative 3.2 or higher grade point average, including at least twelve graded upper division hours at the University of Central Florida; and permission of the department in which such Honors are sought. Upon application and approval of the major department or college, and with notification to the University Honors Committee, GPA requirements may be waived in cases where prior work at the college level was taken at least three years previous to the current period of continuous enrollment at the college level. Participation in the University Honors Program is not a requirement for participation in Honors in the Major.

Honors in the Major is awarded upon completion of an advanced Honors Project or Thesis, and the completion of at least one upper division Honors Seminar or an Honors Directed Readings and Study course in the department in which Honors is taken. Each department or college reserves the right to set additional requirements for Honors in the Major to be achieved.⁶ Upon petition to the Honors Committee and with the consent of the major department, a student may be awarded credit for an Honors Seminar in the major if six hours of upper division credit accepted by the major department or college is taken abroad as part of the University International Studies Program or other overseas program directly connected with the University. The Honors Project or thesis is to be completed under the direction of a committee of two faculty members, one of whom is the major adviser. Up to six hours of 4000-level thesis credit may be awarded for student work on the Honors Project. This program is designed to encourage original and independent work on the part of the student. A copy of the thesis, creative work or project that is the expected outcome of this course will be placed in the library. With the approval of the major department or college and notification to the University Honors Committee, an Honors student may be permitted to waive any and all of the usual requirements for completion of the major and pursue a course of study designed to fit his or her individual needs.

A student who completes all of the requirements for Honors in the Major will have the designation of "Honors in the Major" noted on the diploma and the University transcript.

Summary Table of Minimum Requirements for University Honors and Honors in the Major

Univ. Honors	GEP* 12 Hrs.	Seminars* 6 Hrs.	Symposium* 2 Hrs.	Lecture* 3Hrs.
Hon. in Major	Thesis* Up to 6 Hrs.	AND	Dir. Rdgs.* 3 Hrs.	OR Hon. Major Sem.* 3 Hrs.

*Denotes Honors Hours

⁵Honors in the Major also designates a program in which a particular college may undertake to award Honors for upper division work within the college. In the case of a college-wide Honors in the Major program, the student should consult the Office of the Dean of the College for information concerning procedures and requirements related to this program. Honors in the Major work is available only at the option of each department or college.

⁶It is the responsibility of the Honors student to obtain a faculty adviser who will undertake the responsibility of directing the Honors Reading and Study Course. The student is responsible for notifying the Honors Director, in advance, when he or she intends to pursue the Honors Reading and Study Course. Prior to entry in the readings course, the student must file with the department or college and the University Honors Committee a readings list and study proposal signed by the faculty member under whose direction the course will be given. Credit towards Honors in the Major will be awarded by a department or college for a readings course if a grade of "A" or "B" is received by the student.

DEPARTMENT OF HOSPITALITY MANAGEMENT

Chair: A. Pizam, PH 102, Phone 275-2188

Faculty: Ashley, Chandrasekar, Farsad, McCool, Milman, Quain

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

The study of hospitality management prepares students for a broad range of managerial positions in hotels, motels, restaurants, catering services, resorts, country clubs, airlines, travel agencies, state and local convention and visitors bureaus, hospital and college food services, as well as supportive industries, such as consulting and research firms, public accountants, computer firms, or sales and marketing organizations. The program provides students opportunities to complete studies in all hospitality management areas as well as for "hands-on" laboratory experience and for study in advanced specialized courses. In addition, "real world" experience is provided through a requirement of 1360 hours of paid employment in the hospitality field during each student's course of study.

BACHELOR OF SCIENCE IN HOSPITALITY MANAGEMENT

Degree Requirements

1. See Undergraduate Degree Requirements

2. Special department requirements:

a. For Hospitality Management majors the mathematical foundations requirements are: MC 1104—College Algebra and CGS 3000—Computer Fundamentals for Business Applications.

b. For Hospitality Management majors the foreign language requirements are two semesters of one foreign language

3. Required Courses:

a. Business Administration Studies	18*
ECO 2013—Principles of Economics I	3
ECO 2023—Principles of Economics II	3
ACG 2001—Principles of Accounting I	3
ACG 2011—Principles of Accounting II	3
MAN 3025—Management of Organizations	3
MAR 3023—Introduction to Marketing	3
b. Hospitality Management Core	28
HFT 1000—Introduction to Hospitality Management	3
FSS 2202C Food Production Techniques	3
HFT 2252—Rooms Division Management	3
HFT 2750—Fundamentals of Conventions and Conferences**	3
HFT 3444—Hospitality Information System	3
HFT 3603—Legal Environment in the Hospitality and Tourism Industry	3
HFT 3700—Travel and Tourism Administration	3
HFT 3930—Guest Lecture Series	1
HFT 4420—Profit Planning & Decision Making	3
HFT 4503—Hospitality and Tourism Marketing	3
c. Hospitality Management Cooperative Education	10
COE 1949; COE 2949; COE 3949; COE 4949	

The Coop Education program provides students the opportunity to blend theory with practice by combining classroom education with study-related work experience. The work assignments enable hospitality students to gain career experience in the field of their choice. All students majoring in Hospitality Management must complete a minimum

*Hospitality Management majors are restricted to the listed courses offered by the College of Business Administration. No other courses offered by the College of Business Administration may be applied towards a degree in Hospitality Management.

of 1360 clock hours (equivalent to 34 full-time weeks) of remunerated study-related work experience in a hospitality or tourism enterprise. All work experience assignments have to be approved in advance by the departmental coop coordinator. The coop education requirement can be fulfilled partially in units of 1 credit or more.

d. Restricted Electives

21

Seven courses in one of the following tracks:

1. Lodging Management Track	
FSS 3223 Quantity Food Management	3
HFT 3313 Physical Property Management	3
HFT 4210 Hospitality Human Resource Development	3
HFT 4343 Facility Planning & Design	3
HFT 4473 Hotel Development Analysis	3
HFT 4932 Current Topics In Hospitality Management.....	3
MAN 4932 Business Policies For Hospitality Management	3
2. Food Service Management Track	
FSS 3120 Quantity Food Purchasing	3
FSS 3232 Intermediate Techniques.....	3
FSS 3223 Quantity Food Management	3
Four From: FSS 3241C, FSS 3301, FSS 4226, FSS 4284C, HFT 3313, HFT 4210, HFT 4342, HFT 4860	
3. Conference and Convention Management Track	
HFT 3751 Convention/Conference Operations	3
HFT 4752 Convention/Promotion and PR	3
HFT 4753 Convention/Conference Services	3
HFT 4754 Exhibit and Trade Operations	3
Three From: FSS 4284C, HFT 4210, HFT 4860, HFT 4932, MAN 4932	
4. Travel and Tourism Track	
AVM 4510 Airline Management	3
HFT 3754 Convention and Conference Operations.....	3
HFT 4210 Hospitality Human Resource Development	3
HFT 4717 Tourism Planning and Development	3
HFT 4722 Travel Agency Management	3
HFT 4932 Current Topics In Hospitality Management.....	3
MAN 4932 Business Policies For Hospitality Management	3
4. Electives	3
Total semester hours	125

MINOR

The Hospitality Management Department offers a minor consisting of 24 semester hours.

Required courses: HFT 1000, HFT 2252, FSS 2202C, HFT 2750, HFT 3603, HFT 3444, HFT 3700, one 3000/4000 level hospitality restricted elective. A GPA of 2.0 is required for these courses. Nine (9) semester hours must be taken at UCF.

LIBERAL STUDIES PROGRAM

Dean: Charles N. Micarelli, AD 210, Phone (407) 275-2691

Director: Dennis Kamrad, AD 384, Phone (407) 275-2351

PURPOSE

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

The program is administered through the office of Undergraduate Studies and is

**Newly proposed, subject to approval.

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 15 semester hours in each area with an additional 20 semester hours to be completed in a fifth area or used to strengthen one or more of the four course area groupings. Students choosing only four course area groupings may include a maximum of 11 semester hours of general electives as well as 9 hours of supporting electives in completing the fifth area.**
3. A minimum of 48 upper-level hours must be earned in the 5 areas.

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

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

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

COURSE AREA GROUPINGS

DISCIPLINE

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

- | | |
|-----|---|
| I | Business Administration
Accounting, Business Administration, Economics ⁺ , Finance, Hospitality Management, Management, Marketing |
| II | Education*
Art Education, Business Education, Educational Media, Exceptional Child, Physical Education, Teaching Analysis, Vocational Education, and selected courses from Elementary and Secondary Education |
| III | Engineering
Selected courses from the Engineering core and departmental offerings. The minor in Engineering Technology and Society may also be used. |
| IV | Health Sciences
Communicative Disorders, Health Sciences, Medical Record Administration, Medical Laboratory Sciences, Nursing, Radiologic Sciences, Cardio-pulmonary Sciences, and other Health Related Professions |
| V | Fine Arts
Art, Music and Theatre |
| V | Humanities
English, Foreign Literature, History, Humanities, Philosophy, and Religion |
| V | Languages
Chinese, French, German, Hebrew, Italian, Latin, Russian, Spanish |
| VI | Biological Sciences
Biology, Botany, Limnology, Microbiology, Zoology |
| VI | Mathematical Sciences
Computer Science, Mathematics, and Statistics |

- VI **Physical Sciences**
Astronomy, Chemistry, Forensic Science, Geography (Physical), Geology, Physics, and general courses in the Earth and Space Sciences.
- VI **Air Force or Army ROTC**
For students who take and complete the Air Force or Army ROTC four-year program or two-year upper division program.
- VII **Behavioral Sciences**
Anthropology, Psychology, Sociology, and Social Welfare
- VII **Communication**
Film, Journalism, Radio-Television, Speech, and general courses in Communication
- VII **Social Sciences**
Criminal Justice, Economics⁺, Geography (Social), Legal Studies, Political Science, and Public Administration

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

⁺This course shown in two areas.

**Courses used to satisfy the GEP cannot also be used to satisfy the hours needed to complete a course area grouping.

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
- VI. Biological Sci., Mathematical Sci., and Physical Sci.
- VII. Air Force or Army ROTC, Behavioral Sci., Communication, and Social Sciences

MINORITY STUDENT SERVICES

Director: *Robert Belle*, AD 225, Phone (407) 275-2716

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

STUDENT ACADEMIC RESOURCE CENTER

Director: *Mary Helen Callarman*, PC1-102, (407) 281-5130

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

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

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

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

ACADEMIC PROGRAMS

UNDERGRADUATE DEGREES

Associate of Arts Degree

University of Central Florida students who satisfactorily complete 60 semester hours of acceptable college work may apply for an Associate of Arts degree. University requirements include achievement of an overall and UCF grade point average of 2.0 or above, fulfillment of the General Education Program requirements, and completion of the last 20 credit hours in residence at UCF. In addition, any student who wishes to receive an A.A. degree must have satisfied the Gordon Rule requirement and passed the College Level Academic Skills Test.

The Associate of Arts degree is awarded only upon application. The application form may be obtained in the Registrar's Office and should be completed by the end of the fifth week in the semester in which the Associate of Arts degree is to be awarded. A student may not be enrolled as a transient student in another institution during the term in which the Associate of Arts degree is to be awarded. An Associate of Arts degree will not be awarded in the same term that the baccalaureate degree is to be awarded or in any term following the completion of the baccalaureate degree.

Baccalaureate Degrees

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

College of Arts and Sciences

Bachelor of Arts (B.A.)

Majors: Anthropology, Art, Communication, Criminal Justice, Economics, English, Film (RTV), Foreign Languages (General), French, History, Humanities, Humanities and Fine Arts (Intr.), Journalism, Legal Studies, 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.)

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

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

Major: Social Work

College of Business Administration

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

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

College of Education

Bachelor of Science (B.S.)

Major: Elementary Education, Exceptional Child

Major: K-12--Art Education, Physical Education

Major: Secondary Education, English Language Arts, Foreign Language, Mathematics, Science Education Social Science, Speech, Vocational Education and Industry Training

College of Engineering

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

Majors: Aerospace Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, Mechanical Engineering

Bachelor of Science in Engineering Technology (B.S.E.T.)

Major: Computer Engineering Technology, Design Engineering Technology, Electronics Engineering Technology, Information Systems Engineering Technology, Operations Engineering Technology

College of Health

Bachelor of Arts (B.A.)

Major: Communicative Disorders

Bachelor of Science (B.S.)

Major: Medical Record Administration, Medical Laboratory Sciences, Radiologic Sciences, CardioPulmonary Sciences

Bachelor of Science in Nursing (BSN)

Major: Nursing

Office of Undergraduate Studies

Bachelor of Arts (B.A.)

Major: Liberal Studies

Bachelor of Science (B.S.)

Major: Liberal Studies

Bachelor of Science (B.S.)

Major: Hospitality Management

Double Majors

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

Second Baccalaureate Degree

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

Transfer graduates from accredited four-year U.S. institutions who apply for admission to work toward a second baccalaureate degree at the University of Central Florida must meet the regular graduation requirements of the major department, and the 30 semester-hour residency requirement. Students holding the baccalaureate degree from accredited U.S. institutions are considered to have completed all General Education Program Requirements. Students who hold degrees from foreign institutions may be required by the Dean of Undergraduate Studies to fulfill all or part of the UCF General Education Program requirements.

The University requirements specified in the preceding paragraphs are minimum requirements. Departments and colleges may require more than 150 hours for a second degree or more than 30 hours to be taken in residence at UCF. Students should confirm department and college requirements with their academic advisors.

Minors

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

GRADUATE DEGREES

The University offers the following graduate degrees:

College of Arts and Sciences

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

College of Business Administration

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

College of Education

- Master of Arts (M.A.) and/or Master of Education (M.Ed.)
 - Administration and Supervision
 - Elementary Education including specializations in Exceptional Child, Reading Specialist
 - Counselor Education
 - School Psychology (Ed.S.)
 - K-12--Education Media Specialist, Music Education, Physical Education, Reading Specialist, Art Education
 - Secondary Education, 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

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

For further information concerning graduate programs, contact the Office of Graduate Admissions, Administration 143, University of Central Florida, Orlando, FL 32816-0112, Phone (407) 275-2766.

COLLEGE OF ARTS AND SCIENCES

UNDERGRADUATE PROGRAMS

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

GRADUATE PROGRAMS*

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

OTHER PROGRAMS

Pre dental	Prepharmacy
Pre medical	Prepodiatry
Preoptometry	Preveterinary
Prelaw	

*See the Graduate Studies catalog for detailed descriptions of these programs.

COLLEGE OF ARTS AND SCIENCES

Dean: TBA, FA 511, Phone (407) 275-2251

Associate Dean: E. Rinalducci, FA 511, Phone (407) 275-2251

Assistant Dean: L. Armstrong, FA 511, Phone (407) 275-2251

Assistant Dean: K. Seidel, FA 511, Phone (407) 275-2251

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

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

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

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

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

PREPROFESSIONAL PROGRAMS

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

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

Prelaw Program

There is no preferred major for prelaw. Law schools accept superior students with a good liberal arts background, regardless of major field. A Bachelor of Arts or Bachelor of Science degree with approximately three-fourths of the course work representing theory content is typically required. Majors such as English, History, Humanities, Legal Studies, Sociology, and Political Science meet this criterion. The quality of undergraduate education for the legal profession, according to the Association of American Law Schools, is grounded in three basic skills and insights: comprehension and expression in words, critical understanding of the human institutions and values with which the law deals, and the creative power of thinking. Law schools require that the Law School Admission Test (LSAT) be taken prior to consideration for admission.

Advisement of prelaw students will be provided in the area where a major is chosen; for example, a prelaw student who wishes to emphasize the historical foundations should seek advisement in the Department of History; for emphasis in political science advisement should be sought in the Department of Political Science; emphasis in economics should be gained through advisement in economics programs in either the College of Arts and Sciences or the College of Business Administration; emphasis in Legal Studies can be pursued in the Department of Public Service Administration.

ADVISEMENT

Office of Academic Support and Information Services

Director: Ms. Judith Boyte, FA 208, Phone (407) 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 requirements and procedures. Petitions for the substitution of courses for requirements in the General Education Program and evaluation of CLEP and TSD credit are processed through this office for all students in the college. Questions concerning University and College academic policies affecting Arts and Sciences majors should be directed to the OASIS staff in FA 208 or by calling (407) 275-2492.

Program Planning

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

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, students 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 their 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.

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. Faculty at the centers are drawn from the nine State Universities. While credits are earned through Florida State University, which administers the program on behalf of the State University System, credits are fully transferable within the System. Students at the Centers are considered to be resident in their home institutions for attendance and degree purposes.

Classes at the Florence Center emphasize art history, Italian, social sciences, and the humanities; at the London Center, theatre, business, English, history and the social sciences. Field trips and museum visits are common to both. For further information consult Dr. Thomas Greenhaw in the Department of History (London Program), (407) 275-2224 or Dr. Robert Flick in the Department of Humanities, Philosophy and Religion (Florence Program), (407) 275-2273.

AFRO-AMERICAN STUDIES PROGRAM

The College of Arts and Sciences offers a minor but not a major in Afro-American Studies consisting of a minimum of 16 semester hours. Required courses: AMH 3570, LIN 4612, LIT 4354, SYD 3720. For further information, contact Dr. K. Seidel, Dean's Office, FA 511, (407) 275-2551.

AMERICAN STUDIES

The minor in American Studies requires at least 21 hours of approved upper-division courses. The courses include at least three hours of restricted electives from each of three fields: literature and humanities, social sciences, and history. Other courses may be chosen from the list of approved courses available from the American Studies advisor. For further information, contact Dr. K. Seidel, FA 511, (407) 275-2251.

DEPARTMENT OF ART

Chair: *M. Wahlman*, FA 523, Phone (407) 275-2676

Faculty: *Chavda, Congdon, Eyfells, Gaudnek, Lotz, Rivers, Skoglund, String, Wellman*

The Department of Art was established in 1968. Presently there are 9 full time and 8 part-time faculty members teaching traditional studio arts, graphic design, and art history. In 1986, the William S. and Alice M. Jenkins Eminent Scholar Chair in Community Arts was endowed through a gift from the Jenkins Family Foundations, Inc. The Chair was established under the Florida Endowment Trust Fund for Eminent Scholars Act. Chairholders serve as a resource for developing and teaching courses in Community Arts.

The curriculum in Art provides professional preparation in art history, visual arts administration, and in the studio areas of ceramics, community arts, computer graphics, drawing, fibers-fabrics, graphic design, painting, photography, printmaking, and sculpture, as well as combination specializations. Both the Bachelor of Arts and the Bachelor of Fine Arts degrees are offered. Competitive scholarships and awards are available to currently enrolled full-time UCF art majors through portfolio reviews by Faculty. These awards are sponsored by UCF, the Altrusa Club of Winter Park and the Albin Polasek Foundation.

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



MINOR

The Department of Art offers a minor consisting of a minimum of 24 semester hours. Required courses are: ARH 2050, 2051, ART 2201, 2202, and 9 semester hours of Art Specialization at the 3000-4000 level. To be eligible for a minor in Art, a student must have a GPA of at least 2.0 in all Art courses subject to the following constraints: No D grades in Art courses from other institutions are transferable. Departmental Residency Requirement consists of 3 semester hours of regularly scheduled 2000-4000 level courses must be taken from the UCF Department of Art. These 3 hours must be in an area of specialization.

BACHELOR OF ARTS: ART

Degree Requirements

1. See Undergraduate Degree Requirements
2. See 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.
No D grades in Art courses from other institutions are transferable.
Departmental Residency Requirement consists of at least 18 semester hours of regularly scheduled 3000-4000 level courses taken from the UCF Department of Art. Nine of these must be in an area of specialization.
3. Required courses
Varies with Specialization
4. Restricted Electives
Varies with Specialization
5. Electives
To be selected primarily from upper level courses outside the Department, with the approval of the student's advisor.

Total Semester Hours Required

120

AREAS OF SPECIALIZATION

I. Art History

A. Required Courses

ARH 2050, 2051	History of Art I, II	6 hours
ART 2201C, 2202C	Design Fundamentals I, II	6 hours
ARH 4906	Senior Research	3-6 hours

B. Restricted Electives

Any two:		6 hours
ARH 4800 Theory and Criticism of the Visual Arts		(3)
ARH 3820 Visual Arts Administration		(3)
PHI 3800 Aesthetics		(3)
ENC 3310 Magazine Writing		(3)
EUH 3000-4000 level		(3)

C. Specialization

3000 and 4000 level Art History Courses	15 hours
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D. Foreign Language

2 years of college level courses.	(12 hours)
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E. Comprehensive Art History Examination

Total Semester hours in Art and Art History Courses	36-39
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Total Semester Hours Required 120 hours

II. Art (Studio)

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. Specialization

3000-4000 level courses from: Ceramics, Drawing, Fibers-Fabrics, Graphic Design, Painting, Printmaking, Photography, and Sculpture	12 hours
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C. Restricted Electives	9 hours
3000-4000 level courses from at least 3 areas outside the area of specialization: Art History, Ceramics, Drawing, Fiber-Fabrics, Film, Graphic Design, Painting, Printmaking, Photography, Sculpture, and Special Topics.	
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 & 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

- See University Degree Requirements.
Students must achieve at least a "B" grade point average (3.0) in the courses of their major.
- See Special college and/or department requirements: No "D" grades in transfer Art courses; Department Residency Requirement consists of at least 18 semester hours of regularly scheduled upper-level courses must be taken from the UCF Department of Art. Nine of these must be in the area of specialization.
- Required Courses

ART 2201C, 2202C	Design Fundamentals I, II	6 hours
ART 2300C, 2301C	Drawing Fundamentals I, II	6 hours
ARH 2050, 2051	History of Art I, II	6 hours
ARH 3000-4000	3 Art History Courses or PGY 3001	9 hours
- Area Specialization 3000-4000 level courses from: Ceramics, Drawing, Graphic Design, Painting, Printmaking, Photography, and Sculpture or combinations. Combination specializations in any two media require 9 or 12 hours of upper-division courses in each half of the combination for a total of 21 hours.
 - Restricted Electives 15-21 hours
3000-4000 level courses from at least three areas outside the student's specialization: Art History, Ceramics, Drawing, Fiber and Fabrics, Film, Graphic Design, Painting, Printmaking, Photography, Sculpture, and Special Topics.
- Electives 12 hours

Total Semester Hours in Art Courses	54-60
Total Semester Hours Required	120

ASIAN STUDIES PROGRAM

This program offers a minor, but not a major, in Asian Studies. The program is interdisciplinary and is administered by the Department of Humanities, Philosophy, and Religion. For further information, contact Dr. Kassim, FA 467, (407) 275-2273.

DEPARTMENT OF BIOLOGICAL SCIENCES

Chair: R. N. Gennaro, BL 211, Phone (407) 275-2141

Faculty: Berringer, Charba, Ehrhart, Ellis, Gennaro, Koevenig, Kuhn, Laird, Miller, Osborne, Snelson, Stout, Sweet, W. Taylor, Vickers, Washington, White, Whittier, Wodzinski

The Department of Biological Sciences offers Bachelor of Science degree programs in biology, botany, limnology, microbiology, and zoology; a minor in biology; and the Master of

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

MINOR IN BIOLOGY

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

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

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

Group I - Ecology: MCB 4603C or PCB 3043 and PCB 3043L.

Group II - Physiology: BOT 4503C, MCB 4404C, PCB 3023 or PCB 4723.

Group III - Electives: Any 3000 level or above biology course(s) accepted for degree programs in Biological Sciences, exclusive of those listed in Groups I and II.

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

A. No CLEP or TSD credits may be used.

B. No D grades from other institutions will be accepted.

C. To receive credit for a biological science course, students must pass both the lecture and laboratory components.

BACHELOR OF SCIENCE: ALL BIOLOGICAL SCIENCES MAJORS

Degree Requirements

- To be eligible for a major in any of the biological science degree programs, a student must have a GPA of at least 2.0 in all biological science courses subject to the following constraints: A. No CLEP or TSD credits may be used; B. No D grades from other institutions will be accepted. In addition, a student may apply no more than 4 hours of independent study, directed research, or similar types of credit toward requirements in the major. To receive credit for a biological sciences course, students must pass both the lecture and laboratory components. Students seeking a double major within the Department of Biological Sciences must satisfy the requirements of both majors and must take no fewer than 40 semester hours of coursework appropriate to the combined areas of specialization of the two majors.
- The core curriculum is required of all undergraduate degree programs in the Department of Biological Sciences.

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

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

BACHELOR OF SCIENCE: BIOLOGY

Degree Requirements:

1. See Undergraduate Degree Requirements
 2. See special college and/or departmental requirements
 3. Required Courses
Core Curriculum 60-61 hours
 4. Restricted Electives 24 hours
Biology, Botany, Microbiology, or Zoology to be selected in consultation with advisor from courses numbered 3000 or above. Up to 6 hours of formal course work in Chemistry, 3000-level or above, may also be applied.
 5. Elective
(Varies with degree program; student should consult advisor).
- Total Semester Hours Required 128

BACHELOR OF SCIENCE: BOTANY

Degree Requirements:

1. See Undergraduate Degree Requirements
 2. See special college and/or departmental requirements
 3. Required Courses
Core Curriculum 60-61 hours
BOT 4223C Plant Anatomy 4 hours
BOT 4303C Plant Kingdom 5 hours
BOT 4503C Plant Physiology 4 hours
BOT 4713C Plant Taxonomy 5 hours
 4. Restricted Electives 6 hours
Biology, Botany, Chemistry, Microbiology, or Zoology. To be selected in consultation with advisor from courses numbered 3000 or above. Must include at least 4 hours of Botany.
 5. Electives
(Varies with degree program; student should consult advisor).
- Total Semester Hours Required 128

BACHELOR OF SCIENCE: LIMNOLOGY

Degree Requirements:

1. See Undergraduate Degree Requirements
 2. See special college and/or departmental requirements
 3. Required Courses
Core Curriculum 60-61 hours
COP 1200 Computer Programming 3 hours
PCB 4302C Limnology I 4 hours
PCB 4303C Limnology II 4 hours
ZOO 4880C Fisheries Management 4 hours
 4. Restricted Electives 12 hours
Biology, Botany, Chemistry, Computer Science, Microbiology, Physics, Statistics, or Zoology courses numbered 3000 or above. To be selected in consultation with advisor.
 5. Electives
(Varies with degree program; student should consult advisor).
- Total Semester Hours Required 128

BACHELOR OF SCIENCE: MICROBIOLOGY

Degree requirements:

1. See Undergraduate Degree Requirements
2. See special college and/or departmental requirements
3. Required courses
Core Curriculum 60-61 hours
BCH 4053, 4054 Biochemistry I, II 6 hours
CHM 3120C Analytical Chemistry 5 hours
MCB 3023, 3023L Pathogenic Microbiology with lab 4 hours
MCB 4114C Microbial Systematics & Diagnosis 4 hours

MCB 4404C	Microbial Metabolism	4 hours
MCB 4603C	Environmental Microbiology	4 hours
PCB 3233, 3233L	Immunology with lab	4 hours
4. Restricted Electives		
None		
5. Electives		
(Varies with degree program; students should consult advisor).		
Total Semester Hours Required		128

BACHELOR OF SCIENCE: ZOOLOGY

Degree Requirements:

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

Core Curriculum		60-61 hours
PCB 4723	Animal Physiology	4 hours
ZOO 3303C	Vertebrate Zoology	4 hours
ZOO 3713C	Comparative Vertebrate Zoology	5 hours
ZOO 4203C	Invertebrate Zoology	4 hours
4. Restricted Electives

ZOO courses numbered 3000-level or above. To be selected in consultation with advisor.		8 hours
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5. Electives

(Varies with degree program; student should consult advisor).		
Total Semester Hours Required		128

Canadian Studies Program

Canadian Studies offers both a certificate and a minor but not a major. This program is interdisciplinary and includes courses from the departments of English, History, Political Science, Public Service Administration, Foreign Languages, Anthropology, and the College of Engineering. In addition, UCF is the site of the Florida-Canada Institute, a state program which offers other activities relating to Canada. For information consult Dr. Henry Kennedy, Director of Canadian Studies, at the Florida Canada Institute Center, FA 209, (407) 275-2079.

DEPARTMENT OF CHEMISTRY

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

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

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

The undergraduate degree program in chemistry is accredited by the American Chemical Society Committee on Professional Training. It prepares the graduate for career 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 3120C.

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

Group I: CHM 3212L, 4130C; BCH 4103L, CHS 3531

Group II: BCH 4053, 4054, CHM 3410, 3411, 4220, 4221, CHS 4110C, 4200



BACHELOR OF SCIENCE: CHEMISTRY

Degree Requirements

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

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	4 hours
CHM 3120C	Analytical Chemistry	5 hours
CHM 3410, 3411	Physical Chemistry I, II	7 hours
CHM 3410L, 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.		3 hours
b. Minimum of 3 hours		
COP 1200	Computer Programming	3 hours
COP 2000	Programming I	3 hours
CGS 3422	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 5235	Applied Molecular Spectroscopy	3 hours
CHM 4221	Advanced Organic Chemistry II	3 hours
CHM 5580	Advanced Physical Chemistry	3 hours
CHM 5450	Polymer 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 (407) 275-2788

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

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

BACHELOR OF SCIENCE: FORENSIC SCIENCE

Degree Requirements

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

BSC 2010C	General Biology	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 3210L	Organic Laboratory Techniques I	2 hours
CHM 3120C	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 1200	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 3053C, 3054C	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

5 hours
120

SCHOOL OF COMMUNICATION

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

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

The School of Communication offers Bachelor Degree programs in four specific areas. Students have the option of selecting a specialized track for the Journalism degree:

1. Bachelor of Arts: Interpersonal Communication
2. Bachelor of Arts: Journalism
 - A. News/Editorial Track
 - B. Advertising/Public Relations Track
3. Bachelor of Arts: Organizational Communication
4. Bachelor of Arts: Radio-Television

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

Limited Access (Subject to Board of Regents Approval)

All degree programs in the School of Communication have been designated as limited access beginning in the Fall, 1989. Limited access means there are additional admissions requirements over and above those set for general admission to the University. Students meeting the minimum requirements for admission will be admitted on a space available basis. Students will be assigned the category of Communication—pending prior to acceptance into the School. A minimum of 30 credit hours of college work is required before application for admission to a program.

Limited Access Requirements

The requirements for admission consideration and continuation as a major in the School for all programs, [see special additional requirements for Radio-Television and both Journalism Tracks] are listed below.

1. An overall 2.25/4.00 grade point average based on a minimum of 30 credit hours of college work.
2. Demonstrated written proficiency in grammar, punctuation, and word usage. Testing is conducted prior to the start of each semester and remedial options are provided.
3. A maximum of three courses completed in the School prior to acceptance into the program may be counted toward the major including transfer courses in the major from another institution [total accepted: three courses]. NOTE: Some courses have a prerequisite requiring successful completion of the Grammar Proficiency Examination or Typing Proficiency Test.

Graduation Requirements

1. A final 2.25/4.00 grade point average in all required courses for a major must be completed in order to graduate with a major in the School. NOTE: This grade point average does not include Restricted Electives in the major or other electives.
2. A maximum of 40 credit hours in School courses may be counted toward the 120 hours required for graduation.
3. Students electing both a major and minor in the School must take the minor courses in excess of the 120 hours required for graduation.

Transfer Limitation

Generally, students may not substitute lower division courses taken at community colleges for upper division courses in the School of Communication (except Florida

common numbered coursework). Students wishing to transfer courses from other colleges must apply for equivalency credit. College catalog, course syllabus, textbook used, or other supporting information must be provided by the student. The Divisions of the School of Communication will evaluate applications for equivalency. A maximum of three transfer courses or courses taken prior to School admission may be accepted in a School of Communication major [total accepted: three courses].

MINORS

The School of Communication offers the following minors:

1. Interpersonal Communication
COM 3011 (3), COM 3311 (3), SPC 3301 (3), SPC 4330 (3), SPC 4350 (3), SPC 4540 (3).
2. Journalism: News/Editorial Track
JOU 3004 or JOU 4602 (3), JOU 3100^{1,2} (3), MMC 4200 (3), plus TWO JOU elective (writing and/or editing) courses^{1,2} (6).
3. Journalism: Advertising/Public Relations Track
ADV 4000 (3), ADV 4003 (3), ADV 4101 (3), ADV/PUR 4941 or PUR 4800 (3), PUR 4000 (3).
4. Organizational Communication
COM 3110 (3), COM 3120 (3), COM 3311 (3), SPC 3425 (3), SPC 3445 (3), SPC 4440 (3).
5. Radio-Television
RTV 3000 (3), RTV 3200 (4), RTV 3300^{1,2} or RTV 3501^{1,2} (4), RTV 4700 or RTV 4403 (3).

¹Prerequisite Grammar Proficiency Examination required.

²Prerequisite Typing Proficiency Test required.

BACHELOR OF ARTS: INTERPERSONAL COMMUNICATION

Degree Requirements

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

COM 3011	Communication and Human Relations	3 hours
COM 3311	Communication as a Behavioral Science	3 hours
SPC 3301	Interpersonal Communication	3 hours
SPC 3425	Group Interaction and Decision Making	3 hours
SPC 3601	Advanced Public Speaking	3 hours
SPC 3511	Argumentation and Debate	3 hours
SPC 4330	Nonverbal Communication	3 hours
SPC 4350	Studies in Listening	3 hours
SPC 4540	Attitudes and Communication	3 hours
SPC 4440	Group Dynamics	3 hours

4. Restricted Electives

Six credit hours in the School of Communication

5. Electives

A minimum of 9 upper division credit hours in one of the following departments must be elected: English, History, Political Science, Psychology or Sociology.

Total Semester Hours Required

120

A maximum of 3 credit hours of internship may be earned in one semester. A total of 6 may be earned within the 120 credit hours required for graduation. Students should check with their advisor for prerequisites and other requirements.

BACHELOR OF ARTS: JOURNALISM

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or School requirements. In addition, all students planning a major in both journalism tracks must pass the Typing Proficiency Test (20 wpm) prior to admission to the major. Students should see their advisor for details.

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

AREAS OF SPECIALIZATION

1. Required Courses: News-Editorial Track

JOU 3004	History of American Journalism	3 hours
JOU 3100 ¹	News Reporting	3 hours
JOU 3101 ¹	Advanced News Reporting	3 hours
JOU 3200 ¹	Editing I	3 hours
JOU 3201 ¹	Editing II	3 hours
JOU 4104 ¹	Public Affairs Reporting	3 hours
JOU 4300 ¹	Feature Writing	3 hours
MMC 4200	Mass Communication Law	3 hours
MMC 4602	Contemporary Media Issues	3 hours
PGY 3610	Photojournalism I	3 hours

Restricted Electives

JOU/PGY	Elective	3 hours
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¹Prerequisite Grammar Proficiency Examination and Typing Proficiency Test required. Some courses may also require a minimum grade of "C" in prerequisite courses.

The Journalism faculty strongly recommends that News-Editorial majors work for the student newspaper, *The Central Florida Future*. In addition, News-Editorial majors may obtain off-campus internship with a commercial weekly or daily newspaper, or with a magazine. To enroll for credit, students must have a 2.5 GPA in their required major courses. Students with less than a 2.5 GPA will not be given academic internship credit. A maximum of 3 credit hours may be earned in one semester with a total of 3 within the 120 required for graduation. Students should consult with their adviser for prerequisites and other requirements.

Required Minor: News-Editorial majors must complete a minor in an academic area outside of the School of Communication or complete a 15-credit hour area of concentration approved by the Faculty.

2. Required Courses: Advertising/Public Relations Track

ADV 4000	Principles of Advertising	3 hours
ADV 4003	Advertising Layout and Copywriting	3 hours
ADV 4101	Advertising Copy and Campaigns	3 hours
ADV 4103	Radio-TV Advertising	3 hours
COM 3110	Business and Professional Speaking	3 hours
COM 3311	Communication as a Behavioral Science	3 hours
MMC 4200	Mass Communication Law	3 hours
PGY 3610	Photojournalism I	3 hours
PUR 3100 ¹	Writing for Public Relations	3 hours
PUR 4000	Public Relations	3 hours
PUR 4941	Internship	3 hours
	or	
ADV 4941	Internship	3 hours
	or	
PUR 4800	Public Relations Campaigns	3 hours

¹Prerequisite Grammar Proficiency Examination and Typing Test required.

A maximum of 6 credit hours of internship may be earned in one semester. A total of 9 credit hours of internship may be earned within the 120 credit hours required for graduation. Students should consult with their adviser for prerequisites and other requirements.

BACHELOR OF ARTS: ORGANIZATIONAL COMMUNICATION

Degree Requirements

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

3. Required Courses (27 credit hours)		
COM 3011	Communication and Human Relations	3 hours
COM 3110	Business and Professional Speaking	3 hours
COM 3120	Organizational Communication	3 hours
COM 3311	Communication as a Behavioral Science	3 hours
COM 4941	Internship	3-6 hours
PUR 4000	Principles of Public Relations	
	or	3 hours
ADV 4000	Principles of Advertising	
SPC 3425	Group Interaction and Decision Making	3 hours
SPC 3445	Leadership	3 hours
SPC 4440	Group Dynamics	3 hours
4. Restricted Electives		
Six (6) to Nine (9) credit hours in the School of Communication		
5. Electives		
A minimum of 9 upper division credit hours must be selected from courses in Computer Science or one academic area in the College of Business Administration, College of Education, or College of Health.		
Total Semester Hours Required		120

A maximum of three (3) credit hours of internship may be earned in one semester. A total of six (6) credit hours of internship may be earned within the 120 credit hours required for graduation. Students should consult with their adviser for prerequisites and other requirements.

BACHELOR OF ARTS: RADIO-TELEVISION

Degree Requirements

1. See Undergraduate Degree Requirements
2. See Special college and/or School requirements. In addition, all students planning a major in radio-television must pass the Typing Proficiency Test (20 wpm) prior to admission to the major. Students should see their advisor for details.

3. Required Courses		
RTV 3000	Foundations of Broadcasting	3 hours
RTV 3200	Broadcast Techniques	4 hours
RTV 3210	Radio Production	
	or	4
RTV 3260	Electronic Field Production	
RTV 3300 ¹	Broadcast Newswriting	4 hours
RTV 3501 ¹	Broadcast Copywriting	4 hours
RTV 4403	Radio/Television and Society	3 hours
RTV 4700	Broadcast Regulations	3 hours
RTV 4800	Broadcast Management	3 hours
4. Restricted Electives		
Six credit hours in the School of Communication		
5. Electives		
Total Semester Hours Required		120

Students are encouraged to work with WUCF radio to gain practical experience. In addition, students should arrange for an internship off campus in a professional broadcast, production, or corporate operation. A maximum of 3 credit hours of internship may be earned in one semester. A total of 6 credit hours of internship may be earned within the 120 credit hours required for graduation. A maximum of 3 credit hours of internship may be counted as a Restricted Elective. Summer internships are available during "C" term only. Students should consult with their advisor for prerequisites and other requirements.

¹Prerequisite Grammar Proficiency Examination and Typing Proficiency Test required.

DEPARTMENT OF COMPUTER SCIENCE

Chair: T. Frederick, CCII 218, Phone (407) 275-2341

Faculty: Bassiouni, Brigham, Chen, Cottrell, Deo, Driscoll, Dutton, Frederick, Gerber, Gomez, Guha, Hughes, Isner, Lang, Leeson, Lindholm, Malik, Moshell, Mukherjee, Noll, Orooji, Riggs, Segami, Shah, Workman.

The Department of Computer Science offers courses and programs leading to Bachelor of Science, Master of Science (see Graduate Catalog), and Doctor of Philosophy (see Graduate Catalog) degree in Computer Science. In addition the Department offers a Computer Science minor for Business Majors, and 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.

Research Equipment

Research equipment operated by the Department includes a Harris HCX-9 with 16 MB memory and 1.5 GB disk storage running HCX/UX (Berkeley 4.3 Unix), and a Vax 11/780 with 16 MB memory also running Berkeley 4.3 Unix. Color workstations, including Sun Microsystems 3/60 and 3/160's, two AED 512's, two VaxStations, and a Hewlett Packard 9000, support research in parallel processing, VLSI design, image processing, computer graphics, user interface construction, simulation and modeling. In addition, a number of Macintosh and IBM personal computers are available for project use.

The Department's equipment is interconnected with over 60 terminals and 8 dialup modems. Host-to-host communication is supported by Ethernet, TCP/IP, and NFS; for information interchange researchers may access USENET, CSNET, or BITNET. In addition, the Department shares the use of the Low Cost Simulation Test Bed Laboratory which includes state-of-the-art real-time visual simulators and a Silicon Graphics 4D70G workstation.

Computer Center

The Computer Center maintains and operates equipment used for both instruction and research, including an IBM 4381 Group 2 with 32 MB of memory and 10 GB of disk storage, running the VM/CMS operating system. Additionally, several hundred IBM personal computers, interconnected by a Novell ARCNET, are available for student and faculty use.

The Florida Information Resource Network

The Florida Information Resource Network (FIRN) provides additional mainframe resources including the ETA-10 supercomputer—the first of its kind in the world—for scientific research. Thirty-five percent of the supercomputer's time is open to any Florida university researcher whose project is approved by the Supercomputer Computations Research Institute. Other FIRN resources include Amdahl, IBM, and UNIVAC mainframes.

In addition to the degree requirements for a B.S. in Computer Science listed below, the following standards are required for graduation.

1. A minimum GPA of 2.00 in all non-Computer Science courses used to satisfy the requirements for the major in Computer Science.
2. A minimum GPA of 2.50 in computer science courses used to satisfy the requirements for the major in Computer Science.
3. The above requirements apply not only to the overall program, but also to the courses taken at UCF.
4. Departmental Residency Requirement. At least 18 semester hours of regularly scheduled 4000-5000 level courses must be taken from the UCF Department of Computer Science.

MINORS

The Department of Computer Science offers the following minors consisting of a minimum of 18 semester hours in each minor. A minimum GPA of 2.00 is required in all courses used to satisfy the requirements for the minor in computer science, and at least three courses must be taken from the UCF Department of Computer Science.

1. Computer Science Minor for Business Majors

Required courses (15 hours): CGS 3000, 3100, 3262, 3300, COP 3120.

Restricted electives (3 hours minimum): ACG 3401, ACG 5346, CIS 4321, COP 1200, 2000, 2001, 3400, 4710, ECO 4412, FIN 3453, MAC 3233, 3311, 3312, 3313, MAN 4722, 4724, MAR 3613, MAS 3113, STA 4102, 4163.

2. General Computer Science Minor

Required courses (12 hours): COP 2000, 2001, 3400, 3530.

Restricted electives (6 hours minimum): COP 3402, 4020, 4124, 4600, 4710, COT 3100, 4500.

BACHELOR OF SCIENCE: COMPUTER SCIENCE

Degree Requirements

1. See Undergraduate Degree Requirements

2. See special college requirements

3. Required courses:

I. COMPUTER SCIENCE CORE:	42 hours	
Computer Science Courses		
COP 2000	Programming I	3 hours
COP 2001	Programming II	3 hours
COP 3400	Assembly Language	3 hours
COP 3402	Computer Systems Concepts/Programming	3 hours
COT 3100	Introduction to Discrete Structures	3 hours
COP 3530	Data Structures	3 hours
Support Courses		
MAC 3311	Calculus with Analytic Geometry I	4 hours
MAC 3312	Calculus with Analytic Geometry II	4 hours
STA 3023	Statistical Methods I	3 hours
PHY 3048	Physics for Engineers & Scientists I	3 hours
PHY 3049	Physics for Engineers & Scientists II	3 hours
PHY 3049L	Physics for Engineers & Scientists Lab. II	1 hour
EEL 3341C	Introduction to Digital Circuits	3 hours
ENC 3241	Technical Report Writing	3 hours
II. UPPER DIVISION REQUIRED COURSES:	12 hours	
CDA 4105	Introduction to Computer Architecture	3 hours
COT 4210	Discrete Computational Structures	3 hours
COP 4020	Programming Languages I	3 hours
COP 4600	Programming Systems	3 hours
III. RESTRICTED ELECTIVES	16 hours	
At least two 4000-5000 level regularly scheduled	6 hours	
Computer Science courses for majors.		
Any 4000-5000 level regularly scheduled course such as	10 hours	
Computer Science, Mathematics and/or Statistics for majors of the		
respective departments or any course specified below in the concentra-		
tion areas. Not more than 4 hours of Computer Science Independent		
Study may be used.		

4. Electives

Total Semester Hours Required

120

AREAS OF CONCENTRATION

A student may, but need not, receive a Concentration in Architecture, Data Base, Programming and Systems, and/or Scientific by taking those courses listed below which are respectively designated by (A), (D), (P) and/or (S).

CDA 4300 (A, P)	COP 4500 (S)	ACG 3023
CDA 4312 (A)	STA 4163 (P)	FIN 3403
CDA 4311 (A)	MAC 3313 (S)	MAN 3025
COP 4710	MAP 3302 (S)	MAN 3301
CIS 4321 (D)	MAS 3113 or 3103	MAR 3023
CIS 4322 (D)	MHF 3104	EEL 4701C

BACHELOR OF ARTS: ECONOMICS

Contact Person: *J. Boyte*, FA 208, Phone (407) 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. See Undergraduate Degree Requirements

2. See special college and/or department requirements

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 3930	Independent Study	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

b. Twenty-seven hours of additional courses, including the completion of a minor from one of the following areas: Computer Science, Mathematics, Statistics, or the Social and Behavioral Sciences.

5. Electives

Total Semester Hours Required

120

DEPARTMENT OF ENGLISH

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

Faculty: *Adicks, Astro, Barnes, Becker, Brain, Deane, Donnelly, George, Haile, Hemschmeyer, Higgins-Young, Jaffe, Jones, Keller, Omans, Price, Rushin, Schiffhorst, Seidel, Sommer, Stap, Strasshofer, Umphrey, Wyatt*

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

MINOR

The Department of English offers the following minors:

Creative Writing Minor: 21 semester hours. Required courses: CRW 3000, CRW 2100 or CRW 2300, CRW 3010, CRW 3001. 9 remaining hours to be chosen from CRW 3410, CRW 4940, CRW 4041, CRW 3310, CRW 3930.

Literature Minor: 21 semester hours with no fewer than 12 completed at UCF. Requirements: 12 semester hours selected from ENL 3031, ENL 3051, AML 3031, AML 3051, LIT 3110, 3120. 9 additional semester hours of English courses chosen by the student and advisor.

Linguistics Minor: 18 semester hours. Required courses: LIN 3010, LIN 4100, LIN 4341. 9 remaining hours to be chosen from LIN 4202, LIN 4612, LIN 4801, LIN 4660, LIN 5137, ANT 3610, PHI 4220, or any course approved by the Linguistics Committee.

Technical Writing and Editing Minor: 22 semester hours, as follows: ENC 2290, 3210 or 3241, 3310, 3311 or 3341, 3311, 4215, 4293, 4294, 4295. Students completing the minor may intern with a Central Florida corporation.

BACHELOR OF ARTS: ENGLISH

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special College and/or department requirements
3. Required courses

Foundation (for all concentrations)

Choose three of the following four:

LIT 3000	Introduction to Literary Analysis	3 hours
CRW 3000	Introduction to Creative Writing	3 hours
ENC 3211	Introduction to Technical Writing	3 hours
LIN 3010	Introduction to Linguistics	3 hours

Choose three of the following four:

ENL 3031	English Literature I	3 hours
ENL 3051	English Literature II	3 hours
AML 3031	American Literature I	3 hours
AML 3051	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 (9 hours)

ENL 4311	Chaucer	3 hours
or		
ENL 4341	Milton	3 hours
ENL 4330	Shakespeare	
LIN 4100	History of the English Language	3 hours
or		
LIN 4341	Modern English Grammar	

Choose Four (12 hours)

AML 4101	American Novel	3 hours
AML 4261	Literature of the South	3 hours
AML 4321	Modern American Literature	3 hours
ENL 4101	English Novel	3 hours
ENL 4226	English Renaissance Poetry & Prose	3 hours
ENL 4353	18th Century Studies	3 hours
ENL 4373	Modern British Literature	3 hours
LIT 4094	Modern Drama as Literature	3 hours
LIT 4366	English Romantic Writers	3 hours
LIT 4367	Victorian Age	3 hours

2. Creative Writing

Required (12 hours)

CRW 3010	Creative Writing Workshop I
CRW 3011	Creative Writing Workshop II
CRW 4940	Advanced Writing Workshop I
CRW 4941	Advanced Writing Workshop II

Choose Two (6 hours)		
ENL 4330	Shakespeare	
ENL 4311	Chaucer	
ENL 4341	Milton	
LIN 4100	History of the English Language	
LIN 4341	Modern English Grammar	
Choose Two (6 hours)		
CRW 3008	Literary Magazines	
CRW 3310	Structure of Verse	
CRW 3410	Script Writing	
CRW 5932	Teaching Creative Writing	
ENC 3310	Magazine Writing I	
ENC 3311	Advanced Expository Writing	
ENC 3341	Magazine Writing II	
3. Technical Writing		
Required (Basic) (4 hours)		
ENC 2290	Careers in Writing	1 hour
ENC 3311	Advanced Expository Writing	3 hours
Required (Advanced) (21 hours)		
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	Survey of Technical and Scientific Literature	3 hours
ENC 4218	Graphics Capabilities	3 hours
ENC 4280	Technical Vocabulary	3 hours
Choose One (3 hours)		
ENC 3330	Rhetoric and Organization	3 hours
ENC 3283	Science and the Lay Reader	3 hours
ENC 4254	Technical Writing and the Uses of Imagination	3 hours
Optional		
ENC 4941	Technical Writing and Editing Internship	3 hours
4. Linguistics:		
Choose Three (9 hours)		
LIN 4100	History of the English Language	3 hours
LIN 4202	Phonetics	3 hours
LIN 4341	Modern English Grammar	3 hours
LIN 4440	Sounds and Forms of Language	3 hours
LIN 4801	Language and Meaning	3 hours
Choose Four, including at least two additional from the above list or from List A (12 hours)		
List A		
LIN 4612	Black English	3 hours
LIN 4660	Linguistics and Literature	3 hours
LIN 5137	Linguistics	3 hours
LIN 3610	Language and Culture	3 hours
List B		
LIN 4712	Normal Language Development	3 hours
LIN 5705	Psycholinguistics	3 hours
PHI 4220	Philosophy of Language	3 hours
SPC 4330	Non-Verbal Communication	3 hours

DEPARTMENT OF FOREIGN LANGUAGES

Chair: A. Payas, FA 443, Phone (407) 275-2466

Faculty: Barsch, Cervone, DiPierro, Fernandez, Micarelli, Pelli, Taylor

Language studies in the College of Arts and Sciences provide instruction in Chinese, French, German, Hebrew, Italian, Japanese, Latin, Russian and Spanish, with majors in French and Spanish. These programs are designed to meet the needs of students who desire competency in a language and expanded understanding of a foreign culture and

literature. Students enrolled in 1000, 2000, and certain 3000 level courses are required to attend the language laboratory for at least one hour a week.

Students wishing to major in a foreign language must meet all the requirements for graduation as set forth by the University, the College of Arts and Sciences, and by the Department of Foreign Languages. They must complete 30 semester hours in the chosen language at the 3000 level or above. Among these 30 semester hours they must take courses numbered 3241 (SPN), 3244 (FRE), 3420, 3100, and 3101. Non-native French majors must also take FRE 4780 (French Phonetics and Diction) or the overseas summer course FRE 3955 (Corrective Phonetics and Vocabulary Building). Students interested in a combined major must take courses numbered 3241 (SPN), 3244 (FRE), 3420, 3100, and 3101 in both languages, plus an additional 15 hours in the primary language and an additional 6 hours in the secondary language for a total of 45 semester hours. This total must include FRE 4780 (French Phonetics and Diction) or FRE 3955 (Corrective Phonetics and Vocabulary Building).

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

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

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

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

MINORS

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

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

BACHELOR OF ARTS: FRENCH OR SPANISH

Degree Requirements

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

3244 (FRE),		
3241 (SPN)	Conversation	3 hours
3420	Composition	3 hours
3100	Survey of Literature I	3 hours
3101	Survey of Literature II	
or		3 hours
3130	Survey of Latin-American Lit. I	
3131	Survey of Latin-American Lit. II	3 hours
French Majors		
FRE 4780	French Phonetics and Diction	
or		3 hours
FRE 3955	Corrective Phonetics & Vocabulary Building	
4. Restricted Electives 18 hours

Students are also required to choose two of the following:

LIN 4100	History of the English Language	3 hours
LIN 4341	Modern English Grammar	3 hours
LIN 3010	Principles of Linguistics	3 hours
5. Electives

Total Semester Hours Required 120

BACHELOR OF ARTS: FOREIGN LANGUAGE COMBINATION

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses for Combined Major in Foreign Languages

3244 (FRE),		
3241 (SPN)	Conversation	3 hours
3420	Composition	3 hours
3100	Survey of Literature I	3 hours
3101	Survey of Literature II	3 hours
FRE 4780	French Phonetics and Diction	
or		3 hours
FRE 3955	Corrective Phonetics & Vocabulary Building	
4. Restricted Electives

15 credits in first language		
6 credits in second language		
Students are required to choose two of the following:		
LIN 4100	History of the English Language	3 hours
LIN 4341	Modern English Grammar	3 hours
LIN 3010	Principles of Linguistics	3 hours
5. Electives

	Total Semester Hours Required	120
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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 annually. 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. **Latin American Studies.** The minor in Latin American Area Studies offers a broad interdisciplinary approach to the understanding of Latin America and its peoples. The minor requires the completion of 18 semester hours selected from courses listed in the General Latin American Foundation Areas. In addition, students must complete the introductory language sequence (or its equivalent) in French or Spanish. For information, consult Professor Jose B. Fernandez, FA 551, (407) 275-2224.
2. **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 a multidisciplinary approach so as to understand linguistic, cultural, historical, political, and socio-economic interrelationships. Interested students should register for the minor with Dr. Stuart Lilie, (407) 275-2608.

DEPARTMENT OF HISTORY

Chair: J. Shofner, FA 551-B, Phone (407) 275-2224

Faculty: Colbourn, Crepeau, Evans, Fernandez, Fetscher, Greenhaw, Kallina, Leckie, Pauley, Wehr

Students majoring in history must complete a minimum of 36 hours in history courses. At least 6 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 who are interested in a pre-law program should work closely with their advisors in selecting major courses and electives which will best prepare them for law school. These students should use their electives for additional courses in history as well as English, speech and philosophy. Such a course of study will prepare them for success in law school and will concomitantly provide a broad liberal education.

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

MINOR

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

BACHELOR OF ARTS: HISTORY

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
None
4. Restricted Electives
None
5. Electives
To be selected with approval of the student's advisor

Total Semester Hours Required

120

AREA OF SPECIALIZATION

1. Soviet Area Studies. The History Department participates in the Soviet Area Program. For information consult with Dr. John Evans.

DEPARTMENT OF HUMANITIES, PHILOSOPHY AND RELIGION

Chair: P. Riley, FA 463, Phone (407) 275-2273

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

The Department of Humanities, Philosophy and Religion offers an interdepartmental Humanities major, with three choices of specialization; a philosophy major, minors in Asian Studies, Humanities, philosophy or religion; a variety of courses in Humanities, philosophy and religion for students in other areas who do not seek a major or minor.

MINORS

The Department of Humanities, Philosophy and Religion offers the following minors:

1. Asian Studies
An interdisciplinary minor consisting of a minimum of 21 semester hours in which seven UCF departments—Anthropology, Art, Economics, Foreign Languages, History, Political Science, and Humanities, Philosophy, and Religion—participate in order to offer students a basic and well-rounded background in the field. For information consult Dr. Husain Kassim.
2. Humanities
An interdisciplinary minor consisting of a minimum of 23 semester hours.
Required courses: 11 semester hours of Humanities, plus courses in art, music, literature, and electives in philosophy or religion. Specific courses must be selected in conference with a departmental advisor.
3. Philosophy
Twenty-four semester hours.
Required courses: PHI 1100, PHI 3130, PHI 2010, PHI 3600, plus 12 additional semester hours of philosophy courses selected in conference with a departmental advisor.
4. Religion
Twenty-one semester hours.
Required courses: REL 2302 plus a minimum of 18 semester hours of upper level religion courses. For specific requirements, students should see a departmental advisor.

BACHELOR OF ARTS: HUMANITIES

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (all specializations; choose two)

HUM 4301	The Classical Ideal in the Arts	4 hours
HUM 4302	The Romantic Ideal in the Arts	4 hours
HUM 4303	The Spiritual Ideal in the Arts	4 hours
4. Restricted Electives
(Choose one of the three specializations)
5. Electives
May be used to obtain a second major, to complete requirements for teacher certification in Humanities in the College of Education, or to strengthen the major with cognate courses.
Total Semester Hours Required 120

AREAS OF SPECIALIZATION

1. Ideas (See advisor for specific courses)

a. Two courses in world or English literature	6 hours
b. Two courses in Greek, Roman or European history	6 hours
c. Two courses in history of philosophy	6 hours
d. One course in Judaism, Christianity or world religions	3 hours
e. Any course in literature, history, philosophy or religion	3 hours
f. One course in art history or appreciation	3 hours
g. One course in music appreciation	3 hours
h. One course in theatre history	3 hours
2. The Arts (See advisor for specific courses)

a. One course in world literature	3 hours
b. One course in history	3 hours
c. One course in history of philosophy	3 hours
d. One course in religion	3 hours
e. Two courses in art	6 hours
f. Two courses in creative writing	6 hours
g. Two courses in music	6 hours
h. Two courses in theatre	6 hours
3. World Cultures (See advisor for specific courses)

a. Two courses in world or European literature	6 hours
b. Two courses in Russian or Far Eastern history	6 hours
c. Two courses in non-Western religion	6 hours
d. One course in philosophy	3 hours
e. Two courses in non-Western art	6 hours
f. One course in music appreciation	3 hours
g. One course in theatre history	3 hours

BACHELOR OF ARTS: PHILOSOPHY

Degree Requirements

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

PHI 1100	Critical Thinking	3 hours
PHI 3130	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

JUDAIC STUDIES PROGRAM

Director: *Moshe Pelli*; FA 550, Telephone (407) 281-5039 or 275-2251

The Interdisciplinary Program in Judaic Studies offers both a Minor and a Certificate, but not a major. Housed within the College of Arts and Sciences Dean's Office, the Program cooperates with the departments of English, Foreign Languages, History, Humanities, Philosophy and Religion, Political Sciences, and Sociology/Anthropology.

The program offers instruction, conducts research, and disseminates knowledge in the civilization of the Jewish people from Biblical times to the present day in the major dimensions of its creativity: literature, language, religion, philosophy, law, and social, political and economic organization. Because the roots of western culture and civilization and major world religions lie in ancient Jewish thought and practice as manifested in the Hebrew Bible and subsequent writings, Jewish Studies form an essential component of the university curricula.

Included in the 26-28 required hours are Jewish History, at least one year of Hebrew (HBR 1120, 1121) and 2-4 upper level courses in literature, such as HBR 3930 (Literature of the National Renaissance), HBT 3224 (Short Story), JST 3100 (Survey of Jewish Literature), JST 3751 (Literature of the Holocaust), LIT 4373 (Literature of the Bible), culture, such as JST 3820 (Modern Hebrew Culture), JST 3810 (The Jewish National Movement), and JST 3550 (Introduction to Modern Judaism).

See listings and courses under HBR, HBT, HBW, JST, and REL, and cross-listed courses in the Departments of Foreign Languages and Humanities, Philosophy and Religion.

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, (407) 275-2224.

DEPARTMENT OF MATHEMATICS

Chair: *L. Debnath*, CC II 221, Phone (407) 275-2585

Faculty: *Andrews, Anthony, Armstrong, Barr, Brigham, Caron, Debnath, Eves, Heinzer, Hurst, Jones, Malik, Mikusinski, Mohapatra, Norman, Pettofrezzo, Rautenstrauch, Richardson, Rodriguez, Rollins, Salzmman, Sherwood, Shivamoggi, Taylor, Vajravelu*

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

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

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

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

MINOR

The Department of Mathematics offers the following minor consisting of a minimum of 21 hours.

Required Courses: MAC 3311, 3312, 3313, MAP 3302.

(MAC 3311 and 3312 may be waived by the Department Standards Committee for a student with adequate high school preparation in calculus.)

Restricted Electives: A minimum of two courses selected from MHF 2300, MAA courses, MAP courses, MAS courses, or MTG courses. (Either MAS 3103 or MAS 3113 may be used but not both. Courses may be selected from MAA 4226, 4227, or MAA 5211 but not both.) These two courses must be taken from the Department of Mathematics at UCF.

BACHELOR OF SCIENCE: MATHEMATICS

Degree Requirements

1. See Undergraduate Degree Requirements

2. See special college and/or department requirements

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

3. One course selected from

ENC 3241	Technical Report Writing	3 hours
ENC 3310	Magazine Writing	3 hours
ENC 3311	Advanced Expository Writing	3 hours

4. AREA OF SPECIALIZATION

a. Mathematics Option

Required Courses

1st Year Sequence

MAC 3311	Calculus I	4 hours
STA 3023	Statistical Methods I	3 hours
MAC 3312	Calculus II	4 hours
MHF 2300	Logic and Proof	3 hours
BSC 2010	General Biology	4 hours

2nd Year Sequence

MAC 3313	Calculus III	4 hours
MAS 3103	Matrices (Mathematics Elective)	4 hours
PHY 3048	Physics for Engineers & Scientists I	3 hours
PHY 3048L	Physics Lab I	1 hours
MAP 3302	Differential Equations	3 hours
MAS 3104	Linear Algebra	4 hours
PHY 3049	Physics for Engineers & Scientists II	3 hours
PHY 3049L	Physics Lab II	

3rd Year Sequence

MAD 4203	Combinatorics and Graph Theory	3 hours
MAP 4363	Applied Boundary Values	3 hours
STA 4321	Statistical Theory	3 hours
COP 2000	Programming I	3 hours
MAS 4301	Algebraic Structures	4 hours
STA 4322	Statistical Theory II	3 hours
COP 2001	Programming II	3 hours

4th Year Sequence

MAA 4226	Advanced Calculus I	4 hours
MAA 4227	Advanced Calculus II	4 hours
MTG 4302	Introduction to Topology	3 hours

A minimum of 8 hours selected from upper division or graduate mathematics or statistics courses from COT 4500, COT 5510, COT 4210 or ENG 4634. (MAC 3233, 3253, 3254, MAE 3817 and MAA 5211 may not be used.) One additional course in either the biological or physical sciences must be taken. This course must be approved by the Department Standards Committee.

b. Applied Mathematics Option

1st Year Sequence

MAC 3311	Calculus I	4 hours
STA 3023	Statistical Methods I	3 hours
MAC 3312	Calculus II	4 hours
MHF 2300	Logic and Proof	4 hours
BSC 2010	General Biology	4 hours

2nd Year Sequence

MAC 3313	Calculus III	4 hours
MAS 3103	Matrices (Mathematics Elective)	4 hours
PHY 3048	Physics for Engineers & Scientist I	3 hours
PHY 3048L	Physics Lab I	1 hour
MAP 3302	Differential Equations	3 hours
MAS 3104	Linear Algebra	4 hours
PHY 3049	Physics for Engineers & Scientist II	3 hours
PHY 3049L	Physics Lab II	1 hour

3rd Year Sequence

MAD 4203	Combinatorics & Graph Theory or Vector and Tensor Analysis	3 hours
MAP 4153	Vector and Tensor Analysis	3 hours
MAP 4363	Applied Boundary Values Problems I	3 hours
COP 2000	Programming I	3 hours
STA 4321	Statistical Theory I	3 hours
MAP 4364	Applied Boundary Values Problems II	3 hours
COP 2001	Programming II	3 hours
STA 4322	Statistical Theory II	3 hours

4th Year Sequence

MAA 4226	Advanced Calculus I	4 hours
COT 4500	Numerical Calculus	3 hours
**Applied Elective Math Elective		
**Applied Elective MAP 4103	Math Modeling	3 hours
*Math-Stat Elective		

*One course selected from upper division or graduate mathematics or statistics courses or from COT 5510 or COT 4210. (MAC 3233, 3253, 3254, MAE 3817 and MHF 4404 may not be used.)

**From an approved list

5. Electives

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

Total Semester Hours Required

120

DEPARTMENT OF MUSIC

Chair: B. Whisler, FA 105A, Phone (407) 275-2869

Faculty: Eubank, Farina, Gardner, Hotaling, Lesko, Owens, Pickering, Roney, Stallings, Whitney, Wolf, Wrancher.

Part-time Faculty: J. Ault, S. Ault, Beck, Glazier, Groves, Hostetter, Leung, A. Mascaro, J. Mascaro, McQuinn, Micarelli, Pecht, Petta, Schwab, H. Somerville, Threatte.

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

The Music Department is fully accredited by 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, Gospel Choir, and a Student Chapter of Music Educators National Conference.

SPECIAL MUSIC MAJOR ENTRANCE REQUIREMENTS

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

K-12 Certification

The Music Education programs are approved by the Florida State Department of Education. Students who wish to be certified to teach in elementary and secondary schools should consider a major in Music Education. Courses leading to teacher certification are offered cooperatively with the College of Education. A reciprocal certification arrangement is in effect with approximately 30 other states, with reciprocal certification pending in other states. In addition, a Master of Education degree in Music Education is offered by the College of Education.

As a prerequisite to formal admission to the State Approved Program of Teacher Education students must:

1. score at or above the 40th percentile of all college bound persons tested on the American College Testing Program (ACT, score 17) or the Scholastic Aptitude Test (SAT, score 835) and have this score reported as part of their official academic record
2. have an overall and UCF academic average (G.P.A.) of 2.0 or above
3. have satisfactorily completed EDG 4321 (Teaching Strategies)
4. have passed the College Level Academic Skills Test (CLAST)
5. submit a formal junior student teaching application to the College of Education Student Internships Office. Must meet the College of Education's requirements for admission to Junior and Senior Year Student Teaching.

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

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

COMPREHENSIVE EXAMINATIONS

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



POLICY REGARDING MAJOR ENSEMBLE PARTICIPATION

1. In order to graduate, music majors with a performance specialization must spread their required 8 semester hours of major ensemble credit over at least 8 separate semesters; music majors with a liberal arts specialization must spread their required 6 semester hours of major and/or minor ensemble credit over at least 6 separate semesters; music education majors must spread their required 7 semester hours of minor ensemble credit over at least 7 separate semesters.
2. The following ensembles are considered major ensembles: chorus, symphony orchestra, concert band, marching band and wind ensemble.
3. Vocal music education majors may elect to substitute 1 hour of band or orchestra or 1 hour of the minor ensemble requirement provided they have sufficient facility on an appropriate instrument.
4. Assignment to major ensembles will be made by the ensemble directors.
5. Undergraduate students taking a course in Performance must take concurrently a major ensemble appropriate to their principal instrument.

POLICY REGARDING MINOR ENSEMBLE PARTICIPATION

1. In order to graduate, music majors with a performance specialization must spread their required 4 semester hours of minor ensemble credit over at least 3 separate semesters; music majors with a liberal arts specialization must spread their required 6 semester hours of major and/or minor ensemble credit over at least 6 separate semesters; music education majors must spread their required 4 semester hours of minor ensemble credit over at least 3 separate semesters.
2. The following ensembles will be considered *minor* ensembles: Brass Ensembles, Percussion Ensembles, Piano Ensembles, String Ensembles, Vocal Ensembles (except Opera Workshop), Woodwind Ensembles, Jazz Lab.

POLICY REGARDING RECITALS AND STUDENT TEACHING

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

MINOR

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

1. A successful audition on the student's principal instrument or voice.
2. A minimum of 21 semester hours credit to include the following or their equivalent: MUT 1111, MUT 1112 (4 hours); MUT 1241, MUT 1242 (2 hours); MUL 2010 (3 hours); major ensemble credit spread over at least 4 separate semesters (4 hours); 2 semesters of performance level I (4 hours) and 2 semesters of performance level II (4 hours) on the same instrument.
3. A minimum of 11 semester hours of these required courses, including two semesters of a major performing organization and two semesters of Performance Level II, must be completed at UCF.
4. Successful completion of 4 semesters of Music Forum (Mus 1010).
5. A GPA of 2.0 is required for all music courses attempted, whether used to fulfill these requirements or not.

BACHELOR OF ARTS: MUSIC

Degree Requirements

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

MUS 1010	Music Forum (6 semesters)	0 hours
MUT 1111, 1112, 2116, 2117, 3561	Music Theory	10 hours
MUT 1241, 1242, 2246, 2247, 3248	Ear Training and Sight Singing	5 hours
MVK/MVS/MVW/MVB		
MVP/MVV	Performance (4 semesters)	8 hours
MUH 4211, 4212	*Music History	6 hours

Special Non-Course Requirements

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

Program A—Performance Specialization

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

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

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

4. Restricted Electives
see above paragraph
5. Electives 3 hours

Special Non-Course Requirements

1. Two faculty-approved public recitals: a junior recital of 30 minutes length and a senior recital of 45 minutes length. Students who select the Piano Pedagogy option will perform two faculty-approved thirty-minute recitals.
2. Residency requirements: 2 semesters of Performance Level IV; senior recital; history and theory proficiency examinations.
3. At least 77 hours of credit must be earned in music courses.

Program B—Liberal Arts Specialization

MVK/MVS/MVW/MVB MVP/MVV	Performance (2 semesters, including 2 semesters of Level III)	4 hours
MUN	Major and Minor Ensembles (6 semesters)	6 hours
MVK	Class Piano I-IV	4 hours
Music Electives/Special Requirements		5 hours

Any MUC, MUE, MUG, MUH, MUL, MUS, MUT courses numbered 3000 or higher except the following: MUH 4218, MUT 4031 and 4249.

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

4. Restricted Electives
See above paragraph 35 hours
5. Electives

Special Non-Course Requirements

1. One faculty approved thirty-minute recital.
2. Residency requirements: 2 semesters of Performance Level III; 2 ensem-

bles, [each in a different semester]; MUT 3561; MUT 3248; 2 semesters of MUS 1010; history and theory proficiency examinations, recital.

Total Semester Hours Required

120

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

BACHELOR OF ARTS: MUSIC EDUCATION

Degree Requirements

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

MUS 1010	Music Forum (6 semesters)	0 hours
MUT 1111, 1112, 2116, 2117, 3561	Music Theory	10 hours
MUT 1241, 1242, 2246, 2247, 3248	Ear Training and Sight Singing	5 hours
MVB/MVK/MVP	Performance (6 semesters including 2 semesters of level III)	12 hours
MVS/MVV/MVW	Major Ensemble (7 semesters)	7 hours
MUN	Minor Ensemble	4 hours
MUN	*Music History	6 hours
MUH 4211, 4212	Basic Conducting	2 hours
MUG 3101	Brass Techniques	1 hour
MUE 3460	Percussion Techniques	1 hour
MUE 3470	String Techniques	1 hour
MUE 3440	Woodwind Techniques	1 hour
MUE 3450	Analysis of Educational Foundations	3 hours
EDF 3603	Classroom Learning Principles	3 hours
EDF 4214	Application of Technology in Education	3 hours
EDF 4285	Teaching in the Schools	3 hours
EDG 4324	Teaching Strategies	4 hours
EDG 4321	Junior Year Student Teaching	6 hours
EDE 3943	Senior Year Student Teaching	12 hours
EDE or ESE 4943	Elementary School Music Instructional Analysis	2 hours
MUE 4311	Secondary School Music Instructional Analysis	2 hours
MUE 4360		

Program A - Instrumental Music Education Specialization

MVV 1111	Class Voice	1 hour
MVK	Class Piano I-IV	4 hours
MVB/MVK/MVP/ MVS/MVV/MVW	Performance IV	2 hours
MUE 1460	Brass Techniques	1 hour
MUE 1450	Woodwind Techniques	1 hour
MUG 3302	Instrumental Conducting	2 hours
MUT 4344	Seminar in Music Arranging	1 hour
MUE 4480	Marching Band Techniques	1 hour

Program B - Choral Music Education Specialization

MVK 1111-1141	Class Piano I-IV (Not required of Piano Majors)	4 hours
MVV 1111	Class Voice (Not required of Voice Majors)	2 hours
MVS 1216	Secondary Guitar	1 hour
MUG 3202	Choral Conducting	2 hours
MVB/MVK/MVP/ MVS/MVV/MVW	Performance IV	2 hours
ITA 1005, FRE 1005, GER 1005	Diction	3 hours

Program C - Elementary School Music Education Specialization

MVK 1111-1141	Class Piano I-IV (Not required of Piano Majors)	4 hours
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MVV 1111	Class Voice (Not required of Voice Majors)	3 hours
MVS 1216	Secondary Guitar	1 hour
MVO 3124	Recorder II	1 hour
	Special Topics in Elementary School Music (2 semesters)	4 hours
4. Restricted Electives		
None.		
5. Electives		
None.		
	Minimum Total Semester Hours Required	134-139

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. Music History and Music Theory Comprehensive Examinations.
4. Students graduating from UCF with a major in music education must complete their last two semesters of required performance; their recital, if required; and, their senior year student teaching while attending UCF.
5. A GPA of 2.0 is required for all music courses attempted.

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

DEPARTMENT OF PHYSICS

Chair: S. K. Bose, HPB 310, Phone (407) 275-2325

Faculty: Bass, Bolemon, Bolte, Brennan, Caldwell, Chow, Chowdhury, Elias, Hagan, Kim, Lin, Littlewood, Llewellyn, Miller, Neighbor, Noon, Saha, Soileau

The Department of Physics offers a Bachelor of Science degree in Physics and a minor in Physics, physics courses for graduate and undergraduate science education majors, and a Masters of Science in Physics. Students planning graduate study should consult faculty advisors about increased course content in physics (some electives are offered in alternate years) and mathematics such as applied boundary problems, vector and tensor analysis, matrices; double majors are encouraged where appropriate.

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

Independent investigation and use of scientific instrumentation (such as lasers, lock-in amplifiers, multi-channel analyzers, oscilloscopes) are emphasized at the upper division. Computer programming requiring numerical analysis and familiarity with microcomputers is required.

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

MINOR

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

BACHELOR OF SCIENCE: PHYSICS

Degree Requirements

1. See Undergraduate Degree Requirements
 2. See special college and/or department requirements
- In addition to the degree requirements listed below for a B.S. in Physics, the following standards are required by the department for graduation. Approval as a special case by the Department Undergraduate Affairs Committee is required for any waiver.
- a. A minimum GPA of 2.0 for all courses used for a major in physics.

b. No credit toward graduation for a D grade in any physics or mathematics course required for a major in physics; a higher grade on repeating is acceptable.

3. Required Courses

The courses listed, or departmentally approved equivalents, are required in the physics curriculum.

BSC 2010C	General Biology	4 hours
CHM 2045, 2046, 2046L	Chemistry Fundamentals	8 hours
MAC 3311, 3312, 3313	Calculus with Analytic Geometry	12 hours
PHY 3048, 3048L 3049, 3049L	Physics For Engineers & Scientists I & II	8 hours
PHY 3101	Modern Physics	3 hours
PHY 3220	Mechanics I	3 hours
PHY 3503	Thermodynamics	3 hours
MAP 3302	Differential Equations	3 hours
PHY 3320	Electricity and Magnetism I	3 hours
PHZ 3151	Computer Methods in Physics	4 hours
PHY 3752C	Physics of Scientific Instruments	4 hours
PHY 4220	Mechanics II	3 hours
PHY 4320	Electricity and Magnetism II	3 hours
PHY 4604	Wave Mechanics	3 hours
STA 3032	Probability and Statistics for Engineers	3 hours
PHY 3802L	Intermediate Physics Laboratory	3 hours
PHY 4803L	Advanced Physics Laboratory	3 hours

4. Restricted Electives

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

5. Electives for Career Enrichment

Each physics major must complete a plan of study, no later than the junior year, indicating choice of electives, and submit it to the department undergraduate advisor for approval by the UAC. No more than 6 hours may be research credit. 12 hours

Total Semester Hours Required 127

DEPARTMENT OF POLITICAL SCIENCE

Chair: J. Lillie, FA 426, Phone (407) 275-2608

Faculty: Bledsoe, Handberg, Johnson-Freese, Kennedy, S. Lillie, Morales, Perry, Pollock, Stern, Vittes

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

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

It is strongly recommended that majors planning to continue their education at the graduate level or to pursue a career in international fields acquire a working knowledge of a foreign language.

Canadian Studies: The Department of Political Science is the main contributor to the Canadian Studies Programme. Interested students should contact Dr. Henry Kennedy.

Latin American Studies: The Political Science Department participates in the Latin American Studies Program. Contact Dr. Waltraud Q. Morales.

Soviet Area Studies: The Political Science Department participates in the Soviet Area Studies program. Consult Dr. Stuart Lillie.

MINOR

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

1. Political Science
Required courses: POS 2041 and two 4000-level courses. In the event a student has taken the varying credit POS 4941, only 3 semester hours from this course can be used in the minor. Only two courses (6 semester hours) from a two-year institution will be accepted as part of the minor. Other than these requirements, students may select any other Political Science courses with the aid of an advisor.
2. Political Science/Prelaw
Required courses: POS 2041, 4284; at least one from INR 4401, 4402, POS 4603, or POS 4604. In the event a student has taken the varying credit POS 4941, only 3 semester hours from this course can be used in the minor. Only two courses (6 semester hours) from a two-year institution will be accepted as part of the minor. Other than these requirements, students may select any other Political Science courses with the aid of an advisor.

BACHELOR OF ARTS: POLITICAL SCIENCE

Degree Requirements

1. See Undergraduate Degree Requirements
Only two courses (6 semester hours) from a two-year institution will be accepted toward completion of major requirements.
2. See special college and/or department requirements
3. Required Courses

POS 2041	American National Government	3 hours
*POS 3703	Scope and Methods of Political Science	3 hours

*This course should be completed by the second semester of the junior

year.

4. Restricted Electives

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

Emphasis 1: American Politics and Policy

Five courses from area A	15 hours
Two courses from area B	6 hours
Two courses from area C	6 hours
One additional course from any area	3 hours

Emphasis 2: International Relations-Comparative Politics

Five courses from area B	15 hours
Two courses from area A	6 hours
Two courses from area C	6 hours
One additional course from any area	3 hours

Emphasis 3: Prelaw

POS 4284	Judicial Process and Politics	3 hours
One of the following:		3 hours

*POS 4603	American Constitutional Law I	
POS 4604	American Constitutional Law II	
INR 4401	International Law I	
INR 4402	International Law II	

*POS 4603 should ordinarily be taken before POS 4604.

Five courses from either area A or area B	15 hours
Two courses from area A if area B is chosen above; or	
Two courses from area B if area A is chosen above	6 hours
One course from area C	3 hours

Total Hours in Major 36 hours

5. Electives

Total Semester Hours Required 120

AREAS OF SPECIALIZATION

The Department courses are divided into three areas of specialization.

A. American Politics and Policy

POS 3122	State Government	
POS 3443	Political Parties and Processes	
POS 3413	The American Presidency	
POS 3424	Congress and the Legislative Process	

PUP 3314	Minorities in American Politics
POS 3235	Mass Media and Politics
POS 3233	Public Opinion
POS 3273	Voting and Elections
POS 3173	Southern Politics
POS 4246	Political Socialization
POS 4603	American Constitutional Law I
POS 4604	American Constitutional Law II
POS 4284	Judicial Process & Politics
POS 4412	Presidential Campaigning
PUP 4323	Women and Politics
POS 4142	Metropolitan Politics
URP 4026	Community Planning
PUP 3204	Environmental Politics
PUP 4003	American Public Policy
POS 4622	Politics and Civil Rights
POS 4445	Comparative Political Parties
PUP 4503	Government and Science
PUP 4602	Politics of Health
POS 4265	Power and Policy in the United States
PUP 4009	Topics in Public Policy
B. International Relations and	Comparative Government
INR 3002	International Relations
GEO 3470	World Political Geography
INR 4035	International Political Economy
INR 4102	American Foreign Policy
INR 4114	American Defense Policy
INR 4115	Strategic Weapons and Arms Control
INR 4224	Contemporary International Politics of Asia
INR 4243	International Politics of Latin America
INR 4274	International Politics of the Middle East
INR 4335	Coercion in International Politics
INR 4401	International Law I
INR 4402	International Law II
INR 4504	International Organizations
CPO 3034	Politics of Developing Areas
CPO 3103	Comparative Politics
CPO 3132	Introduction to Canadian Studies
POS 3253	Contemporary Revolution and Political Violence
CPO 4123	Government and Politics of Great Britain
CPO 4303	Comparative Latin American Politics
CPO 4643	Government and Politics of the Soviet Union
CPO 4024	Non-Western Politics
CPO 4133	Government and Politics of Canada
PUP 4510	Space Policy
C. Political Theory	
POT 3302	Modern Political Ideologies
POT 3204	American Political Thought
POT 4003	Political Theory
POT 4314	Contemporary Democratic Theory
POT 4045	Ancient, Medieval and Early Modern Political Philosophy
POT 4054	Modern Political Philosophy
POS 4206	Political Psychology
POS 4252	Politics of the Future

PRELAW: POLITICAL SCIENCE

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

Prelaw students are encouraged to work closely with the prelaw advisor in planning their programs. By judicious use of electives, the student not only builds a firm foundation for law school entry, but in addition, acquires a broad vocational training which can result in career options upon graduation. For further information, consult one of the Department's prelaw advisors.

1. Some suggested electives include:

ACG 2001	Principles of Accounting I
ACG 2011	Principles of Accounting II
BUL 3111	Legal Environment of Business
ENC 3210	Business Report Writing
EUH 2095	Introduction to Anglo-American Law
LEA 3011	Legal Research and Writing
PHI 3130	Formal Logic I
PHI 3131	Formal Logic II
MHF 2300	Logic and Proof in Mathematics
LIN 4341	Modern English Grammar

INTERNSHIP PROGRAM: POLITICAL SCIENCE

For students who excel, a limited number of internships may be available each semester for 3 to 6 hours of credit. Under the Internship Director, the student is typically placed in an office of local, state, or national government, a law office, or campaign headquarters.

DEPARTMENT OF PSYCHOLOGY

Chair: R. Tucker, PH 317, Phone (407) 275-2216

Faculty: Abbott, Blau, Brophy, Burr, Burroughs, Connally, Fisher, Gilson, Guest-Houston, Jensen, McGuire, Morgan, Rinalducci, Rollins, Shirkey, Tell, Thomas, Turnage, Wang, Wooten

The undergraduate program provides a general preparation in Psychology with the option to select an emphasis area from a variety of subfields. Suggested emphasis area course listings are available in the department. Successful completion of the specified program of at least 41 hours leads to the Bachelor of Arts degree with a major in Psychology. The Bachelor of Science option is also available.

MINOR

The Psychology Department offers minors in several emphasis areas, including Clinical Psychology, Human Factors Psychology, and Industrial/Organizational Psychology. The guiding principle in design of a minor is to select those Psychology courses which will strengthen the graduate school preparation and/or the marketability of the student's major program. Therefore, a minimum of 22-25 credit hours are required, 3 in Statistics, and 19-22 in Psychology, including PSY 2013 (3 hours) and PSY 3214 (4 hours). The additional 12 (or more) hours are to be taken with the approval of the Psychology Department's Undergraduate Program Coordinator. The additional hours will generally follow suggested course lists which are available in the Department.

BACHELOR OF ARTS: PSYCHOLOGY

Degree Requirements

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

PSY 2013	General Psychology	3 hours
PSY 2023	Careers in Psychology	1 hour
PSY 3214	Research Methods	4 hours
PSY 3204	Statistical Methods in Psychology	4 hours
EXP 3404	Basic Learning Processes	4 hours
PSB 3002	Physiological Psychology	4 hours

4. Restricted Electives

a. Psychology Department (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
b. Statistics Department (one of the two)		
STA 2014	Principles of Statistics	3 hours
STA 3023	Statistical Methods I	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 Outside Major	3
	Total Hours Required in Major	38
	Total Semester Hours Required	120

DEPARTMENT OF PUBLIC SERVICE ADMINISTRATION

Chair: R. Shapek, PH 116, Phone (407) 275-2603

Faculty: Aristigueta, Becker, Brennan, Colby, Cook, Duffey, Holten, Jurie, Kimmitt, Korstad, Lawther, Mahan, Pyle, Slaughter, Tangel-Rodriguez

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

LEGAL STUDIES PROGRAM

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

BACHELOR OF ARTS: LEGAL STUDIES

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (24 hours)

PLA 3013	Law and the Legal System	3 hours
PLA 3015	Legal Research	3 hours
PLA 3155	Legal Writing	3 hours
PLA 3203	Civil Practice and Procedure	3 hours
PLA 3504	Property and Real Estate Law	3 hours
PLA 4603	Estates and Trusts	3 hours
PLA 4408	Contract Law	3 hours
PLA 4433	Florida Partnerships and Corporations	3 hours
4. Restricted Electives
 - a. 12 additional semester hours of Legal Studies coursework.
 - b. 9 semester hours of supporting courses chosen with the approval of the student's advisor. These courses may be selected from any department or program (including Legal Studies) so long as they are related to the law.
5. Electives

Total Semester Hours Required 120

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

CRIMINAL JUSTICE PROGRAM

The Criminal Justice program 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. Satisfactory completion of program requirements leads to the degree of Bachelor of Arts with a major in Criminal Justice.

BACHELOR OF ARTS: CRIMINAL JUSTICE

Degree Requirements

1. See Undergraduate Degree Requirements
 2. See special college and/or department requirements
 3. Required Courses (12 semester hours)

CCJ 3020	Criminal Justice System	3 hours
CCJ 3010	Crime in America	3 hours
CCJ 3290	Prosecution and Adjudication	3 hours
CCJ 3300	Corrections and Penology	3 hours
 4. Restricted Electives
 - a. 24 additional semester hours of CCJ coursework of which at least 21 hours must be upper division. Seniors can satisfy up to 12 hours of this requirement with internship and up to 6 hours with directed independent study; however, the combination of these non-class options shall not exceed 12 hours. Program standards must be met to be eligible for either internships or independent study credit.
 - b. 15-16 additional semester hours of supporting courses to be selected with and approved by the student's advisor. These courses may vary from student to student depending upon individual needs or objectives, but include selected courses from public administration, legal studies, sociology, statistics, and psychology.
 5. Students must take a minimum of 30 hours from the department to obtain the UCF degree in Criminal Justice.
 6. Electives
- Total Semester Hours Required 120

PUBLIC ADMINISTRATION PROGRAM

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

BACHELOR OF ARTS: PUBLIC ADMINISTRATION

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (27 semester hours)

PAD 3003	Introduction to Public Administration	3 hours
PAD 4034	Administration of Public Policy	3 hours
PAD 4104	Administrative Theory	3 hours
PAD 4204	Fiscal Management	3 hours
PAD 4414	Public Personnel Administration	3 hours
POS 2041	American National Government	3 hours
ECO 2013	Principles of Economics I	3 hours
CGS 1060	Introduction to Computer Science	
or		
CGS 3000	Computer Fundamentals for Business Application	3 hours
STA 2014	Principles of Statistics	
or		
STA 3023	Statistical Methods I	
PAD 4xxx	Survey Research	
or		
	a course in social science research with an emphasis on statistical methods	3 hours
4. Restricted Electives
30 additional semester hours taken from: (1) Public Administration electives including the internship; and (2) one or more allied public science fields. All courses are selected with and approved by the student's advisor. Among such supporting fields are accounting, legal studies, communica-

tion, computer science, criminal justice, economics, political science, social work, sociology, and statistics.

5. Electives

Total Semester Hours Required

120

MINOR

The public administration program offers a minor in public administration consisting of 21 hours:

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

BACHELOR OF SCIENCE: SOCIAL SCIENCES

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

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

Degree Requirements

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

None

4. Restricted Electives

a. Choose one

POS 3703	Scope and Methods of Political Science	3 hours
PSY 3214	Research Methods (Psychology)	3 hours
SYA 3300	Research Methods (Sociology)	3 hours

b. A minimum of 15 semester hours in each of four Social Science disciplines. The following are the required courses for each discipline selected.

Communication

RTV 4403	Radio, Television and Society	3 hours
	or	
JOU 3003	History of American Journalism	3 hours
COM 3311	Communication as a Behavioral Science	3 hours

Economics

ECO 2013	Principles of Economics I	3 hours
ECO 2023	Principles of Economics II	3 hours

Political Science

POS 2041	American National Government	3 hours
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Psychology

PSY 2013	General Psychology	3 hours
PPE 3003	Personality Theory	3 hours

Public Service Administration

PAD 3003	Introduction to Public Administration	4 hours
CCJ 3020	Criminal Justice System	4 hours
	or	
PLA 3013	Law and the Legal System	4 hours

Sociology

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

5. Electives

Total Semester Hours Required

120

DEPARTMENT OF SOCIAL WORK

Chair: K.J. Kazmerski, FA 215, Phone (407) 275-2114

Faculty: Abel, Green, Suh, Tropf

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

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

BACHELOR OF SOCIAL WORK

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (45 hours)

SOW 3104	Assessing Human Development	3 hours
SOW 3191	Assessing Human Systems	3 hours
SOW 3203	Social Welfare and Community Resources	3 hours
SOW 3232	Social Welfare Policies and Issues	3 hours
SOW 3403	Social Work Research	3 hours
SOW 4431	Evaluating Social Work Practice and Service Programs	3 hours
SOW 3300	Generalist Practice in Social Work	3 hours
SOW 3352	Interpersonal Skills in Social Work Practice	3 hours
SOW 4341	Micro-level Roles and Interventions in Social Work	3 hours
SOW 4343	Macro-level Roles and Interventions in Social Work	3 hours
SOW 4620	Social Work with Minorities	3 hours
SOW 4510	Field Education	9 hours
SOW 4522	Field Education Seminar	3 hours

4. Electives

Total Semester Hours Required 120

Social Welfare Enhancement Options

Students desiring additional studies in a social welfare area must satisfy the requirements of the basic curriculum while concurrently completing the optional area.

1. Child Welfare Option

SYO 4100	The Family	3 hours
SOW 4654	Children's Services	3 hours
EDF 3603	Analysis of Educational Foundations	3 hours
or		
EDF 4003	Overview of Education	3 hours

Elective from approved list -- see advisor

In addition, SOW 4510 Field Education must be completed in a child welfare agency 9 hours

2. Gerontology Certificate Program

See Office of Undergraduate Studies section

3. Health Services Option

SYO 4400	Medical Sociology	3 hours
HSA 4120	Community and Public Health Services	3 hours
or		
HSA 4121	History and Future of Health Care	3 hours
SOW 4602	Social Work in Health Settings	3 hours

Elective in Health Studies 3 hours

In addition, SOW 4510 Field Education must be completed in a health setting. 9 hours

DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY

Chair: *D. Fabianic*, FA 402, Phone (407) 275-2227

Faculty: *Allen, W. Brown, A. Chase, D. Chase, Cook, Dees, Hodgin, D. Jones, 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 3211, 3410, 3422, ANT 3511, 12 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 2 sociology courses may be transferred from another Sociology Department and no more than 8 semester hours of 1000 or 2000 level sociology courses can be applied. The minimum number of semester hours required - 18.

BACHELOR OF ARTS: SOCIOLOGY

Degree Requirements

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

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
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
SYO 3360	Social Organization & Human Relations	3 hours
or		
SYP 4000	Sociological Social Psychology	3 hours
SYA 4450	Data Analysis (PR: Course in Statistics)	4 hours
SYA 4650	Applied Sociology	3 hours

One course in Statistics

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

4. Restricted Electives

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

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

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

take 15 semester hours from the Deviant Behavior and Social Problems category and a minimum of 6 semester hours of Sociology Internship.

Areas of Emphasis

Social Processes and Institutions

SYD 3410	Urban Sociology	3 hours
SYD 3700	Race and Ethnic Minorities in the U.S.	3 hours
SYD 3800	Sex Roles in Modern Society	3 hours
SYP 3650	Sociology and Sport	3 hours
SYD 4020	Population	3 hours
SYD 4680	Soviet Sociology	3 hours
SYO 3530	Social Stratification	3 hours
SYO 4100	The Family	3 hours
SYO 4250	Sociology of Education	3 hours
SYO 4300	Political Sociology	3 hours
SYO 4370	Sociology of Occupations & Professions	3 hours
SYO 4400	Medical Sociology	3 hours
SYP 3300	Collective Behavior	3 hours

Deviant Behavior and Social Problems

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

Eligible students may enroll for 3 to 16 semester hours of Internship.

Arrangements for Internship are coordinated by the Department.

5. Electives

Total Semester Hours Required

120

BACHELOR OF ARTS: ANTHROPOLOGY

Degree Requirements

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

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

Degree Requirements

1. See Undergraduate Degree Requirements
2. Special college and/or department requirements
3. Required Courses (21 hours)

ANT 3211	Human Origins (Anthropology I)
ANT 3410	Cultural Anthropology (Anthropology II)
ANT 3511	The Human Species (Anthropology III)
ANT 3145	Archaeology of Complex Societies
ANT 3422	Peoples of the World
ANT 3610	Language and Culture
ANT 4084	Anthropological Method and Theory

4. Restricted Electives (24 hours)

Area Studies (Select 3)

ANT 3153	Archaeology of North America
ANT 3162	Archaeology of Middle and South America
ANT 3163	Mesoamerican Archaeology
ANT 3311	Indians of the Southeastern United States
ANT 3312	Ethnology of North American Indians
ANT 3313	Indians of the North American High Plains
ANT 3328	Maya Archaeology
ANT 3332	Peoples and Cultures of Latin America
ANT 3360	Peoples of the Far East
ANT 3363	Anthropology of Japan

Specialized Studies (Select 5)

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 (recommended for non-majors)
ANT 5479	Comparative Cultural Analysis
ANT 5937	Proseminar in Anthropology
	Total Semester Hours Required

120

SOVIET AREA STUDIES

Five UCF departments, Foreign Languages, History, Political Sciences, Sociology, and Humanities, Philosophy and Religion, have pooled their resources to offer a minor to students interested in Soviet Area Studies a basic and well-rounded background in the field. The philosophy of the program is to offer students a multidisciplinary approach to the subject, so as to allow them to grasp the subject in its complexity and to understand linguistic, cultural, historical, political, and socio-economic interrelationships.

Interested students should register for the minor with Dr. Stuart Lillie, Department of Political Science, FA 426 (407) 275-2608. For further information consult any of the above mentioned departments.

DEPARTMENT OF STATISTICS

Chair: TBA, BL 330, Phone (407) 275-2289

Faculty: *Cutchins, A. Dutton, Hoffman, Kazempour, Kheoh, Malone, Richardson, J. Schott, S. Schott, P. Somerville, Wildman-Pepe*

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

The undergraduate programs in statistics are designed to serve (1) students who wish to pursue careers in statistics after having completed a baccalaureate degree; (2) students

who wish to continue their education in graduate or professional schools; and (3) students who need to use statistics as tools in their specialty areas.

In order to serve such a wide variety of students, the courses and programs in the Department of Statistics have developed along several lines. There are the usual service courses in elementary statistics along with strong programs in the upper division in statistical methods, statistical theory, and statistical computing.

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

MINOR

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

Restricted Electives: Six or more hours from STA courses numbered 3000 or higher. (Credit from STA 3023 or STA 3032 or the equivalent may not be used as a restricted elective.) All courses except STA 3023 or STA 3032 must be taken from the Department of Statistics at UCF unless substitutes are approved by the Department Standards Committee.

BACHELOR OF SCIENCE: STATISTICS

Degree Requirements

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

Group A

BOT 2010C
BSC 2010C
ZOO 2010C

Group B

CHM 2045
CHM 2046 and CHM 2046L
PHY 3053C
PHY 3054C

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

- (c) A grade of C or higher is required in all STA courses counting towards a statistics major.
 - (d) A 2.0 average or higher is required in all computer science and mathematics courses that count toward a statistics major.
3. Required Courses

STA 3023	Statistical Methods I	3 hours
STA 4664	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
COT 4500	Numerical Calculus	3 hours
COP 2000	Programming I	3 hours
COP 2001	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 3100	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.)		
Selected courses in engineering may be used but must first be approved by the Statistics Department Standards Committee.		
5. Electives		
The number of hours depends on the courses chosen to satisfy university requirements.		

Total Semester Hours Required 120

DEPARTMENT OF THEATRE

Director: *H. Smith*, TH 120, Phone (407) 275-2861

Faculty: *McKay, Rusnock. Associate: James Best*

The Department of Theatre offers the student an opportunity to concentrate in the area of theatre either as preparation for graduate or professional study or as a course of study in the liberal arts.

The major in Theatre offers three separate areas of concentration. Successful completion of the theatre degree is contingent upon the student's continuing participation in Department productions.

MINOR

The Department of Theatre offers a minor consisting of a minimum of 29 hours, as follows: THE 1020, THE 2071, THE 2925, THE 3370 or THE 3112 or THE 3113, TPA 2210, TPA 3060, or TPP 3310, TPP 2110, DAA 2200 and 6 hours of 3000/4000 level theatre electives.

BACHELOR OF ARTS: THEATRE

Degree Requirements

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

DAA 2200	Dance I	3 hours
THE 1020	Theatre Survey	3 hours
THE 2071	Cinema Survey	3 hours
THE 2925	Theatre Practicum I	2,2 hours
THE 3112	Theatre History I	3 hours
THE 3113	Theatre History II	3 hours
TPA 2210	Technical Theatre Production I	3 hours
TPA 2204	Technical Theatre Production II	3 hours
TPP 2110	Acting I	3 hours
TPP 3310	Directing I	3 hours

AREAS OF CONCENTRATION

Program "A" Performance

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

Suggested Electives: Theatre and Related Courses 12 hours

Program "B" Technical Theatre & Design

THE 3260	Theatrical Costume History and Design	3 hours
THE 3925	Theatre Practicum II	2 hours

TPA 3060	Scene Design	3 hours
TPA 3081	Scene Painting	3 hours
TPA 3220	Stage Lighting	3 hours
TPA 3221	Lighting Design	3 hours
TPA 4061	Advanced Design	3 hours
Suggested Electives: Theatre and Related Courses		9 hours
Program "C" Film		
THE 3251	History of Motion Picture	3 hours
THE 4072	Principles of Motion Picture Art	3 hours
THE 4073	Film Production	3-6 hours
TPA 3060	Scene Design	3 hours
TPA 3220	Stage Lighting	3 hours
Special Topics and/or Independent Study in Film		3-6 hours
Approved ART, RTV, or THE courses		6 hours
Suggested Electives		
4. Restricted Electives		
5. Electives—see each program for suggested electives		
Total Semester Hours Required		120

WOMEN'S STUDIES PROGRAM

The Women's Studies program offers an interdisciplinary minor, but not a major. Several departments cooperate in offering the minor which emphasizes the history and cultural contributions of women and their role in society today. For further information contact Dr. Kathryn Seidel, FA 511, (407) 275-2251.

Required Courses—15 hours:

AMH 3560	Women in American History
ANT 3302	Sex, Gender and Culture
LIT 3383	Women in Literature
PUP 4323	Women and Politics
SOP 3742	Psychology of Women

Elective Courses (choose one) — 3 hours:

SYD 3800	Sex Roles in Modern Society
SYD 4100	The Family
Special Topics	by permission of Women's Studies advisor.

PRE-HEALTH PROFESSIONS PROGRAMS ADVISEMENT OFFICE

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

The Office of Pre-Health Professions Advisement has been created to operate as a service to all students preparing for and seeking admission to professional schools of dentistry, medicine, osteopathic medicine, optometry, pharmacy, podiatry, and veterinary medicine. The services afforded students through this office are numerous and range from basic advising and counseling in preprofessional matters to providing a Composite Evaluation of students (upon their request) to each professional school to which they desire to apply. However, in order to be considered for a Composite Evaluation, students 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 application to the professional schools, usually between the junior and senior year. Additionally, all preprofessional students are strongly encouraged to affiliate with and participate in the activities of the Preprofessional Medical Society.

PREPROFESSIONAL PLANNING

Preprofessional students should bear in mind that admission to a health professional school is competitive and the best applicants have credentials that significantly exceed stated admission requirements. For this reason, preprofessional students should pay close attention to the characteristics of successful applicants. For example, while many dental and medical schools require only two and three years respectively of college preparation, approximately 91 percent of all premedical and 95 percent of all premedical students accepted throughout the nation each year have completed four years of college. Conse-

quently, since pathways such as "premed" do not lead to a degree, each professional student is urged to pursue a degree-granting program not only to become more competitive for admission, but also to prepare for an alternate career in the event admission to a professional school is denied. Any degree-granting program offered by the University may be selected as a major; however, those programs within the sciences will generally lend themselves most adequately to preprofessional preparation due to the nature and content of their curricula. While satisfying degree requirements, students will find in their curricula many courses required for admission to most professional schools. Additionally, prudent use of elective hours in the curricula will permit other appropriate preprofessional courses to be obtained. Most professional schools expect applicants to present at least a B average and to carry a minimum of 15 credit hours each term, with the exception of summer terms.

CURRICULA GUIDELINES

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

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 3053C, 3054C (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.

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 2120.

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 thoroughly prepare 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;
3. *The Education of Osteopathic Physicians*, published by the American Association of Colleges of Osteopathic Medicine; 4720 Montgomery Lane, Suite 609, Washington, D.C. 20114;
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;
6. *Podiatric Medical Education, Information for the Prospective Student*, published by the American Association of Colleges of Podiatric Medicine and American Podiatry Association, 20 Chevy Chase Circle, N.W. Washington, D.C. 20015;
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.

Preprofessional students are encouraged to obtain a copy of the admissions publication appropriate to their preprofessional area. Several of these publications are available in the University bookstore. Examination copies are available in the Pre-Health Professions Advisement Office, BL 103.

Other Health Professions

For Nursing and other Allied Health Services, see College of Health.

COLLEGE OF BUSINESS ADMINISTRATION

UNDERGRADUATE PROGRAMS

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

GRADUATE PROGRAMS*

- Accounting (MS)
- Applied Economics (MA)
- Business Administration (MBA, Ph.D.)
- Taxation (MS)
- Concentrations in Accounting and Finance (Ph.D.)

*See the Graduate catalog for information.

COLLEGE OF BUSINESS ADMINISTRATION

Acting Dean: *G. Stevens*, CBA 230, Phone (407) 275-2181

Associate Dean: *H. Lewis*, CBA 230, Phone (407) 281-5094

Associate Dean: *W. Reiff*, CBA 230L, Phone (407) 275-2181

Assistant Dean: *W. Kilbride*, CBA 240, Phone (407) 275-2184

The goal of the College of Business Administration is to prepare students for entry into professional positions in business and government. The various programs of study offered by the College are designed to assist students in obtaining a sound academic preparation for the career of their 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. 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 2023, ECO 2013 and 2023, ENC 1101 and 1102, MAC 1104, STA 3023, and CGS 3000. Students who otherwise meet the University admission requirements, such as entering freshmen and transfer students, will be placed in Business Administration pending category until they meet the requirements set forth above. Each student should meet with an academic advisor in the College of Business Administration to outline a program of study.

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

Accounting	General Business Administration
Economics	Management
Finance	Marketing

COMMON BODY OF KNOWLEDGE

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

ACG 2001	Principles of Accounting I	3 hours
ACG 2011	Principles of Accounting II	3 hours
or		
ACG 2023	Principles of Accounting I & II	6 hours
ECO 2013	Principles of Economics I	3 hours
ECO 2023	Principles of Economics II	3 hours
BUL 3111	Legal Environment of Business	3 hours
ENC 3210	Business Report Writing	3 hours
MAC 3233	Concepts of Calculus	3 hours
STA 3023	Statistical Methods I	3 hours
ECO 3411	Quant. Methods & Bus. Decisional Anal.	3 hours
CGS 3000	Comp. Fund. for Business App.	3 hours
FIN 3403	Business Finance	3 hours
MAN 3025	Management of Organizations	3 hours
MAR 3023	Marketing	3 hours
MAN 3504	Production/Operations Management	3 hours
GEB 4351	Business in the International Environment	3 hours
MAN 4720	Business Policies	3 hours

Students in the College of Business Administration cannot receive credit for the following courses: GEB 3004, and FIN 3100.

GRADE POINT AVERAGE REQUIREMENTS

For graduation the student must have maintained a minimum 2.0 GPA in course work taken in the College of Business Administration and a minimum 2.0 GPA in the course work required in the major except in accounting where a "C" or better is required in *each* course.

STUDENT LOAD-MAXIMUM

A student who is enrolled in 15 semester hours of course work is considered to be carrying a normal academic load. Students desiring to take 20 or more semester hours of course work must obtain permission from the department chair of their major area.

COMMUNITY/JUNIOR COLLEGE TRANSFERS

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

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

MINOR (Restricted to Business Majors)

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

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

MINOR (not open to Business Majors)

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

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

SCHOOL OF ACCOUNTING

Director: H. Anderson, CBA 437, Phone (407) 275-2463

Faculty: Avery, Bandy, Danese, Gist, Holstrum, Hunt, W. Johnson, Judd, Kaminsky, Kelliher, Klintworth, Landry, Leuy, Phillips, Robertson, J. Salter, M. Salter, Savage, Taylor, Veit, J. Welch, P. Welch, D.L. Yon

OBJECTIVES OF ACCOUNTING PROGRAMS

The objective of the baccalaureate program with a concentration in accounting is to provide basic conceptual accounting and business knowledge as a foundation for accounting career development.

Special qualifications for satisfying this program's requirements are:

- a. A minimum grade of "C" must be earned in each accounting and tax course completed. Principles of Accounting I and II are included under this rule.
- b. A transfer student to this program must:
 - (1) take a minimum of twelve (12) semester hours in accounting at UCF as approved by the director of the School of Accounting.
 - (2) have credit for a course in each of the following areas:
 - a. English communication arts including written composition
 - b. Oral expression
 - c. Behavioral sciences such as psychology, anthropology, and sociology

- d. Humanities
- e. Political and legal environment of business and society such as political science, public administration, and ethics.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: ACCOUNTING

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
 - a. Business College Common Body of Knowledge*
 - b.

ACG 3103	Financial Accounting I	3 hours
ACG 3113	Financial Accounting II	3 hours
ACG 3361	Cost Accounting I	3 hours
ACG 3501	Financial Accounting for Governmental and Nonprofit Organizations	3 hours
ACG 3401	Accounting Information 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. Electives: As necessary to result in 120 total credit hours.

Total Semester Hours Required 120

*Except BUL 3111, Legal Environment of Business, which is satisfied by taking BUL I & II.

**Transferable only from senior academic institutions.

CPA EXAMINATION REQUIREMENTS

Effective August 31, 1983, Florida Law states that to qualify to sit for the CPA exam, one must possess thirty (30) additional semester hours of credit beyond the requirements for the baccalaureate degree. In addition to this overall educational requirement, the following specific criteria also apply:

36 hours in accounting beyond elementary, including at least:

12 hours in financial and cost accounting

6 hours in auditing and internal auditing

6 hours in tax

AND

39 hours in general business including at least six hours of business law. Because of these increased educational requirements, no experience or additional course work is needed for certification.

To satisfy the necessary coursework required by the law, the School of Accounting offers the Master of Science in Accounting (MSA) and the Master of Science in Taxation (MST) degree programs. Please see the graduate catalog for program requirements.

DEPARTMENT OF ECONOMICS

Chair: *W. McHone*, CBA 318, Phone (407) 275-2465

Faculty: *Braun, Day, Euzent, Fritz, Gibbs, D. Hosni, Joseph, Kilbride, Martin, McHone, Pennington, Raffa, Rungeling, 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 the functioning of the economy as a whole and the functioning of individual units within the economy, particularly the business firm and the consumer.

Courses in economics are designed to provide a sound grasp of tools of analysis and measurement, as well as the ability to apply systematic analysis to business problems.

Students interested in a B.A. in Economics should refer to the Economics Major in the College of Arts and Sciences.

MINOR (In Economics for Non-Business Administration majors)

Required Courses: ECO 3101, 3203, 3411. These requirements are in addition to the prerequisites ECO 2013 and 2023.

Elective Courses: Three courses from the following: ECO 3703, 4224, 4303, 4412, 4504; ECP 3203, 3424, 3433, 4403, 4603, 4703; ECS 4003, 4013.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: ECONOMICS

Degree Requirements

1. See Undergraduate Degree Requirements
 2. See special college and/or department requirements
 3. Required Courses
 - a. Business College Common Body of Knowledge
 - b. ECO 3101 Intermediate Price Theory 3 hours
 - ECO 3203 Aggregate Economic Conditions Analysis 3 hours
 4. Restricted Electives

All economics majors will be required to take five (5) electives from the following for a total of twenty-one (21) hours beyond the Common Body of Knowledge.

ECO 3703	International Economics	3 hours
ECO 4224	Money: Issues and Analysis	3 hours
ECO 4303	History of Economic Thought	3 hours
ECO 4412	Economic Statistics and Econometrics	3 hours
ECO 4504	Economics of the Public Sector	3 hours
ECP 3203	Contemporary Labor Economics	3 hours
ECP 3424	The Economics of Regulated Industries	3 hours
ECP 3433	Transportation Economics	3 hours
ECP 4403	Business, Government & Industrial Organization	3 hours
ECP 4603	Urban and Regional Economic Problems	3 hours
ECP 4703	Managerial Economics	3 hours
ECS 4003	Comparative Economic Systems	3 hours
ECS 4013	Economic Development	3 hours
 5. Electives
- Total Semester Hours Required 120

DEPARTMENT OF FINANCE

Chair: R. J. Clayton, CBA 420, Phone (407) 275-2525

Faculty: Atkinson, Cheney, Graham, Klock, McQuillen, Modani, Neustel, Park, Reiff, Scott, Spudeck, Weaver

The program in finance is designed to provide the student with a broad knowledge in the areas of business finance, investments, financial institutions, insurance, risk management, and real estate. The program provides the students with the theoretical background and the tools of analysis required for making effective judgments in finance.

The study of finance prepares the student for careers in business financial management. In addition to all forms of nonfinancial institutions, commercial banks, savings and loan associations, insurance companies, and investment firms represent some of the financial institutions seeking the student with a major in finance.

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

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: FINANCE

Degree Requirements

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

3. Required Courses		
a. Business College Common Body of Knowledge		
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 3043	Fundamentals of Real Estate	3 hours
REE 4303	Real Estate Investment Analysis	3 hours
RMI 3011	Principles of Risk and Insurance	3 hours
5. Electives		
Total Semester Hours Required		120

*May not be used twice.

FINANCIAL SERVICES CONCENTRATION

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

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

Required Courses		
FIN 3453	Financial Models	3 hours
FIN 3502	Investments	3 hours
FIN 3303	Financial Institutions	3 hours
REE 4303	Real Estate Investment Analysis	3 hours
RMI 3011	Principles of Risk and Insurance	3 hours
TAX 3000	Personal Income Tax	3 hours
FIN 4127	Employee Benefits, Retirement Planning	3 hours
FIN 4126	Seminar in Financial Services	3 hours
Restricted Electives (Select at least one course)		
FIN 3233	Money and Banking	3 hours
FIN 3324	Commercial Bank Administration	3 hours
FIN 4520	Security Analysis and Portfolio Management	3 hours

GENERAL BUSINESS ADMINISTRATION

This option allows students to develop a general program of study which will satisfy career objectives not provided for by the specialized areas of concentration. To pursue this option, students must make application through the office of the Assistant Dean of the College of Business Administration. An academic advisor will be assigned to assist each student in developing a meaningful program of study.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: GENERAL BUSINESS ADMINISTRATION

Degree Requirements

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

3. Required Courses
 - a. Business College Common Body of Knowledge
 - b. One (1) additional course beyond the Common Body of Knowledge in Finance and Marketing (one course from each discipline).
4. Restricted Electives

A minimum of six (6) additional courses from at least three (3) different departments (Accounting, Economics, Finance, Management, Marketing) in the College of Business Administration.
5. Electives

Total Semester Hours Required

120

DEPARTMENT OF HOSPITALITY MANAGEMENT

(Please see information listing in *Office of Undergraduate Studies* section.)

DEPARTMENT OF MANAGEMENT

Chair: H. Jones, CBA 335, Phone (407) 275-2376

Faculty: Berry, Bogumil, Burnette, Callarman, Eubanks, Fandt, Fernald, Goodman, Leigh, P. Lewis, Martin, McCartney, Ragusa, Rosenkrantz, Souder, Stevens

The study of management includes an investigation into the processes and techniques of leadership, planning, staffing, and controlling of both small and complex organizations.

Course offerings are designed to show how technological factors, the framework for decision making, and the human contributions have impact on productivity, satisfaction of job-related needs, and effectiveness of actual organization.

A student majoring in management may find a wide variety of career opportunities in business, industry, or government.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: MANAGEMENT

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (Students are required to take the two required Management electives and five other courses from the designated Management options.)
 - a. Business College Common Body of Knowledge
 - b. ISM 3301 Management Information Systems 3 hours
 - MAN 4240 Organization Theory and Behavior 3 hours
4. Restricted Electives (Select a minimum of five courses)

(The major should select one of the following concentration areas and take the designated five courses.)

 - a. Human Resource Management

MAN 3301	Personnel Management	3 hours
MAN 4150	Human Relations in Management	3 hours
MAN 4310	Personnel Management Issues	3 hours
MAN 4350	Training and Development	3 hours
MAN 4401	Labor Relations Management	3 hours
 - b. Management Information Systems

COP 3120	Programming in COBOL	3 hours
ISM 4212	Data Base Management Systems	3 hours
ISM 4113	Information Systems Analysis and Design	3 hours
ISM 4130	Implementation Information Systems	3 hours
ISM 4090	Seminar in Management Information Systems	3 hours
 - Production/Operational Management

MAN 4420	Management of Service Organizations	3 hours
MAN 4521	Production Planning and Control	3 hours
MAN 4590	Procurement Management	3 hours
MAN 4854	Management Science	3 hours

One additional MAN or ISM course. 3 hours



d. General Management		
MAN 4120	Business and Society	3 hours
MAN 4600	International Management	3 hours
Three additional MAN or ISM courses		9 hours
5. Electives		
	Total Semester Hours Required	120

DEPARTMENT OF MARKETING

Chair: *(tba)*, CBA 317, Phone (407) 275-2108

Faculty: *Davis, Fuller, Gillett, Jarvis, Morris, Patton, Paul, Rubin, Teeple*

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

The marketing curriculum concentrates on developing the student's ability to understand, interpret, and measure market demand and to understand the blending of product, pricing strategies, promotional strategies, and distribution.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: MARKETING

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
 - a. Business College Common Body of Knowledge
 - b.

MAR 3503	Consumer Market Behavior	3 hours
MAR 3613	Marketing Research	3 hours
MAR 3823	Marketing Management	3 hours
MAR 4803	Marketing Strategy	3 hours
4. Restricted Electives

Minimum of 3 courses		
MAR 3323	Advertising Management	3 hours
MAR 3403	Sales Management	3 hours
MAR 4831	Product Management	3 hours
MAR 4231	Retailing Management	3 hours
MAR 4203	Marketing Channel Systems	3 hours

MAR 4156	International Marketing	3 hours
MAR 4453	Industrial Marketing	3 hours
MAR 4071	Contemporary Marketing Issues	3 hours
MAR 4941	Internship	3-6 hours
5. Electives		
Total Semester Hours Required		120



DEPARTMENT OF MARKETING

Faculty: [Faded text]

Office: [Faded text]

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BACHELOR OF BUSINESS IN BUSINESS ADMINISTRATION

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COLLEGE OF EDUCATION

UNDERGRADUATE PROGRAMS

- Art Education (BS)
- Elementary Education (BS)
- English Language Arts Education (BS)
- Exceptional Child (BS)
- Foreign Language Education (BS)
- Mathematics Education (BS)
- Physical Education (BS)
- Science Education (BS)
- Social Science Education (BS)
- Vocational Education and Industry Training (BS)

GRADUATE PROGRAMS*

Masters Programs

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

Doctoral and Specialist Programs

- Administration & Supervision (Ed.D) (Ed.S)
- Curriculum and Instruction (Ed.D) (Ed.S)

*See the Graduate catalog for information.

**Students will not be admitted to these programs during the 1989-1990 academic year. More information may be obtained from the office of the Dean of the College of Education, (407) 275-2366.

COLLEGE OF EDUCATION

Dean: *W. Johnson*, ED 328, Phone (407) 275-2366

Acting Associate Dean: *D. Meador*, ED 328, Phone (407) 275-2366

Assistant Dean: *J. Armstrong*, ED 115, Phone (407) 275-2436

Director, Development and Extended Studies: *P. Manning*, ED 144, Phone (407) 275-2331

The role of the College of Education is to provide programs for individuals interested in careers as teachers of elementary, secondary and/or exceptional students.

The College of Education offers Bachelor of Science degrees with the following majors:

- Art Education
- Elementary Education
- English Language Arts Education
- Exceptional Child Education
- Foreign Language Education
- Mathematics Education
- Physical Education
- Science Education
- Social Science Education

Vocational Education and Industry Training

Area of Emphasis

1. Public School Teaching
2. Industry Training

Area of Occupational Specialization

1. Business Education
2. Health Occupations
3. Industrial/Technical Occupations

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

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

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

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

PROGRAMS FOR POST BACCALAUREATE STUDENTS

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

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

COLLEGE GENERAL EDUCATION REQUIREMENTS

Those seeking degrees in the College of Education are required to successfully complete the following specific General Education requirements:

A. *Communication Foundations*

SPC 1014: Fundamentals of Oral Communication (3)

B. *Cultural and Historical Foundations*

Students must complete two courses that fulfill *Gordon Rule*.

C. *Mathematics Foundations*

MAC 1104: College of Algebra (3)

OR

MFG 1201: Finite Mathematics (3)

AND

STA 2014: Principles of Statistics (3)

D. *Social Foundations*

PSY 2013: General Psychology (3)

Students who need to improve their writing skills are also encouraged to take LIN 1340: Grammar Review (3).

ADMISSION TO TEACHER EDUCATION

Admission to the University and/or to the College of Education as a degree seeking student does not constitute admission to the professional teacher education program. Students must meet specific requirements for admission to the particular degree program and the following general requirements:

- Present passing scores on all parts of the College Level Academic Skills Test (CLAST).
- Present a score of 835 or better on the SAT or a score of 17 or better on the ACT.
- Present an overall UCF G.P.A. of 2.5 and meet general University freshman and transfer student requirements.
- Achieve a C or better grade in EDG 4321, Teaching Strategies, including successful completion of the tutorial component or equivalent.
- Complete a formal application for admission to a particular teacher education program.
- Meet minimum standards of physical and mental health.
- Must be approved by the faculty of department of the student's major.

Applicants may be interviewed at the discretion of the concerned department and/or the College Undergraduate Standards Committee. The College reserves the right to refuse student entrance or terminate a student after admission to any of its teacher education programs, if in the judgement of the College Undergraduate Standards Committee, the student demonstrates unacceptable personal fitness to work with children and/or youth.

COMMON CORE REQUIREMENTS IN CAREER TEACHING PROGRAM

The core requirements provide learning experiences to develop skills required by all teachers. These skills include the teaching competencies required for initial teacher certification by the Florida Department of Education.

Basic core requirement is as follows:

EDG 4321	Teaching Strategies	4 hours
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This class 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.

Additional core requirements:

EDF 4285	Application of Technology in Education	3 hours
EDG 4324	Teaching in the Schools	3 hours
EDF 3603	Analysis of Education Foundations	3 hours
EDF 4214	Classroom Learning Principles	3 hours

JUNIOR STUDENT TEACHING

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 is jointly planned by public school personnel and university faculty and conducted in approved Student Teaching Centers. Experience is provided at different grade levels and in different settings. In this phase the prospective teacher participates in activities to develop and sharpen specific teaching skills and to expand teaching field knowledge. To be admitted the student must have a 2.5 GPA overall academic average.

Application Deadlines: Fall semester - February 15; Spring Semester - September 15.

SENIOR STUDENT TEACHING

12 hours

EDE 4943	Senior Student Teaching - Elementary OR
ESE 4943	Senior Student Teaching - Secondary

The student applies the fundamentals of teaching and academic knowledge previously attained under the supervision of a selected teacher; the student is responsible for developing and executing plans. A full semester is devoted to student teaching. To be admitted students must have a 2.5 GPA in the courses in the professional sequence and a 2.5 GPA in the area of specialization and satisfied Junior Student Teaching requirements, have a 2.5 GPA UCF overall academic average and be recommended by their department.

Application Deadlines: Fall semester - February 15; Spring Semester - September 15.

Courses to fulfill the Special Methods and Specialization certification requirements are offered by other departments within the College and University and listed under the appropriate departments.

CERTIFICATION AND GRADUATION REQUIREMENTS

To qualify for graduation, a student must have a 2.5 GPA in all course work and a 2.5 GPA in the area of specialization and a 2.5 GPA in the professional course sequence. All College of Education undergraduate curricula fulfill State of Florida academic requirements for a Bachelor's Degree Teaching Certificate. College of Education graduates who desire to teach outside Florida must meet certification requirements of the state in which they intend to seek a teaching position and should contact the appropriate Director of Teacher Education, State Department of Education for specific requirements.

All applicants for an initial teaching certificate in Florida must pass the College Level Academic Skills Test (CLAST), the professional education examination and a specialization test in their certification area.

All applicants for the Florida Regular Teaching Certificate must demonstrate satisfactory completion of the Florida Beginning Teacher Program requirements.

STUDENT INTERSHIPS PROGRAM

Assistant Dean: Jack H. Armstrong, ED 115, Phone (407) 275-2436

The UCF Student Internship program includes early and continuous field experiences that blend knowledge with practical exercises. Through cooperative planning and articulation with local school personnel, the internship provides the student with a broad range of teaching experiences in various educational settings. The internship is an integral part of each teacher preparation program and consists of a full semester experience at both the junior and senior level. Each internship also includes one regular professional course.



Internship program placements are the responsibility of the College of Education in cooperation with participating schools.

DEPARTMENT OF EDUCATIONAL FOUNDATIONS

Chair: *Alexander T. Wood*, ED 243, Phone (407) 275-2428

Faculty: Professors: *Cowgill, Dziuban, Esler, Kysilka, Lange, Manning*

Associate Professors: *Beadle, Blume, Harrow, Hielt, Hoover, McLain, Miller, Olson, Sciortino, Sullivan*

Assistant Professors: *Biramiah, Holt*

The Department of Educational Foundations teaches the core professional courses that address the competencies and skills needed by all teachers. Foundation courses are also available for students pursuing graduate degrees in teacher education. The required undergraduate core courses include the following:

EDG 4321	Teaching Strategies	4 hours
EDF 4285	Application of Technology in Education	3 hours
EDG 4324	Teaching in the Schools	3 hours
EDF 3603	Analysis of Educational Foundations	3 hours
EDF 4214	Classroom Learning Principles	3 hours

DEPARTMENT OF EDUCATIONAL SERVICES

Chair: *David J. Mealor*, ED 318, Phone (407) 275-2595

Faculty: Professors: *Bozeman, Hernandez, Johnson, Miller, Rothberg*

Associate Professors: *Baumbach, Bollet, Cornell, Marowitz, Orwig, Shadgett, Tubbs*

Assistant Professors: *Balado, Reitzug*

The focus of the Department of Educational Services is to provide training for specialists in school and non-school environments. Certification programs and masters level (M.A., M.S., or M.Ed.) graduate programs are available in the following areas: Administration and Supervision, Educational Media and School Psychology. A doctoral program is available in the areas of Administration and Supervision leading to the Specialist and/or Doctorate of Education degrees.

DEPARTMENT OF EXCEPTIONAL AND PHYSICAL EDUCATION

Chair: Michael W. Churton, ED 214 Phone (407) 275-2401

Faculty: Professors: Midgett, Rohrer.

Associate Professors: Gergley, Higginbotham, Hunter, Miller, Olson, Powell.

Assistant Professors: Clark, Martin, Platt, Renner.

Undergraduate academic major programs leading to bachelor's degrees and certification are offered in Exceptional Education and Physical Education. The Exceptional Education program includes specialities in: (a) emotionally handicapped; (b) mentally retarded and (c) specific learning disabilities. The Physical Education program includes specialities in: (a) K-8 and (b) 6-12. In addition, minors, certification programs and masters level graduate programs are available.

BACHELOR OF SCIENCE: EXCEPTIONAL CHILD EDUCATION

1. Undergraduate Degree Requirements

2. See special college and/or department requirements

3. Required courses

Specialization

RED 3012	Foundations of Reading	3 hours
RED 4519	Diag and Corrective Reading Strategies	3 hours
EEX 3241	Methods for Academic Skills for Exceptional Students	4 hours
MAE 3112	Instruction of Math in the Elementary School	4 hours
PET 4601	Motor Development: Habilitation & Remediation for Exceptional Students	3 hours
EEX 3010	Orientation to Special Education	3 hours
EEX 3102	Language Development and Common Disorders	3 hours
EEX 3221	Assessment of Exceptional Learners	3 hours
EEX 4601	Behavioral Management	3 hours
EEX 3263	Arts and Sciences for Exceptional Students	4 hours
EEX 4243	Techniques for the Exceptional Adolescent-Adult	3 hours
EED 4011	Introduction to the Emotionally Disturbed	4 hours
or		
ELD 4011	Introduction to Specific Learning Disabilities	4 hours
EMR 4011	Introduction to the Mental Retardation	4 hours
EED 4212	Curriculum and Program Adaptations, E.H.	4 hours
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 SCIENCE: PHYSICAL EDUCATION

1. Undergraduate Degree Requirements

2. See special college and/or department requirements

3. Required Courses

Specialization

1. Physical Education (K-12)

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

4. Special Methods

PET 3461C	Teaching Physical Education in the Elementary School	2 hours
PET 3465C	Physical Education in the Secondary School	2 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	3 hours
PET 4035	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	3 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
PET 3125	History of Sports and Physical Education	3 hours
PET 3453	Coaching and Officiating	3 hours
PEO 3031	Individual Sport Activities	3 hours

5. Restricted Electives

None

6. Electives

None

Minimum Total Semester Hours Required 120

DEPARTMENT OF INSTRUCTIONAL PROGRAMS

Chair: *R. Martin*, ED 346, Phone (407) 275-2161

Faculty: Professors: *Anderson, Brumbaugh, Clarke, Green, Hall, Hynes, McGee, Miller, Palmer, Thompson*

Associate Professors: *Armstrong, Bird, Gurney, Hudson, Joels, Paugh, Siebert, Sorg*

Assistant Professors: *Bailey, Cox, Hopkins, Medin, Ratliff, Sanford, While, Williams*

Elementary Education

The career Elementary Education program is planned for students interested in the education of children, six through twelve years of age. Students who major in elementary education are qualified to teach grades one through six upon graduation and receipt of a Florida teaching certificate.

An elementary education major must have the following preparation: (1) a broad general education; (2) a specialized knowledge of content, techniques, and materials needed to teach different elementary school subjects such as art, language arts, reading, mathematics, music, physical education, science and social studies; and (3) professional study which includes planned laboratory activities with children in schools identified as Teacher Education Centers.

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

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, and Social Science.

Art/Music

Two programs are designed to prepare specialists to teach at both the elementary and secondary levels (K-12). A major in Art Education is available for students with an interest in art. The Bachelor's degree program in Music Education is located in the Department of Music with the Department of Instructional Programs responsible for professional requirements.

Vocational Education and Training Development

The vocational education degree is for individuals in Business/Office Occupations, 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.

The Training Development Track is designed for individuals who are or who plan to be trainers in business, industry, or health care facilities. This option will not prepare individuals to meet Florida Teacher Certification requirements.

BACHELOR OF SCIENCE: ART EDUCATION

Degree Requirements

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

Specialization

ART 2201C	Design Fundamentals I	3 hours
ART 2202C	Design Fundamentals II	3 hours
ART 2300C	Drawing Fundamentals I	3 hours
ART 2301	Drawing Fundamentals II	3 hours
ART 3110C	Ceramics	3 hours
ART 3510C	Painting	3 hours
ART 4530C	Advanced Painting	3 hours
ART 5109C	Crafts Design	3 hours
ART 3280C	Graphic Design I	3 hours
ARH 2050	History of Art I	3 hours
ARH 2051	History of Art II	3 hours
ARH 4800	Theory and Criticism of Visual Arts	3 hours
ART 3600C	Photography	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

4. Restricted Electives (select two courses)—6 hours

ART 3230C	Design in Advertising	3 hours
ART 2481C	Computer Graphic Design	3 hours
ART	Art Therapy	3 hours
ART 3600	Photography	3 hours
ART 3400C	Printmaking	3 hours

Also:

PHI 3800	Aesthetics	3 hours
PHI 3803	Philosophy and Creativity (PR: PHI 3800)	3 hours

5. Electives

None

Minimum Total Semester Hours Required

120

BACHELOR OF SCIENCE: ELEMENTARY EDUCATION

Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
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 2010C, and PHY 3014C. Twelve semester hours in mathematics are required for majors: MAE 1810 and MAE 2811 are required in addition to MAC 1104 or MGF 1202 and 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 SCIENCE: ENGLISH LANGUAGE ARTS EDUCATION

Degree Requirements

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

Lower Division

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	
ENL 4373	Modern British Literature	3 hours
ENL 4330	Shakespeare	3 hours
LIT 3000	Literary Analysis	3 hours
Composition		
ENC 3311	Advanced Expository Writing	3 hours
Select 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		6 hours
Recommended: LIN 4100, LIT 3120		
Approved: ENL 3273, 4101, 4311, 4341, LIT 3313, 4312, AML 4101, LIN 3010		
5. Electives		
None		
Minimum Total Semester Hours Required		120

BACHELOR OF SCIENCE: FOREIGN LANGUAGE EDUCATION

Degree Requirements

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

AREAS OF SPECIALIZATION (Select one)

French Language		
FLE 3063	Foreign Language as Human Behavior	2 hours
FRE 1120	Elementary Language and Civilization I	4 hours
FRE 1121	Elementary Language and Civilization II	4 hours
FRE 2200	Intermediate Language and Civilization I	4 hours
FRE 2201	Intermediate Language and Civilization II	4 hours
FRE 3244	French Conversation	3 hours
FRE 3420	French Composition	3 hours
FRW 3100	Survey of French Literature I	3 hours
FRW 3101	Survey of French Literature II	3 hours
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		12 hours
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 SCIENCE: MATHEMATICS EDUCATION

Degree Requirements

1. See Undergraduate Degree Requirements
 2. See special college and/or department requirements
 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 6-8 hours
 Select two: MHF 3104, 4404, MAP 3302, MAS 3203, 3103, 3113, 4301, MAC 3313, or approved by advisor
 5. Electives
 Select in consultation with advisor.
- Minimum Total Semester Hours Required 120

BACHELOR OF SCIENCE: SCIENCE EDUCATION

Degree Requirements

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

Program Prerequisites		
MAC 1104	College Algebra	3 hours
PSY 2013	General Psychology	3 hours
STA 2014	Principles of Statistics	3 hours



Biology Specialization (50 minimum)**Biology Requirements (32 minimum)**

BSC 2010C	General Biology	4 hours
ZOO 2010C	General Zoology	4 hours
BOT 2010C	General Botany	3 hours
PCB 3023	Cell Physiology	3 hours
PCB 3063	Genetics	3 hours
PCB 3063L	Genetics Laboratory	1 hour
PCB 3043	Ecology	3 hours
PCB 3043L	Ecology Laboratory	1 hour
MCB 3013C	Microbiology	5 hours
CHM 2205	Intro to Organic and Biochemistry	5 hours
PCB 4xxx	Biological Evolution	3 hours

Support Science Requirements (16 minimum)

CHM 2045	Chemistry Fundamentals I	4 hours
CHM 2046	Chemistry Fundamentals II	3 hours
CHM 2046L	Chemistry Fundamentals Laboratory	1 hour
PHY 2053C	College Physics I	4 hours
GLY 1030	Geology and its Applications	3 hours

Select minimum of 1 course to complete minimum science requirements

BOT 3154	Local Flora	3 hours
BOT 3800	Plants and Man	3 hours
BOT 3820	Plants and Urban Environment	3 hours
BOT 4223C	Plant Anatomy	4 hours
BOT 4303C	Plant Kingdom	5 hours
BOT 4713C	Plant Taxonomy	5 hours
BSC 4104	History of Biology	3 hours
ENY 4004C	General Entomology	4 hours
PCB 3233	Immunology	3 hours
PCB 3301C	Aquatic Biology	4 hours
PCB 3703C	Human Physiology	4 hours
PCB 4302C	Limnology I	4 hours
ZOO 3733C	Human Anatomy	4 hours
ZOO 4203C	Invertebrate Zoology	4 hours
PHY 2054C	College Physics II	4 hours
AST 3002	Astronomy	3 hours

Special Methods

SCE 3330	Science Instructional Analysis	4 hours
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4. Electives

Select in consultation with advisor.

Minimum Total Semester Hours Required 120

CHEMISTRY**Program Prerequisites**

STA 2014	Principles of Statistics	3 hours
MAC 3311	Calculus with Analytic Geometry I	4 hours

Chemistry Specialization (50 minimum)**Chemistry Requirements (32 minimum)**

CHM 2045	Chemistry Fundamentals I	4 hours
CHM 2046	Chemistry Fundamentals II	3 hours
CHM 2046L	Chemistry Fundamentals Laboratory	1 hour
CHM 3120C	Analytical Chemistry	5 hours
CHM 3210	Organic Chemistry I	3 hours
CHM 3211	Organic Chemistry II	3 hours
CHM 3211L	Organic Laboratory Techniques I	2 hours
CHM 4xxxC	Basic Physical Chemistry	4 hours
BCH 4xxxC	Biochemistry I	4 hours
CHS 3501	Introduction to Forensic Science	3 hours

Support Science Requirements (18 minimum)

PHY 2053C	College Physics I	4 hours
PHY 2054C	College Physics II	4 hours
BSC 2010C	General Biology	4 hours
GLY 1030	Geology and its Applications	3 hours
Special Methods SCE 3330	Science Instructional Analysis	4 hours
4. Electives		
Select in consultation with Advisor.		
Minimum Total Semester Hours Required		120

PHYSICS**Program Prerequisites**

PSY 2013	General Psychology	3 hours
STA 2014	Principles of Statistics	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
MAP 3302	Differential Equations	3 hours

Physics Specialization (50 minimum)

PHY 2053C	College Physics I	4 hours
PHY 2054C	College Physics II	4 hours
PHY 3048	Physics for Engineers & Scientists I	3 hours
PHY 3048L	Physics Lab for Engineers & Scientists I	1 hour
PHY 3049	Physics for Engineers and Scientists II	3 hours
PHY 3049	Physics Lab for Engineers and Scientists II	1 hour
PHY 3101	Modern Physics	3 hours
PHY 3752C	Physics of Scientific Instruments	4 hours

Nine S.H. required from following 3 groups

Select 3 S.H. from the following:

PHY 3320	Electricity and Magnetism	3 hours
PHY 4220	Mechanics	3 hours
PHY 4604	Wave Mechanics	3 hours
PHY 5200C	Newtonian Mechanics for Teachers	1 hour
PHY 5302C	Electromagnetism for Teachers	1 hour
PHY 5601	Quantum Physics for Teachers	1 hour

Select 3 S.H. from the following:

PHY 3503	Thermodynamics	3 hours
PHY 4424	Optics	3 hours
PHY 5401C	Optics for Teachers	1 hour
PHY 5500C	Thermal Physics for Teachers	1 hour
PHY 5600	Special Relativity for Teachers	1 hour
PHZ 5800C	Wave Motion for Teachers	1 hour

Select 3 S.H. from the following:

PHZ 3151	Computer Methods in Physics	4 hours
PHY 3802L	Intermediate Physics Laboratory	3 hours
PHY 4803L	Advanced Physics Laboratory	3 hours
PHY 5300C	Electricity for Teachers	1 hour
PHZ 5301C	Nuclear Physics for Teachers	1 hour
PHZ 5150C	Computer Methods in Physics for Teachers	1 hour

Support Science Requirements (16 minimum)

CHM 2045	Chemistry Fundamentals I	4 hours
CHM 2046	Chemistry Fundamentals II	3 hours
CHM 2046L	Chemistry Fundamentals Laboratory	1 hour
BSC 2010C	General Biology	4 hours
GLY 1030	Geology and its Applications	3 hours
Special Methods SCE 3330	Science Instructional Analysis	4 hours
4. Electives		
Select in consultation with Advisor.		
Minimum Total Semester Hours Required		120

BACHELOR OF SCIENCE: SOCIAL SCIENCE EDUCATION

Degree Requirements

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

Specialization (52 hours)

Lower Division Requirements:

ECO 2013	Principles of Economics I	3 hours
ECO 2023	Principles of Economics II	3 hours
EUH 2000	Western Civilization I	3 hours
EUH 2001	Western Civilization II	3 hours
AMH 2010	U.S. History 1492-1877	3 hours
AMH 2020	U.S. History 1877-Present	3 hours
POS 2041	American National Government	3 hours
SYG 2000	General Sociology	3 hours

Upper Division Requirements:

CPO 3103	Comparative Politics	3 hours
GEO 3370	Resources Geography	3 hours
GEO 3470	World Political Geography	3 hours
AMH 4231	U.S. History 1914-1945	3 hours
AMH 4270	U.S. History 1945-Present	3 hours

Special Methods

SSE 3333	Social Science Instr. Analysis	4 hours
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4. Restricted Electives (9 hours)

American History (select one) 3 hours

AMH 3370 American Economic History

AMH 4130 American Revolution

AMH 4170 Civil War & Reconstruction

European History (select one with approval by advisor) 3 hours

Political Science (select one) 3 hours

POS 3122 State Government & Public Policy

POS 3273 Voting & Elections

INR 3002 International Relations

5. Electives

None

Minimum Total Semester Hours Required

120

BACHELOR OF SCIENCE: VOCATIONAL EDUCATION AND INDUSTRY TRAINING

Degree Requirements

1. See Undergraduate Degree Requirements
2. This program differs from other programs in the college as noted below in #3. See special college and/or department requirements
3. Required Courses

Areas of Emphasis

• Public School Teaching

• Industry Training

These areas are currently being revised. See a Vocational Education advisor for program details.

Occupational Specialization (30-36 semester hours)

All students must complete an area of *specialization* through (1) occupationally specific coursework and/or (2) Credit by Examination. Occupationally specific coursework may be lower or upper division and may be transferred from another accredited educational institution offering college credit. Credit by examination may be completed through occupationally specific examinations, such as state or national registrations/licenses or occupationally specific professional associations. All requirements must be in an approved area of (1) Business, (2) Health Occupations, or (3) Industrial/Technical occupations.

Examples of coursework and credit by examination include:

- I. Business Education
 - A. Specified Coursework (for Business Education)
(Areas: All areas must be completed (24 semester hours)
 - 1. Business Communications (Secretarial) - 3 semester hours
OST 1335
 - 2. Typewriting - 6 semester hours OST 1110 and OST 2120
 - 3. Word Processing - 3 semester hours OST 1701
 - 4. Accounting - 6 semester hours ACG 2001 and ACG 2011
 - 5. Economics - 6 semester hours ECO 2013 and ECO 2023
 - 6. Business Law - 3 semester hours BUL 3111
 - B. Required Elective Coursework - 9 semester hours
Any 9 semester hours of upper division courses from the College of Business Administration.
- II. Health Occupations (30 semester hours)
Many of the health occupations offer state or national licensure or registration examinations. Students must meet the "licensure" requirements for teacher certification as set forth in the Florida Accreditation Codes. A copy of current licensure/registration is required.
- III. Industrial/Technical Occupations (30 semester hours)
Competency examinations have been developed for many industrial related occupations. A fee is required to take the written and practical examinations. These examinations will be scheduled within the Central Florida area.

OCCUPATIONALLY RELATED WORK EXPERIENCE

All students must provide written documentation of occupationally related work experience. The amount of hours or years of occupationally related work experience is dependent upon the Occupational Specialization (i.e. Business, Health, Industrial). This is a requirement of *admission* to the degree program. Admission to the degree program occurs upon acceptance into the Directed Field Experience. Students must be admitted to the degree program before participation in the Directed Field Experience.

COLLEGE OF ENGINEERING

UNDERGRADUATE PROGRAMS

ENGINEERING

- Aerospace Engineering (BSAsE)
- Civil Engineering (BSCE)
- Computer Engineering (BSCpE)
- Electrical Engineering (BSEE)
- Environmental Engineering (BSEnvE)
- Industrial Engineering (BSIE)
- Mechanical Engineering (BSME)

ENGINEERING TECHNOLOGY

- Computer Engineering Technology (BSET)
- Design Engineering Technology (BSET)
- Electronics Engineering Technology (BSET)
- Information Systems Engineering Technology (BSET)
- Operations Engineering Technology (BSET)

GRADUATE PROGRAMS*

ENGINEERING

- Civil Engineering (MSCE, MCE, Ph.D.)
- Computer Engineering (MSCpE, Ph.D.)
- Electrical Engineering (MSEE, Ph.D.)
- Engineering (MS)
- Environmental Engineering (MSEnvE, Ph.D.)
- Industrial Engineering (MSIE, Ph.D.)
- Industrial Engineering/Manufacturing Engineering (MSMfgE)
- Mechanical Engineering (MSME, Ph.D.)

*See the Graduate Studies Catalog for information.

COLLEGE OF ENGINEERING

Dean: *G. E. Whitehouse*, CB 107, Phone (407) 275-2156

Associate Dean: *S. L. Rice*, CB 107, Phone (407) 275-2156

Assistant Dean: *R. N. Miller*, CB 281, Phone (407) 275-2455

Assistant Dean: *B. E. Mathews*, CB 281, Phone (407) 275-2455

PROFESSIONAL COLLEGE OF ENGINEERING

Based on a broad unified core program, The College of Engineering at the University of Central Florida seeks to produce well-qualified graduates through specifically selected professional disciplines. The College also conducts research and service responsive to Florida and national needs.

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.

Requirements:

Students who wish to be admitted to full freshman standing in the College should present the following secondary school credits in addition to the minimum University requirements:

- a total of 3½ units in mathematics, including advanced algebra, geometry, and trigonometry (required)
- calculus (recommended)
- at least one unit in physics (required)
- at least one unit in chemistry (required)
- one unit in biology (recommended)
- one-half unit in computer programming (FORTRAN preferred).

Students who have not met the requirements listed above may be required to complete additional University credit course work which may not be applied toward an engineering degree.



Students receiving a Bachelor of Science in Engineering must:

1. Successfully complete 132 semester hours of coursework including:

- general education courses (2.000 GPA required)
- a pre-engineering core curriculum (2.250 GPA required)
- an engineering core curriculum (2.250 GPA required)
- required and elective courses in an engineering option of the student's choice (2.250 GPA required)

Transfer Credit

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 UCF'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, differential equations, 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 is determined by a College of Engineering petition approved by the Dean's office.

ROTC Program

The College offers a special five-year program to engineering 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

Students receiving a Bachelor of Science in Engineering Technology must successfully complete 128 semester hours including:

- general education courses
- an engineering technology core curriculum
- required and elective courses in a selected engineering technology option of the student's choice.

The engineering technology program provides junior and senior year education. Students who wish to be admitted to the engineering technology program should possess the A.A. degree (preferred) or an A.S. (or equivalent education) degree from a Florida community college or approved out-of-state institution in an appropriate engineering technology area. The status of a student and the specific credits acceptable toward the degree is determined by a College of Engineering petition approved by the Dean's office. Provisional credits accepted for transferred course work will become final only after a student has demonstrated the ability to do satisfactory work at the University.

MINOR: TECHNOLOGY AND SOCIETY

Contact Persons: *Richard N. Miller*, CB 281, Phone (407) 275-2455

J. Paul Hartman, CB 381, Phone (407) 275-2841

The College of Engineering offers a minor in Technology and Society to interested UCF students. The minor is intended for students not enrolled in the College of Engineering, although students in the College may also be awarded the minor. To meet the requirements, the student must complete a minimum of 18 hours taken from the courses listed. A minimum of 12 hours must be taken from the EGN prefix courses listed below. Students should preferably complete the following general education program coursework prior to taking this minor: ECO 2013, MAC 1104, PHY 2053C; History or Humanities sequence.

The 18 hours are to be selected from:

EGN 4033	Technology and Social Change
EGN 4813	Science in History
EGN 4814	Engineering and Technology in History
EGN 4818	Engineering and Technology in North America
EGN 4823	Topics in Urban Development
EGN 4824	Energy and Society
EGN 4825	Environment and Society
EGN 4830	Telecommunications

EGN 4832	Computers, Cybernetics and Society
EGN 4843	Systems Modeling
EGN 4844	Man and Machine
ARH 3060	History of Architecture
GEO 3370	Resource Geography
LIT 3313	Science Fiction
LIT 4433	Survey of Technical and Scientific Literature
PUP 3204	Environmental Politics
PUP 4503	Government and Science
PUP 4510	Space Policy

STUDENT PERFORMANCE

Prior to enrolling in courses at the professional level, students must receive approval from the office of the Dean of Engineering, and secure an approved course of study from their advisor for their remaining work.

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.

BACHELOR OF SCIENCE IN ENGINEERING

Program Coordinator: *Richard N. Miller*, CB 281, Phone (407) 275-2455.

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 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.

ENGINEERING CORE REQUIREMENTS¹

The engineering core consists of pre-engineering 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.

PRE-ENGINEERING CORE¹

ECO 2013	Principles of Economics I	3 hours
EGS 1111C	Engineering Graphics	2 hours
CHS 1440	Fundamentals of Chemistry For Engineers ^{2,3}	4 hours
PHY 3048	Physics For Engineers and Scientists I ⁴	3 hours
PHY 3049	Physics For Engineers and Scientists II	3 hours
PHY 3048L or PHY 3049L or CHM 2046L	Laboratory Elective ²	1 hour
MAC 3311,3312,3313	Calculus and Analytic Geometry	12 hours
MAP 3302	Differential Equations	3 hours
Biological or Earth Science Electives ²		3 hours

¹Includes portions of the General Education Program.

²Consult Department Chair 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. Not for Environmental Engineering students.

⁴Students without one secondary school unit of Physics should enroll in PHY 2053C prior to taking PHY 3048.

ENGINEERING CORE

Approved Humanities and Social Sciences Elective		3 hours
EGN 3420	Engineering Analysis ⁵	3 hours
EGN 3310	Engineering Analysis - Statics	3 hours
EGN 3321	Engineering Analysis-Dynamics	3 hours
EGN 3613	Engineering Economic Analysis	2 hours
EGN 3704	Engineering and the Environment	2 hours
EGN 3365	Structure and Properties of Materials	3 hours
EGN 3373	Principles of Electrical Engineering	3 hours
EGN 3343	Thermodynamics ⁵	3 hours
or		3 hours
EGN 3358	Thermo-Fluids ⁵	
EGN 4624	Engineering Administration	3 hours
PHY 3101	Modern Physics ⁷	3 hours
STA 3032	Probability and Statistics for Engineers	3 hours

⁵Requires a secondary school programming course (FORTRAN preferred).

⁶Consult Department Chair for specific course required in option.

⁷Or approved science course - see option

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

Chair: *D. Jenkins*, CB 381, Phone (407) 275-2841

Faculty: *Block, W.E. Carroll, W. F. Carroll, Cooper, Dietz, Harper, Hartman, Head, Jackson, Kersten, Kuo, Leftwich, Reinhart, J. Taylor, Wanielista, Yousef*

The Department of Civil Engineering and Environmental Sciences offers an option in Environmental Engineering and an option in Civil Engineering. The Environmental Engineering option is concerned primarily with the interaction of humans with their 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 con-



cerned with fundamental civil engineering design and analysis in such areas as structures, geotechnical engineering, sanitary engineering, water resources, and transportation.

The undergraduate degree programs in Civil Engineering and Environmental Engineering (leading to the BSE degree) are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Degree Requirements

1. See Undergraduate Degree Requirements
 2. Special college and/or department requirements—See Engineering Core
 3. Required Courses

CES 4102	Structural Engineering Analysis	3 hours
CES 4130L	Structures Lab	1 hour
CES 4605	Structural Steel Design	3 hours
or		
CES 4702	Structural Concrete Design	3 hours
CEG 4101	Geotechnical Engineering I	4 hours
EGN 3331	Mechanics of Materials	3 hours
EGN 3353	Fluid Mechanics	3 hours
EGN 4703	Systems Analysis	3 hours
CWR 4101C	Hydrology	3 hours
CWR 4201C	Hydraulics	3 hours
ENV 4561	Environmental Engineering Process Design	4 hours
TTE 4004	Transportation Engineering	3 hours
Civil Engineering Design Courses(2 hours each)		4 hours
	(Select from CES 4608, CES 4709, ECI 5433, TTE 4501, or ENV 4433).	
 4. Restricted Electives
 Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student's faculty advisor and department chair.

	5 hours
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 5. Electives
 None

	5 hours
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- | | |
|-------------------------------|-----|
| Total Semester Hours Required | 132 |
|-------------------------------|-----|

BACHELOR OF SCIENCE IN ENVIRONMENTAL ENGINEERING

Degree Requirements

1. See Undergraduate Degree Requirements
 2. Special college and/or department requirements—See Engineering Core
 3. Required Courses

EES 4202	Chemical Process Control	3 hours
EES 4111	Biological Process Control	3 hours
EGN 3331	Mechanics of Materials	3 hours
EGN 3353	Fluid Mechanics	3 hours
EGN 4703	Systems Analysis	3 hours
ENV 4121	Air Pollution	3 hours
ENV 4341	Solid and Hazardous Waste	3 hours
CWR 4101C	Hydrology	3 hours
CWR 4201C	Hydraulics	3 hours
ENV 4433	Water Resources Design	2 hours
ENV 4562	Environmental Engineering Systems Design	2 hours
ENV 4561	Environmental Engineering Process Design	4 hours
 4. Restricted Electives
 Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student's faculty advisor and department chair.

	7 hours
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 5. Electives
 None

	7 hours
--	---------
- | | |
|-------------------------------|-----|
| Total Semester Hours Required | 132 |
|-------------------------------|-----|

DEPARTMENT OF COMPUTER ENGINEERING

Chair: C. Bauer, CB 207, Phone 275-2236

Faculty: Gonzalez, Khajenoori, Klee, Linton, Myler, Patz

The Department of Computer Engineering prepares the student for a career in professional engineering practice. Graduates will possess a high degree of training and capability in the application of mathematics and computers to the modeling, simulation, and management of complex technical problems.

The undergraduate degree program in Computer Engineering (leading to the BSE degree) is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

Degree Requirements

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

ECM 4230	Engineering Data Structures	3 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
ECM 4508C	Computer Systems Design I	3 hours
ECM 4509C	Computer Systems Design II	3 hours
COT 3100	Introduction to Discrete Structures	3 hours
ECM 3000	Survey of Computer Engineering	1 hour
ECM 4451	Engineering Applications of Intelligent Systems	3 hours
ECM 4723C	Computer Control Systems	4 hours
EEL 4657	Linear Control Systems	3 hours

4. Restricted Electives

Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student's faculty advisor and department chair. One of the student's technical electives must be in the Engineering Sciences area.

3 hours
132

Total Semester Hours Required

DEPARTMENT OF ELECTRICAL ENGINEERING

Chair: N. S. Tzannes, CB 407, Phone (407) 275-2786

Faculty: Alsaka, Bass, Belkerdid, Boreman, Brown, Christodoulou, Georgiopoulos, Guenther, Harden, Harris, Liou, Malocha, Mathews, R. Martin, Mikhael, R. Miller, Moharam, Petrasko, R. Phillips, Richie, Soileau, Sundaram, Wahid, Walker.

The option in Electrical Engineering is designed to present the basic electrical engineering principles. 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, control systems, communication systems, and information theory, and solid state systems and devices.

The undergraduate degree program in Electrical Engineering (leading to the BSE degree) is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Degree Requirements

1. See Undergraduate Degree Requirements
 2. Special college and/or department requirements—See Engineering Core
 3. Required Courses

EEL 3122C	Electrical Networks	4 hours
EEL 3306	Semiconductor Devices	3 hours
EEL 3307C	Electronic Engineering	4 hours
EEL 3470	Electromagnetic Fields	3 hours
EEL 3342C	Logical Component Design	4 hours
EEL 3552C	Signal Analysis and Communications	4 hours
EEL 4012C	Senior Electrical Design	4 hours
EEL 4309C	Active Circuits	4 hours
or		4 hours
ECM 4508	Computer System Design I	4 hours
EEL 4657	Linear Control Systems	3 hours
 4. Restricted Electives
Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student's faculty advisor and department chair. At least 2 courses must be 4000 and/or 5000 level EEL courses. 9 hours
 5. Electives
None
- Total Semester Hours Required 132

DEPARTMENT OF INDUSTRIAL ENGINEERING & MANAGEMENT SYSTEMS

Chair: W. Swart, CB 381, Phone (407) 275-2204

Faculty: Biegel, Brooks, Elshennawy, Hosni, Lee, Morse, Schrader, Sepulveda, Whitehouse

Industrial Engineers design systems which translate a specific product design into a physical reality in the most productive manner and with highest quality possible. In doing so, the Industrial Engineer deals with decisions regarding the right mix and type of people, materials, machines, and automation (including robotics). Industrial Engineers are also skilled in Engineering Economic Analysis and Information Management since they are generally considered to be the natural interface between the technical specialist and management.

Industrial Engineers are sought in industrial, service, and government organizations. In the Industrial Sector, the Industrial Engineer is concerned with improving productivity and quality of the manufacturing, distribution and management system of organizations. In the service sector, the Industrial Engineer is concerned with determining the most productive manner in which to deliver high quality service to the customer. In government organizations the Industrial Engineer is active in assuring that the tax payer receives maximum service for their tax dollars.

The Industrial Engineering approach is characterized by a systematic evaluation of alternatives using quantitative analysis and computer simulations. As such, quantification and measurement play a key role in the day to day activities of the Industrial Engineer.

The program of study available within this option enables the student to pursue fundamental and specialized courses in the major field which include 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.

The undergraduate degree program in Industrial Engineering (leading to the BSE degree) is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

Degree Requirements

1. See Undergraduate Degree Requirements
 2. Special college and/or department requirements—See Engineering Core
 3. Required Courses

APA 3471	Accounting for Engineers	3 hours
EIN 3314C	Work Measurement	3 hours
EIN 4116	Information Systems Analysis	3 hours
EIN 4118	Industrial Engineering Application of Computers	3 hours
EIN 4333	Industrial Control	3 hours
EIN 4364C	Industrial Facilities Planning and Design	3 hours
EIN 4391C	Manufacturing Engineering	3 hours
EIN 4891C	Senior Design Project	3 hours
ESI 4234	Quality Engineering	3 hours
ESI 4305	Operations Research	3 hours
ESI 4524	Systems Simulation	3 hours
 4. Technical Electives
Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student's faculty advisor and department chair, and must be from the list of approved electives (available in the departmental office). 9 hours
 5. Electives
None
- Total Semester Hours Required 132

DEPARTMENT OF MECHANICAL ENGINEERING AND AEROSPACE SCIENCES

Acting Chair: J. K. Beck, CB 307, Phone (407) 275-2416

Faculty: Anderson, J. Beck, Bishop, Desai, Eno, Grogan, Gunnerson, Hagedoorn, Henry, Hosler, Kitis, Minardi, Moslehy, Nuckolls, Rice, W. Smith, Ventre

The Department of Mechanical Engineering and Aerospace Sciences offers an option in Aerospace Engineering and an option in Mechanical Engineering. Both programs are specifically designed to give the student a broad-based undergraduate engineering 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. The undergraduate degree programs in Mechanical Engineering and Aerospace Sciences (leading to the BSE degree) are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING

Degree Requirements

1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Core
3. Required Courses

EAS 4101	Aerodynamics I	3 hours
EAS 4105	Aerodynamics II	3 hours
EAS 4134	Gas Dynamics	3 hours
EAS 4200	Flight Structures	3 hours
EAS 4300	Propulsion Systems	3 hours
EGN 3331	Mechanics of Materials	3 hours
EGN 3353	Fluid Mechanics	3 hours
EML 4142	Heat Transfer	3 hours
EML 4220	Vibration Analysis	3 hours
EML 4304C	Measurements Laboratory	3 hours
EML 4312	Feedback Control Design	3 hours

EML 4501C	Engineering Design I	3 hours
EML 4502C	Engineering Design II	3 hours
4. Restricted Elective		
Technical elective is to be chosen from the list of department electives EAS 4200, EMA 4413, EML 3234, EML 3236, EML 4260, EML 4411, EML 4535, or EML 4703. Other choices must have the approval of the student's faculty advisor and department chair, must be consistent with department objectives, and must contain additional design content.		3 hours
5. Electives		
None		
Total Semester Hours Required		132

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Degree Requirements

1. See Undergraduate Degree Requirements		
2. See special college and/or department requirements—See Engineering Core		
3. Required Courses		
EGN 3331	Mechanics of Materials	3 hours
EGN 3353	Fluid Mechanics	3 hours
EML 3101	Thermodynamics of Mechanical Systems	3 hours
EML 3262	Kinematics of Mechanisms	3 hours
EML 3500	Machine Design	3 hours
EML 4142	Heat Transfer	3 hours
EML 4220	Vibration Analysis	3 hours
EML 4304C	Measurements Laboratory	3 hours
EML 4312	Feedback Control Design	3 hours
EML 4501C	Engineering Design I	3 hours
EML 4502C	Engineering Design II	3 hours
EML 4703	Fluid Mechanics II	3 hours
4. Restricted Electives		
Technical Electives are to be chosen from the list of department electives EAS 4200, EMA 3012L, EMA 4413, EML 3234, EML 3236, EML 4260, EML 4411, or EML 4535. Other choices must have the approval of the student's faculty advisor and department chair, must be consistent with department objectives, and must contain additional design content.		6 hours
5. Electives		
None		
Total Semester Hours Required		132

DEPARTMENT OF ENGINEERING TECHNOLOGY

Chair: *R. Denning*, CB 207, Phone (407) 275-2268

Faculty: *Byers, Debo, Dixon, Gregg, Osborne, Shaykhian, Strange, Uspenski, Vazquez, Wells, Worbs*

The Bachelor of Science in Engineering Technology (BSET) program is designed for students who have completed an Associate of Science (AS) degree in an appropriate area of technology or who have completed an Associate of Arts (AA) degree with approximately 25 semester hours in an appropriate area of technology.

Requirements

Completion of UCF's General Education is required before the BSET degree is granted. If a student completes the General Education Program of a Florida public community college, it will substitute for UCF's Lower Division General Education Program without a course-by-course match. Students should consult an advisor for specific course requirements.

The upper division Bachelor of Science in Engineering Technology (BSET) program is designed to advance the engineering technician to the engineering technologist level. The Engineering Technologist works with both the scientist and the engineer, helping them convert ideas into accomplishments.

The five Technology options (majors) offered in the Engineering Technology degree program are:

Computer Engineering Technology
 Design Engineering Technology
 Electronics Engineering Technology
 Information Systems Engineering Technology
 Operations Engineering Technology

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

BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

Degree Requirements

1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Technology Core below

3. Required Courses

A. General Education (Not including Math, Science and Computer Programming)	27 hours
B. Lower Division Technology Courses or Equivalent	24 hours
C. Engineering Technology Core	3 hours
*MAC 1104 College Algebra	3 hours
*MAC 1114 College Trigonometry	3 hours
MAC 3253 or MAC 3311 Calculus I	3/4 hours
MAC 3254 or MAC 3312 Calculus II	3/4 hours
MAP 3401 Problem Analysis	3 hours
*PHY 2053C College Physics I	4 hours
*CHM 1032 General Chemistry	3 hours
CHM 2046L Chemistry Fundamentals Lab	1 hour
*Biology, Geology, Physical Geography	3 hours
*COP 1200, COP 2000, CGS 3422	3 hours
ETG 3510 Applied Mechanics	4 hours
ETI 3651 Computer Applications	4 hours
ETI 3671 Technical Economic Analysis	2 hours
ETI 4110 Industrial Quality Control	3 hours
ETM 4310 Applied Thermodynamics and Fluid Mechanics	4 hours
*Typically taken at community college	SUBTOTAL 45-47 hours
D. Technical Specialty (Upper Division Major Courses) See areas of specialization below.	23-32 hours
E. Approved Electives hrs.	4-9 hours

TOTAL SEMESTER HOURS

128 hours

(64 semester hours minimum senior institution credits-

12 of which may be waived for students enrolled at area campuses.)

AREAS OF SPECIALIZATION

1. Computer Engineering Technology

The Computer Engineering Technology specialty includes both hardware and software. Typical functions eventually performed by graduates include PC coordinator, computer applications coordinator, system integrator, system troubleshooter, system analyst, and hardware and software designer. Graduates may work in manufacturing, test, design, product improvement, system operations and maintenance, automated processing, robotics, and marketing. Graduates may evaluate new hardware and software and assist their companies to increase productivity by raising computer literacy and adopting new computer technology to old processes. Typical community college programs for entrance include Computer Technology, Computer Science, Computer Programming, and Electronics. The lower level requirements (15 hours) that are typically taken at a community college are DC and AC Circuits, Digital Circuits, Microprocessors I, and Programming (Fortran or Pascal). The upper level requirements are the Engineering Technology Core, which includes a CAD course, and the following selection of courses.

Upper Level Required Courses (15 hours)

CET 3144C	Applied Microprocessor Technology	4 hours
CET 3303	Microcomputer Technology	3 hours

CET 4188	Microcomputer Technology II	4 hours
CET 4333C	Applied Computer Systems I	4 hours
Upper Level Technical Electives. Courses must be selected so that the combination of lower and upper level courses provide a <i>balance of hardware and software</i> . (11-12 hrs.)		
CET 4131C	Microprocessor Electronics II	4 hours
EET 3716	Electrical Network Analysis	3 hours
EET 4158C	Linear Integrated Circuits	3 hours
CET 4334C	Applied Computer Systems II	4 hours
CET 4198C	Digital Systems	4 hours
CET 4915	Senior Design Project	2 hours
CET 4361	Applied Computer Graphics	3 hours
ETG 4931	Current Topics in Technology	3 hours
ETI 4185	Applied Reliability	3 hours

(Other technical elective courses may be selected with approval of curriculum coordinator and Department Chair)

Approved electives to bring total to 128 semester hours 15-18 hrs.

2. Design Engineering Technology

The specialization in Design Engineering Technology provides advanced level coursework in preparation of employment at the Baccalaureate level in the fields of manufacturing, testing and fabrication of mechanical parts, mechanical drafting, and building construction. Typical community college programs for entrance include those in Drafting and Design, Mechanical, Civil, and Building Construction Technologies. A minimum of five semester hours of engineering drawing or drafting must be included in the community college program.

Upper Level Required Courses (24 hours)

CET 3123C	Microprocessor Electronics	3 hours
EET 3035C	Electricity and Electronics	4 hours
EST 4535C	Electro-Mechanical Design	3 hours
ETI 3421	Materials and Processes	3 hours
ETG 4530	Strength of Materials	3 hours
ETM 4403C	Applied Kinematics	3 hours
ETM 4512	Applied Design of Machine Elements	3 hours
ETG 4950	Senior Design Project	2 hours

Upper Level Technical Electives (8 hours)

ETC 4241	Construction Methods, Contracts & Specs.	4 hours
ETC 4410C	Applied Structural Design I	3 hours
ETC 4415C	Applied Structural Design II	3 hours
CET 4131C	Microprocessor Electronics II	4 hours
ETI 4522C	Applied Robotics	3 hours
ETM 4750	Applied Air Conditioning	3 hours
ETM 4220	Applied Energy Systems	2 hours
ETI 4185	Applied Reliability	3 hours

(Other technical elective courses may be selected with approval of curriculum coordinator and Department Chair)

Approved electives to bring total to 128 semester hours 17-19 hours

3. Electronics Engineering Technology

The specialization in Electronics Engineering Technology provides advanced level courses in preparation for employment opportunities in electronics at the Baccalaureate level. Typical community college associate degree programs for entrance include those in Electrical, Electronics, Electro-mechanical and Computer Technology. The technology courses presented for transfer must total at least 24 semester hours and must include courses in DC and AC Circuits, Electronic Devices/Circuits, Digital Fundamentals/Circuits, Microprocessors, and Technical Report Writing. A minimum of 10 courses (upper and lower level) which include laboratory are required for award of the BSET in Electronics. Upper Level Required Courses (20 hours)

EET 3716	Electrical Network Analysis	3 hours
CET 3303	Microcomputer Technology	4 hours
EET 4329C	Electronic Communications I	4 hours
EET 4349C	Electronics Communications II	4 hours
EET 4158C	Linear Integrated Circuits	3 hours
EET 4732	Feedback Control	3 hours

Upper Level Technical Electives (4-7 hours)

(Select 2 courses from the following)

EET 4339C	Antennas & Propagation	3 hours
EET 4389C	Satellite Communication Systems	3 hours
EET 4508	Power Utilization	3 hours
EET 4548	Power Transmission	3 hours
CET 4131C	Microprocessor Electronics II	4 hours
CET 4198C	Digital Systems	4 hours
CET 4381	Digital Signal Processing	3 hours
CET 4915	Senior Design Project	2 hours
ETG 4931	Current Topics in Technology	3 hours
ETI 4185	Applied Reliability	3 hours

(Other technical elective courses may be selected with approval of curriculum coordinator and Department Chair)

Approved electives to bring total to 128 semester hours 3-8 hours

4. Information Systems Engineering Technology

The specialization in Information Systems Engineering Technology provides advanced level courses in preparation for employment in computer systems programming and technical systems analysis. Typical community college associate degree programs for entrance include those in Computer Information Systems and Computer Programming. A minimum of 21 semester hours including Pascal I, Pascal II, Cobol, Assembler, Computer Programming, Statistics, and Technical Report Writing must be included in the community college degree program.

Upper Level Required Courses (22 hours)

EET 3035C	Electricity and Electronics	4 hours
CET 3383	Applied Systems Analysis and Design	3 hours
CET 3123C	Microprocessor Electronics	3 hours
CET 3323C	Computer Organization Technology	3 hours
CET 4427	Applied Data Base Systems	3 hours
CET 4505	Applied Computer Operating Systems	3 hours
CET 4523	Applied Systems Analysis II	3 hours

Upper Level Technical Electives (Select two courses)

CET 3303	Microcomputer Technology I	3 hours
CET 4361	Applied Computer Graphics in Technology	3 hours
CET 4527	Applied Operating Systems II	3 hours
CET 4627	Applied Database Systems II	3 hours
CET 4915	Senior Design Project	2 hours
ETI 4185	Applied Reliability	3 hours

(Other technical elective courses may be selected with approval of curriculum coordinator and Department chair)

Approved electives to bring total to 128 semester hours 8-11 hours

5. Operations Engineering Technology

The specialization in Operations Engineering Technology is designed to present the management operations, supervisory and methods courses that are essential for operations control in the sales, service, manufacturing and construction industries. The curriculum is designed to accept a broad range of Associate Degree backgrounds and develop the management and supervisory skills necessary to produce a marketable graduate. AS Degree programs with emphasis on Architectural, Building Construction, Aerospace, Automotive Services, Civil, Computer, Fire Control, Drafting and Graphics, Industrial Management or Supervision, Quality Control and Surveying Technologies are normally acceptable. *Engineering drawing must be included in the Community College program.*

Required Courses (28 hours)

CET 3123C	Microprocessor Electronics	3 hours
CET 4131C	Microprocessor Electronics II	4 hours
EET 3035C	Electricity and Electronics	4 hours
ETI 3421	Materials and Processes	3 hours
ETI 4611	Plant Layout, Matl. Handling and Work Analysis	3 hours
ETI 4650	Process Planning and Estimating	4 hours
ETI 4185	Applied Reliability	3 hours

Upper Level Technical Electives (5 hours)

EST 4535C	Electro-Mechanical Design	3 hours
ETI 3690	Technical Sales	2 hours
ETI 4522C	Applied Robotics	3 hours
ETI 4700	Occupational Safety	2 hours
ETC 4241	Construction Methods, Contracts & Specs.	4 hours
ETM 4220	Applied Energy Systems	2 hours
ETM 4750	Applied Air Conditioning	3 hours

(Other technical electives may be selected with approval of the curriculum coordinator and Department Chair)

Approved electives to bring total to 128 semester hours. 20-22 hrs.

COLLEGE OF HEALTH

UNDERGRADUATE PROGRAMS

- Cardiopulmonary Sciences (BS)
- Communicative Disorders (BA)
- Medical Record Administration (BS)
- Medical Technology (BS)
- Nursing (BSN)
- Radiologic Sciences (BS)

GRADUATE PROGRAM*

- Communicative Disorders (MA)
- Health Sciences (MS)

OTHER PROGRAMS

- Pre-Occupational Therapy
- Pre-Physical Therapy

*See the Graduate Studies catalog for information.

COLLEGE OF HEALTH

Interim Dean: *L. Ellis*, HP 214, Phone (407) 275-2352

Interim Associate Dean: *T. Mendenhall*, HP 125

The mission of the College of Health is to provide quality undergraduate and graduate academic and clinical instruction. The College seeks to identify and develop new programs which fulfill documented need for humanistic health care resources and health care technology within the central Florida community. The College also seeks to foster the development and transmission of knowledge and the generation and transmission of research findings via grantsmanship, publication, and presentation at scientific conferences. In addition, the College supports development of continuing education programs for community professionals and innovative health care services within its academic units.

The College believes that through a liberal arts education, intensive study in a specific health related discipline, and appreciation of scientific method, the graduate will be a valuable asset to health care in Florida as well as the nation.

General Requirements for the Bachelors Degree

Some degree programs in the College of Health are upper-division, limited access programs. In these programs, acceptance by or registration at the University does not constitute admission to a College of Health program. SEPARATE APPLICATION must be made to the director/chair of the program/department prior to February 1st preceding the semester in which the student desires to begin the program. **Before** acceptance to the program, a minimum overall grade point average of 2.5 and a minimum grade of C in the major and in prerequisite courses are required for admission to, continuation in, and graduation from a College of Health program.

In addition to University and program requirements, each student is required to complete 6 hours of College of Health courses outside of the major.

DEPARTMENT OF COMMUNICATIVE DISORDERS

Chair: *D. Ratusnik*, HP 113, Phone (407) 275-2121

Faculty: *Hedrick, Ingram, Mullin, Utt*

The primary goal of the Department of Communicative Disorders is the preparation of clinical specialists in Speech/Language Pathology and Audiology. Undergraduate offerings are consistent with philosophies of the American Speech-Language-Hearing Association in that most coursework is designed to provide the student theoretical foundations on which to build competent clinical skills. An on-campus clinic as well as external affiliations including area public schools, community speech and hearing centers, hospital clinics, physicians' offices and industrial settings are available for the development of various clinical competencies. Faculty are engaged in generation and transmission of knowledge concerning speech-language-hearing processes and impairments via ongoing research projects. The professional phase of the program in speech/language pathology and audiology is accredited by the Educational Standards Board of the American Speech-Language Hearing Association.

In addition to coursework for majors, the Department offers a 4 course sequence in Sign Language: SPA 3333, SPA 4380, SPA 4381, SPA 4382.

MINOR

The Department of Communicative Disorders offers a minor consisting of a minimum of 22 semester hours.

Required courses: LIN 3710, 3710L and SPA 3001, 3101, 3112, 3112L, 4030, 4222, 4222L, and 4402, 4402L.

BACHELOR OF ARTS: COMMUNICATIVE DISORDERS

Degree Requirements

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

LIN 3710
LIN 3710L

Foundations of Language
Foundations of Language Lab

3 hours
1 hour



SPA 3001	Introduction to Communicative Disorders	3 hours
SPA 3052	Clinical Observation & Practice (Taken in Fall & Spring of Senior year)	3 hours
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	Audiology I	3 hours
SPA 4033	Audiology II	3 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	3 hours
SPA 4336	Augmentative Communication Systems	3 hours
4. Restricted Electives		10 hours
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
The two statistics courses are required for graduation.		

5. Electives 14 hours
Students who wish to obtain a Teachers Certificate for the State of Florida must include necessary coursework as electives.

Total Semester Hours Required

130

PROGRAM IN HEALTH SCIENCES

Director: T. Mendenhall, HP 123, Phone (407) 275-2972

Faculty: Bergner, Edwards

The Health Sciences program provides several courses to broaden the student's understanding of health care and provide counseling in pre-physical and pre-occupational therapy.

MINOR

The program of Health Sciences offers a minor consisting of a minimum of 16 semester hours. In order to be awarded a minor in Health Sciences, a student must complete the required course work and maintain at least a 2.5 GPA and a minimum of C on all College of Health course work.

Required Courses: HSA 4121, HSA 4180, or HUN 3011, HSC 3110 and a minimum of 7 hours of upper-division courses in the College of Health (College of Health majors may not count courses presently required of a College program).

PROGRAM IN MEDICAL RECORD ADMINISTRATION

Interim Director: C. Barr, HP 216, Phone (407) 275-2359

Faculty: Clark

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

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

Before acceptance to the professional phase of the program, students are required to complete the following prerequisite courses: biology with lab, anatomy with lab, physiology with lab, statistics, an introduction to data processing or computer science, and an introduction to accounting or finance.

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 1st of the year in which prerequisites will have been met to be considered an applicant. A personal interview is also a requirement.

Upon completion of the approved program, the student is eligible to submit an application for writing the national registration examination administered by the American Medical Record Association to qualify as a Registered Record Administrator.

BACHELOR OF SCIENCE: MEDICAL RECORD ADMINISTRATION

Degree Requirements

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

APB 3600	Introduction to Pharmacology	3 hours
COM 3110	Business and Professional Communication	3 hours
ENC 3210	Business Report Writing	3 hours

HSC 3170	Health Care Finance	3 hours
HSC 3640	Health Law	3 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
MRE 3000	Introduction to Medical Records	4 hours
MRE 3110	Medical Record Organization & Management	4 hours
MRE 3432	Fundamentals of Medicine	4 hours
MRE 3800	Directed Practice I	2 hours
MRE 3810	Directed Practice II	2 hours
MRE 4202	Coding Procedures	4 hours
MRE 4203	Coding Procedures II	2 hours
MRE 4211	Health Data Processing	3 hours
MRE 4304	Medical Record Department Management	3 hours
MRE 4312	Analysis of Medical Record Department Operations	4 hours
MRE 4400	Health Care Delivery Systems	4 hours
MRE 4420	Health Legislation	2 hours
MRE 4500	Health Information Retrieval Systems	4 hours
MRE 4830	Directed Practice III	2 hours
MRE 4832	Directed Practice IV	2 hours
MRE 4850	Medical Record Research	3 hours
MRE 4835	Management Affiliation	5 hours
4. Restricted Electives		None
5. Electives: None		

Total Semester Hours Required

135

PROGRAM IN MEDICAL LABORATORY SCIENCES

Director: *M. Kangelos*, HP 216, Phone (407) 275-2359

Faculty: *Heinsohn*

Medical technologists are involved in medical diagnosis, treatment, surveillance, management, research, and education. They use 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 a 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 1st of the year for which admission is sought. For the last seven months of the program the students will be assigned to a hospital laboratory for clinical experience. The affiliated hospitals are located in Lakeland, Orlando, and Winter Haven. It may be necessary for the student to move to Lakeland, Orlando, or Winter Haven for this period.

The degree in Medical Laboratory Sciences will be awarded upon completion of the University's didactic program and the clinical program in an affiliated hospital.

Upon receiving the degree in Medical Laboratory Sciences, the graduate will be eligible to write a national certification examination and the State of Florida licensure examination.

BACHELOR OF SCIENCE: MEDICAL LABORATORY SCIENCES

Degree Requirements

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

Prerequisites for professional phase admission

BSC 2010C	General Biology	4 hours
MCB 3013C	General Microbiology	5 hours

MCB 3203	Pathogenic Microbiology	3 hours
CHM 2045, 2046	Chemistry Fundamentals I & II	7 hours
CHM 2046L	Chemistry Fundamentals Laboratory	1 hour
CHM 2205	Introduction to Organic & Biochemistry	5 hours
CHM 3120C	Analytical Chemistry	5 hours
MAC 1104	College Algebra	3 hours
STA 3023	Statistical Methods I	3 hours
CGS 3000	Computer Fundamentals for Business Applications I	3 hours
Upper Division Professional Phase		
PCB 3233	Immunology	3 hours
PCB 3703C	Human Physiology	4 hours
MLS 3220C	Techniques in Clinical Microscopy	2 hours
MLS 3305C	Hematology	4 hours
MLS 3930	Concepts in Laboratory Education/Management	3 hours
MLS 4830C, 4831C, 4832C, 4833C, 4834C	Clinical Practice I, II, III, IV, & V	20 hours
MLS 4405	Clinical Pathogenic Microbiology	4 hours
MLS 4625C, 4630C	Advanced Clinical Chemistry I & II	8 hours
MLS 4334C	Hemostasis	2 hours
MLS 4550C	Clinical Immunohematology	4 hours
MLS 4420C	Clinical Mycology	1 hour
MLS 4431C	Clinical Parasitology	2 hours
MLS 4511C	Immunodiagnostics	5 hours
MLS 4910	Fundamentals of Research for Health Professionals	3 hours
MLS 4932	Medical Technology Seminars	2 hours
4. Restricted Electives:		
5. Electives: None		
Total Semester Hours Required		140



NURSING DEPARTMENT

Chair: J.C. Kijek, HP 410, Phone (407) 275-2744

Faculty: Conroy, Dörner, Giovinco, Guarda, Hennig, Horvath, Judkins, Koch, Moore, Peterson, Primus, Ramey, Smith, Wink

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. SEPARATE APPLICATION must be made directly to the Admissions Office prior to February 1st of the year in which Fall admission is sought. R.N.s and minority applicants receive special consideration. Completion of the A.A. degree or General Education Program is required. Graduates are eligible to take the licensing examination for registered nurses.

Courses for nurses registered in the United States are offered at the Orlando, Daytona, and Brevard campuses, including examinations for selected courses. R.N. students must be registered professional nurses in the State of Florida.

BACHELOR OF SCIENCE: NURSING

Degree Requirements

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

Prerequisites to Nursing Major to be satisfactorily completed **prior** to admission to the major

MCB 3013C	General Microbiology	5 hours
ZOO 3733C	Human Anatomy	4 hours
PCB 3703C	Human Physiology	4 hours
CHM 2205	Introduction to Organic/Biochemistry	5 hours
STA 2014		
or 3023	Principles of Statistics	3 hours
SOW 3104	Human Growth and Development	
or		3 hours
DEP 3004	Developmental Psychology	
HUN 3011	Human Nutrition	3 hours
Upper-Division Professional Phase		
HSC 4550	Pathophysiologic Mechanisms	3 hours
NUR 3119	Introduction to Baccalaureate Nursing	3 hours
NUR 3748C	Concepts Basic to Nursing Practice	6 hours
NUR 3066	Health Assessment	3 hours
*NUR 3749C	Scientific Theories of Nursing I	6 hours
*NUR 3795	Scientific Theories of Nursing II	6 hours
*NUR 3755C	Scientific Theories of Nursing III	5 hours
*NUR 3796	Scientific Theories of Nursing IV	5 hours
NUR 3166	Critical Inquiry	3 hours
*NUR 4756C	Scientific Theories of Nursing V	6 hours
NUR 4758C	Scientific Theories of Nursing VI	6 hours
NUR 4757C	Scientific Theories of Nursing VII	6 hours
NUR 4797	Professional Development and Issues	3 hours
NUR 4941	Selected Nursing Practicum	3 hours
4. Restricted Electives: One course in nursing		3 hours
5. Electives: None		
Total Semester Hours Required		142

*Students who are Registered Nurses in Florida must pass examinations for credit for these courses **prior** to enrollment in:

NUR 3709	Transitional Concepts in Nursing	6 hours
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PROGRAM IN RADIOLOGIC SCIENCES

Director: *T. J. Edwards III, HP 323, Phone (407) 275-2747*

Faculty: *Sheehan, Welker*

The University of Central Florida offers the only accredited Bachelor of Science in Radiologic Sciences degree program in Florida. The Radiologic Sciences Program offers students the opportunity to specialize in either Radiography or Radiation Therapy Technology. Radiographers and Radiation Therapy Technologists are integral members of the health care team dedicated to providing high quality patient care. Graduates are prepared to function as clinically competent Radiographers or Radiation Therapy Technologists and, with experience, advance to leadership positions in their profession. Employment opportunities in both fields are excellent.

The primary role of Radiographers is to perform medical imaging procedures for the diagnosis of disease and injury. The Radiographer enjoys an interesting and challenging variety of examinations/procedures which may include conventional radiography, fluoroscopy, vascular imaging, computed tomography and magnetic resonance imaging. Employment opportunities are available in hospitals, imaging centers and private physician offices. Career advancement opportunities include positions in radiology administration, education, quality assurance and public health physics.

Radiation Therapy Technologists work closely with physicians to deliver high energy radiation for the treatment of cancer. The Radiation Therapy Technologist delivers the prescribed amount of radiation to the precise tumor site while assessing and reporting patient progress throughout the course of treatment. Employment opportunities are available in hospitals and treatment centers. Career advancement opportunities include positions in radiology administration, education, quality assurance and dosimetry.

The program works in conjunction with Central Florida Regional Hospital, Sanford; Florida Hospital, Altamonte Springs; Jewett Orthopaedic Clinic, Winter Park Halifax Medical Center, Daytona; Waterman Medical Center, Eustis; Winter Park Memorial Hospital, Winter Park.

The programs in Radiography and Radiation Therapy Technology are accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Joint Review Committee on Education in Radiologic Technology (JRCERT). Graduates are eligible to apply for admission to the certification exam administered by the American Registry of Radiologic Technologists (ARRT). The University of Central Florida is the sponsoring institution for the Radiography program. Halifax Hospital Medical Center is the sponsoring institution of the Radiation Therapy program.

The application deadline for admission to the upper division, limited access phase of the program is February 1 of the year in which admissions is sought. Professional courses begin during the Summer semester. After successful completion of the Summer semester and continuance in the Fall semester, students may apply for admission to the Radiation Therapy area of specialization. Classes in Radiation Therapy begin in January.

REGISTERED TECHNOLOGISTS

Up to 45 semester hours of credit may be awarded to Registered Technologists (ARRT). Registered technologists with an A.S. degree in Radiologic Technology from a Florida public community college have the same choice of catalog options as students with an A.A. degree. Registered technologists may complete the general education and prerequisite courses concurrently with the professional courses. Courses for registered technologists are offered in Orlando and through the Brevard Center, Cocoa, and Hillsborough Community College, Tampa.

Students considering a career in radiologic technology are encouraged to enroll in the Introduction to Radiologic Sciences course (RTE 1002). This course may be completed prior to beginning the limited access phase of the program.

BACHELOR OF SCIENCE: RADIOLOGIC SCIENCES

Degree Requirements

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

3. Required courses

Prerequisites

CGS 1060	Introduction to Computer Science	3 hours
MAC 1104	College Algebra	3 hours
PCB 3703C	Human Physiology	4 hours
PHY 2053C	College Physics I	4 hours
ZOO 3733C	Human Anatomy	4 hours

Professional Phase

Radiography Program of Study

JUNIOR LEVEL—Summer Semester

*RTE 1002	Introduction to Radiologic Sciences	3 hours
*RTE 3123	Introduction to Patient Care	2 hours
*RTE 3528C	Radiographic Procedures I	3 hours
*RET 3412C	Principles of Radiographic Exposure I	3 hours

JUNIOR LEVEL—Fall Semester

RTE 3806	Clinical Education I	4 hours
*RTE 3549C	Radiographic Procedures II	3 hours
*RTE 3457C	Principles of Radiographic Exposure II	3 hours
*RTE 3684	Physics of Image Production	2 hours
ACG 2001	Principles of Accounting I	3 hours
HSC 3640	Health Law	3 hours

JUNIOR LEVEL—Spring Semester

RTE 3387	Medical Physics	3 hours
RTE 3564	Special Radiographic Procedures	2 hours
RTE 3816	Clinical Education II	4 hours
STA 3023	Statistical Methods I	3 hours
HSA 3122	US Health Care Systems	3 hours
PHY 2054C	College Physics II	4 hours

SENIOR LEVEL—Summer Semester

RTE 4826	Clinical Education III	5 hours
RTE 4566	Advanced Imaging Modalities	3 hours

SENIOR LEVEL—Fall Semester

RTE 4876	Clinical Education IV	6 hours
RTE 4362	Radiobiology	1 hour
RTE 4207	Methods of Radiology Management	3 hours
HSC 4550	Pathophysiologic Mechanisms	3 hours
EDG 4321	Teaching Strategies	4 hours

SENIOR LEVEL—Spring Semester

RTE 4843	Clinical Education V	6 hours
RTE 3156	Radiographic Pathology	2 hours
RTE 4569	Quality Assurance	3 hours
RTE 4720	Anatomy for the Medical Imager	3 hours

Select One:

RTE 4209	Radiological Administrative Practice	2 hours
RTE 4256	Directed Study in Clinical Education	2 hours

Radiation Therapy Technology Program of Study

JUNIOR LEVEL—Summer Semester

RTE 1002	Introduction to Radiologic Sciences	3 hours
RTE 3123C	Introduction to Patient Care	2 hours
RTE 3528C	Radiographic Exposure I	3 hours
RTE 3412C	Principles of Radiographic Exposure I	3 hours

JUNIOR LEVEL—Fall Semester

RTE 3806	Clinical Education I	4 hours
RTE 3549C	Radiographic Procedures II	3 hours
RTE 3457C	Principles of Radiographic Exposure II	3 hours
RTE 3684	Physics of Image Production	2 hours
PHY 2054C	College Physics II	4 hours

JUNIOR LEVEL—Spring Semester

RAT 3001	Introduction to Radiation Oncology	3 hours
RAT 3242	Oncologic Pathology	2 hours
RAT 3241	Clinical Radiobiology	3 hours
RAT 3614	Radiation Therapy Physics I	2 hours
RTE 3816	Clinical Education II	4 hours
HSC 4550	Pathophysiologic Mechanisms	3 hours

SENIOR LEVEL—Summer Semester

RAT 4027	Radiation Oncology I	3 hours
RAT 4618	Radiation Therapy Physics II	4 hours
RTE 4826	Clinical Education III	5 hours

SENIOR LEVEL—Fall Semester

RAT 4028	Radiation Oncology II	3 hours
RAT 4619	Radiation Therapy Physics III	4 hours
EVT 3371	Essential Teaching Skills in Voc. Ed.	3 hours
RTE 4876	Clinical Education IV	6 hours
STA 3023	Statistical Methods I	3 hours

SENIOR LEVEL—Spring Semester

RTE 4843	Clinical Education V	6 hours
RTE 4720	Anatomy for the Medical Imager	3 hours
RTE 4256L	Directed Study in Clinical Education	2 hours
HSA 3122	US Health Care Systems	3 hours

4. Restricted Electives

5. Electives: None

Total Semester Hours Required

138

*Students who are Registered Technologists (ARRT) may write examinations for credit for these courses during enrollment in:

RTE 3050	Transitional Concepts in Radiologic Sciences	6 hours
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**DEPARTMENT OF CARDIOPULMONARY SCIENCES
PROGRAM IN ADVANCED CARDIOPULMONARY STUDIES**

Interim Chair: *S. Douglass*, HP 350, Phone (407) 275-2214

Medical Director: *L. Acierno*

Faculty: *Core, Crittenden, Lytle, Worrell*

The Department of Cardiopulmonary Sciences currently encompasses two academic areas: the undergraduate curriculum leading to the Bachelor of Science Degree in Cardiopulmonary Sciences and the graduate curriculum leading to the Cardiopulmonary Sciences Option in the Master of Science Degree in Health Sciences (see graduate catalog for further information).

During the next several years, the Department of Cardiopulmonary Sciences will be undergoing changes and may combine with other departments. This will allow the faculty to concentrate on baccalaureate and graduate courses which will augment previous course work taken at UCF or a community college.

The Department of Cardiopulmonary Sciences will maintain its accreditation with the Joint Review Committee for Respiratory Therapy Education during this reorganization.

As the health industry changes, Respiratory Therapists must continue to grow and change with it. In order to meet these rapid sophisticated changes the baccalaureate individual should possess basic entry-level skills, the desire to acquire more knowledge, and a solid foundation in the sciences.

This Department will continue to accept Associate in Arts (AA) and Associate in Science (AS) transfers until administration completes the reorganization of the college.

Students indicating Cardiopulmonary Sciences as their major, must be accepted by the University and meet all the requirements for admission to the upper-division. NO separate application will be necessary for the department.

BACHELOR OF SCIENCE: CARDIOPULMONARY SCIENCES

Degree Requirements

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

Prerequisites

BSC 2010C	General Biology	4 hours
MCB 3013C	General Microbiology	5 hours
ZOO 3733C	Human Anatomy	4 hours
PCB 3703C	Human Physiology	4 hours
CHM 1034	General Chemistry	3 hours
CHM 2046L	Chemistry Fundamentals Laboratory	1 hour
PHY 2053C	College Physics	4 hours
MAC 1104	College Algebra	3 hours

Corequisites: The student will select *one science course* (min of 3 hours) with the approval of their advisor.

College of Health Core: Select ONE course with advisor

HSC 3531	Medical Terminology	3 hours
HSC 3930	Health Law	3 hours
HSA 3122	U.S. Health Care Systems	3 hours

Upper-Division Professional Phase

FALL		
HSC 4550	Pathophysiologic Mechanisms	3 hours
RET 3026C	Intro to Respiratory Therapy	4 hours
APB 3263C	Cardiopulmonary Physiology	4 hours
APB 3650	Medical Pharmacology I	2 hours
RET 3714C	Pediatric Respiratory Care	4 hours

17 hours

SPRING		
RET 3264C	Mechanical Ventilation	3 hours
APB 4650	Medical Pharmacology II	2 hours
RET 3244C	Life Support Systems	2 hours
RET 4414C	Pulmonary Diagnostics	4 hours
RET 4503	Chest Medicine	4 hours
RET 3483	R.T. Disease Assessment	1 hour

16 hours

SUMMER		
RET 4714	Neonatal Medicine	4 hours
RET 4040	Respiratory Education	2 hours
RET 3874	Clinical Practice I	5 hours

11 hours

FALL		
RET 3875	Clinical Practice II	8 hours
RET 4284C	C.P. Diagnostics I	3 hours
HSA 4180	Organization and Management of Health Agencies	3 hours

14 hours

	SPRING	
RET 4876	Clinical Practice III	8 hours
RET 4285C	C.P. Diagnostics II	3 hours
RET 4933	Medical Research Seminar	2 hours
RET 4034	Problems in Patient Management	2 hours
		<hr/>
		15 hours

4. Restricted Electives

5. Electives: None

Total Semester Hours Required	136 hours
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COLLEGE OF EXTENDED STUDIES

Dean: *John B. O'Hara*, AD 145, Phone (407) 275-2123

Associate Dean: *Jennie L. Loudermilk*, AD 145, Phone (407) 275-2123

The College of Extended Studies develops, coordinates and implements noncredit and sponsored credit institute programs of extension, outreach, and continuing education in cooperation with academic colleges and departments of the University. Learners wishing to continue their education are offered, as an alternative to regular credit courses, opportunities for academic credit, professional and personal growth and enrichment at off campus locations. The primary purpose is to provide lifelong learning opportunities by utilizing university resources to benefit nontraditional and traditional learners.

A broad spectrum of programs, many designed specifically for individuals and groups, include short courses, in-service training, conferences, seminars, institutes, special training programs, study-travel programs, and workshops. Educational courses are conducted in cooperation with outside agencies for non-matriculated and nontraditional students who wish to complete baccalaureate degree requirements. Professional level courses are offered to meet the educational needs of business, professional, government, service, and civic organizations. To substantiate the content of professional programs as well as to offer credentialing to verify the learner's participation, Continuing Education Units (CEU) are offered to qualified and eligible participants.

Additionally, training activities can be custom designed for specific professional groups or organizations desiring to complement their internal personnel training and development programs. Specialized certification courses, in response to legislative mandates (e.g. certified risk managers in certain health care facilities) are also offered.

The College of Extended Studies administers the Center for Multilingual Multicultural Studies, the Institute of Government, the Center for Executive Development, and the Real Estate Institute which is located at the University's Winter Park Campus. Registration in the College of Extended Studies courses does not require admission to the University nor does it imply acceptance.

The College of Extended Studies manages UCF's newest facility: the Winter Park Center. Located in the heart of Central Florida's growth area, it is the University's primary conference/workshop center. Six meeting rooms serve groups from 10 to 100 in a modern urban setting. Adjacent to the center, Valencia Community College has classroom and computer labs used on a shared basis. This facility is available for use by the public and the university community. For more information, please contact the UCF Winter Park Center (407) 645-0310.

CENTER FOR MULTILINGUAL MULTICULTURAL STUDIES

The Center, established at the University of Central Florida provides English instruction for foreign students and area business persons. The intensive English program combines the latest in teaching methodology with computer assisted instruction. Fulltime students enrolled at the Advanced level may elect to take courses as nondegree seeking students while enrolled in the English language program. Student (F-1) visas are extended to qualified applicants. Special attention is given to preparing students for academic coursework in their specialized fields of study. Four levels of instruction are offered which range from Beginning to Advanced. Moreover, the Center offers courses for community residents and foreign students already accepted to academic programs. These courses include Accent Reduction, TOEFL Preparation, Academic Writing for Nonnative Speakers, and specialized courses in foreign languages: Spanish for the Business Executive and French for Hospitality Management.

INSTITUTE OF GOVERNMENT

Through the College of Extended Studies, the Institute of Government, an affiliate of the Florida Institute of Government, offers educational and training assistance to elected and appointed officials, local government managers, administrators, and senior management staff on topics selected by the UCF Institute of Government Steering Committee. Training workshops, conferences, seminars, technical assistance, video tapes (for in-house training) and liaison between UCF and specific training requests of a governmental jurisdiction are provided in an eleven county service area.

Beginning in February 1990, the UCF Institute of Government will sponsor in conjunction with the Florida City/County Managers Association, the first annual statewide public policy forum for experienced city and county managers and selected elected officials to improve the effectiveness of local governments in the state of Florida.

CENTER FOR EXECUTIVE DEVELOPMENT

The Center for Executive Development is the continuing education outreach program of the College of Business Administration. The basic charter of the center is to transfer knowledge and technology from the faculty in the college to the business community. This transfer is accomplished by presenting programs in three different formats: open enrollment, in-house programs, and programs conducted in conjunction with professional organizations. The educational content falls within the basic functional areas of business; Accounting, Economics, Finance, Management, and Marketing. Programs are offered both on the main campus, at the satellite campuses, and at client company locations.

REAL ESTATE INSTITUTE

The Real Estate Institute, through the College of Extended Studies offers continuing education courses, workshops and institute for the Real Estate profession. Pre-license courses offered satisfy Florida Real Estate Commission requirements; post-licensing courses develop expertise in specialized areas such as appraising, property management, and mortgage brokering.

The institute offices are housed in the University's newest facility: the Winter Park Center in Winter Park. Courses, workshops, and institutes are offered throughout the eleven county service area of the University of Central Florida.

INSTITUTES AND CENTERS FOR RESEARCH

CENTER FOR ECONOMIC EDUCATION

The Center for Economic Education strives to increase public knowledge of economic principles and their applications in daily life.

Researchers at the Center develop, collect, and distribute economic educational materials. They also consult with, and provide instruction to area schools (K-12), community colleges, and community organizations. Instruction focuses on the principles of economics and their use in making rational economic decisions. Additionally, the Center conducts research in economic education.

Contact Person: Robert L. Pennington, Director, PH 310, Phone (407) 275-2870

CENTER FOR RESEARCH IN ELECTRO-OPTICS AND LASERS

The Center for Research in Electro-Optics and Lasers (CREOL) is an interdisciplinary institute that links high technological industry to University research and degree programs in advanced optics.

CREOL conducts research in laser propagation, laser/materials, interaction, laser development, ultra-fast phenomena (femtosecond laser interactions), detector technology, nonlinear optics, fiber optics, optical processing, thin film optics, image processing, and stimulated scattering and nonlinear optical spectroscopy. The Center integrates its research efforts with industry and education.

CREOL helps its corporate members to expand their research and development, identifies important needs and future trends in electro-optics and lasers, promotes communication between its members and other research institutions studying optics, and supports the activities of electro-optics companies.

CREOL also provides faculty and students with basic coursework in physical optics, laser physics, laser systems, Fourier optics, and mathematical methods. Additionally, CREOL incorporates into its education program coursework in electrical engineering, physics, and specialized courses in electro-optics and lasers.

Laboratory research facilities accommodate femtosecond, high rep-rate picosecond YAG, nanosecond YAG, picosecond YAG, single mode CO₂ analysis, electro-optics, optics, experimental mechanics, solid state laser, turbulence, and propagation.

Contact Person: M. J. Soileau, Director, Research Pavilion, Suite 400 Phone (407) 658-6800.

DICK POPE, SR. INSTITUTE FOR TOURISM STUDIES

The Dick Pope Sr. Institute for Tourism Studies serves Florida tourism through research, promotion, public awareness programs, and education.

The institute conducts studies in domestic and international tourism, the decision-making process of tourists, the attitudes of travel agents toward Florida, the economic impacts of tourism, and conducts marketing research for theme parks.

Additionally, the institute publishes the *Tourism Barometer II*, a quarterly projection of Florida tourism activity. This publication is distributed state-wide.

The educational needs of the tourism industry are met with credit and non-credit coursework. The four-year baccalaureate program in hospitality management prepares students to work as managers in the hospitality and tourism industries. Non-credit, non-degree programs tailored to the needs of specific enterprises and professional associations of the tourism industry include short courses, seminars, workshops, conferences, in-service training programs, and executive development programs.

Contact Person: Abraham Pizam, Director PH 102, Phone (407) 275-2188.

FLORIDA SINKHOLE RESEARCH INSTITUTE

The Florida Sinkhole Research Institute acts as a central clearinghouse for data and professional expertise on the sinkhole problem. The Institute provides a public service by aiding homeowners with information and advice, and also conducts extensive research about the sinkhole problem.

Contact Person: Barry F. Beck, Director, Research Bldg #534, Phone (407) 275-2043.

INSTITUTE FOR SIMULATION AND TRAINING

The Institute for Simulation and Training (IST) is an interdisciplinary organization that develops research programs in simulation and simulation training devices. The institute draws on the expertise of faculty and academic resources of the University of Central Florida, the Naval Training equipment center, the Army Project Manager for Training Devices, and many industrial affiliates in simulation and training.

The Institute conducts research in a variety of areas related to simulation and training. These areas include simulation/gaming, special purpose computer architecture, software engineering, logistics systems, computer generated imagery systems, human factors engineering, instruction systems design, technical/instructional writing, electro-optics application in training, operations research, data base design and development, computer-based design and development, computer-based instruction, artificial intelligence, and robotics.

Contact Person: A. Louis Medin, Director, Research Pavilion, Suite 300, Phone (407) 658-5000.

INSTITUTE FOR STATISTICS

The Institute for Statistics provides statistical consulting and analytical support to all areas of the University. The Institute makes valuable contributions to research by supporting non-statistical researchers with statistical consulting assistance during the planning of experiments and investigations, and analysis of data, and the evaluation of results.

The Institute also provides statistical support to various governmental agencies and private organizations.

Contact Person: Dr. Lorrie Hoffman, Director, BIO 330, Phone (407) 281-5525.

INSTITUTE FOR TECHNICAL DOCUMENTATION

The Institute for Technical Documentation offers a variety of services of client companies; including the development of original technical documentation, the translation of documentation written in foreign languages, and the development of seminars to assist clients in writing their own documentation.

The Institute consists of a core of permanent professional staff, supplemented by University faculty, staff, and students, all of whom have demonstrated expertise in technical writing of documentation. These services are enhanced by the cooperative efforts of educators, engineers, foreign language experts, psychologists, and scientists who act as consultants to the Institute.

Computer-assisted processing aids in translating foreign languages, word processing and editing text, gathering reference material, and conducting information searches. Trained writers, established facilities, and continued contact with personnel in industry and research enable the Institute to engage in a wide variety of documentation projects.

Contact Person: Gloria W. Jaffe, Director, FA 450, (407) 275-2212.

MANAGEMENT INSTITUTE

The Management Institute of the College of Business Administration provides seminars, workshops and conferences on business and management-related topics. The Institute is designed to support an organization's needs relating to every aspect of business management. This support may be in the form of short, intensive seminars presented on site or on campus; special topic seminars prepared for particular needs; or specially scheduled workshops and seminars. Excellence in programming and individual attention are key objectives of the Institute. Examples of seminars and workshops held include: Time Management, The Supervisor as a Successful Manager, Management Skills for Women, CPA Review, and Tax and Accounting Conference.

Contact Person: David J. Roberts, Director, PH 216, Phone (407) 275-2446.

SMALL BUSINESS DEVELOPMENT CENTER

The Small Business Development Center (SBDC) was established as part of a statewide program in cooperation with the U.S. Small Business Administration.

The resources of the SBDC are utilized to counsel and train small business clients and prospective owners in a variety of areas, including finance and accounting, marketing, production, engineering, and technical and paralegal problems.

Contact Person: Aloyse T. Polfer, Director, CEBA II, Phone (407) 275-2796.

SMALL BUSINESS INSTITUTE

The Small Business Institute offers professional help to owners of small businesses in need of managerial guidance. The objectives of the institute are: to stimulate the expansion of existing small businesses; to encourage the formation of economically sound small businesses; to provide training to proprietors and employees of small businesses; to improve the quality of management and operation of business; to serve as a catalyst to focus resources on a variety of economic problems; to develop a clearinghouse for business data; and to increase the opportunities for socially and/or economically disadvantaged entrepreneurs to enter the economic mainstream.

Contact Person: Ronald S. Rubin, Director, PH 410, Phone (407) 275-2682.

COURSE DESCRIPTIONS

CLASSIFICATION OF COURSES

The University course numbering system is as follows:

- 1000-2999 are freshman and sophomore level courses and are designed primarily for these students.
- 3000-4999 are junior- and senior-level courses and are designed primarily for these and other advanced students. When approved for inclusion in an individual program of graduate study by a supervisory committee approved by the Dean of Graduate studies, selected 4000-4999 courses may serve the needs of individual graduate students.
- 5000-5999 are beginning graduate and advanced undergraduate level courses—open to graduate students and those seniors who receive approval of the appropriate Dean(s).
- 6000-6999 are beginning and professional level courses open only to graduate students.

FLORIDA STATEWIDE COURSE NUMBERING SYSTEM

The course numbers appearing in the catalog are part of a statewide system of prefixes and numbers developed for use by all public postsecondary and participating private institutions in Florida. One of the major purposes of this system is to make transferring easier by identifying courses which are equivalent, no matter where they are taught in the state. All courses designated as equivalent will carry the same prefix and last three digits.

The classifying and numbering of courses was done by community college and university faculty members in each academic discipline. Their work was reviewed by faculty members in all of Florida's postsecondary institutions who made suggestions and criticisms to be incorporated into the system.

The course numbering system is, by law, descriptive and not prescriptive. It in no way limits or controls what courses may be offered or how they are taught. It does not affect course titles or descriptions at individual schools. It seeks only to describe what is being offered in postsecondary education in Florida in a manner that is intelligible and useful to students, faculty, and other interested users of the system.

The course numbering system was developed so that equivalent courses could be accepted for transfer without misunderstanding. Each public institution is to accept for transfer credit any course which carries the same prefix and last three digits as a course at the receiving institution. For example, if a student has taken SYG-000 at a community college, he cannot be required to repeat SYG-000 at the school to which he transfers. Further, credit for any course or its equivalent, as judged by the appropriate faculty task force and published in the course numbering system, which can be used by a native student to satisfy degree requirements at a state university can also be used for that purpose by a transfer student regardless of where the credit was earned.

It should be noted that a receiving institution is not precluded from using nonequivalent courses for satisfying certain requirements.

General Rule for Course Equivalencies

All undergraduate courses bearing the same alpha prefix and last three numbers (and alpha suffix, if present) have been agreed upon to be equivalent. For example, an introductory course in sociology is offered in over 40 postsecondary institutions in Florida. Since these courses are considered to be equivalent, each one will carry the designator SYG-000.

First Digit

The first digit of the course number is assigned by the institution, generally to indicate the year it is offered—i.e., 1 indicates freshman year, 2 indicates sophomore year. In the sociology example mentioned above one school which offers the course in the freshman year will number it SYG 1000; a school offering the same course in the sophomore year will number it SYG 2000. The variance in the first number does not affect the equivalency. If the prefix and last three digits are the same, the courses are substantially equivalent.

Titles

Each institution will retain its own title for each of its courses. The sociology courses mentioned above are titled at different schools "Introductory Sociology," "General Sociology," and "Principles of Sociology." The title does not affect the equivalency. The courses all carry the same prefix and last three digits; that is what identifies them as equivalent.

Lab Indicators

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

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

"C" means a combined lecture-lab course in which the lab is offered in conjunction with the lecture at the same time/same place.

Examples: Marine Biology OCB-013 (lecture only)
OCB-013L (lab only)
OCB-013C (lecture & lab combined)
Marine Biology
with lab

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
CCE	Civil Construction Engineering
CCJ	Criminology & Criminal Justice
CDA	Computer Design/Architecture
CEG	Civil Geotechnical Structures
CES	Civil Engineering Structure
CET	Computer Engineering Technology
CGN	Civil Engineering
CGS	Computer General
CHI	Chinese
CHM	Chemistry
CHS	Chemistry-Specialized
CIS	Computer & Information Systems
CJT	Criminal Justice Technology
CLA	Classical and Ancient Studies
CLP	Clinical Psychology

COC Computer Concepts
COE Cooperative Education
COM Communications
COP Computer Programming
COT Computer Theory
CPO Comparative Politics
CRM Computer Resources/Management
CRW Creative Writing
CWR Civil Water Resources
CYP Communication Psychology
DAA Dance Activities
DAE Dance Education
DEP Development Psychology
EAB Experimental Analysis of Behavior
EAS Engineering: Aerospace
ECM Engineering: Computer Mathematics
ECO Economics
ECP Economic Problems & Policy
ECS Economic Systems & Development
EDA Education: Administration
EDE Education: Elementary
EDF Education: Foundation
EDG Education: General
EDH Education: Higher
EDM Education: Middle School
EDP Education: Psychology
EDS Education: Supervision
EEC Education: Early Childhood
EED Education: Emotional Disorders
EEL Engineering: Electrical
EES Environmental Engineering Science
EET Electrical Electronic Technology
EEX Education: Exceptional Child-Care Competencies
EGC Guidance & Counseling
EGM Engineering: Mechanical
EGN Engineering: General
EGS Engineering: Support
EIN Engineering: Industrial
ELD Education: Specific Learning Disabilities
EMA Engineering: Materials
EME Education: Technology & Media
EML Engineering: Mechanical
EMR Education: Mental Retardation
ENC English Composition
ENG English-General
ENL English Literature
ENU Engineering: Nuclear
ENV Engineering: Environmental
ENY Entomology
EPH Education: Physical & Multiple Handicapped
ESE Education: Secondary
ESI Engineering Systems-Industrial
ESL English as a Second Language
EST Electronic Specialty Technology
ETC Engineering Tech: Civil
ETG Engineering Tech: General
ETI Engineering Tech: Industrial
ETM Engineering Tech: Mechanical
EUH European History
EVI Education: Visually Impaired-Blind
EVS Environmental Science

EVT Education: Vocational/Technical
 EXP Experimental Psychology
 FIL Film
 FIN Finance
 FLE Foreign Language Education
 FOT Foreign & Biblical Languages in Translation
 FRE French Language
 FRW French Literature (Writings)
 FSS Food Service Systems
 GEA Geography: Regional Areas
 GEB General Business
 GEO Geography
 GER German Language
 GEW German Literature (Writings)
 GLY Geology
 HBR Modern Hebrew Language
 HFT Hotel and Restaurant
 HLP Health Education
 HMW Modern Hebrew Literature (Writings)
 HSA Health Services Administration
 HSC Health Science
 HUM Humanities
 HUN Human Nutrition
 IDH Interdisciplinary Honors
 INP Industrial & Applied Psychology
 INR International Relations
 ISM Information Systems Management
 ISS Interdisciplinary Social Sciences
 ITA Italian Language
 ITW Italian Literature (Writings)
 JOU Journalism
 JST Judaic Studies
 LAE Language Arts & English Education
 LAH Latin American History
 LEI Leisure
 LIN Linguistics
 LIS Library Science
 LIT Literature
 MAA Mathematics-Analysis
 MAC Mathematics-Calculus & Precalculus
 MAD Mathematics-Discrete
 MAE Mathematics Education
 MAN Management
 MAP Mathematics-Applied
 MAR Marketing
 MAS Mathematics: Algebraic Structures
 MAT Mathematics
 MCB Microbiology
 MET Meteorology
 MGF Mathematics: General & Finite
 MHF Mathematics: History & Foundations
 MIS Military Science
 MLS Medical Laboratory Science
 MMC Mass Media Communication
 MRE Medical Records
 MTG Mathematics: Topology & Geometry
 MUC Music: Composition
 MUE Music Education
 MUH Music: History/Musicology
 MUH Music: Music Literature
 MUN Music: Musical Ensembles

MUS Music
 MUT Music: Theory
 MVB Music: Applied-Brasses
 MVK Music: Applied-Keyboard
 MVO Music: Applied-Other Instruments
 MVP Music: Applied-Percussion
 MVS Music: Applied-Strings
 MVV Music: Applied-Voice
 MVW Music: Applied-Woodwinds
 NUR Nursing
 NUU Nursing Universals
 OCE Oceanography
 OST Office Systems Technology
 PAD Public Administration
 PCB Process Cell Biology
 PCO Psychology for Counseling
 PEL Physical Education Acts (GEN)-Object Centr., Land
 PEM Physical Education Acts (GEN)-Perform Centr., Land
 PEN Physical Education Acts (GEN)-Water, Snow, Ice
 PEO Physical Education Acts (PROFNL)-Object Centr., Land
 PEP Physical Education Acts (PROFNL)-Perf. Centr., Land
 PEQ Physical Education Acts (PROFNL)-Water, Snow, Ice
 PET Physical Education Theory
 PGY Photography
 PHH Philosophy, History of
 PHI Philosophy
 PHM Philosophy of Man & Society
 PHS Physics-Specialized
 PHY Physics
 PHZ Physics Continued
 PLA Paralegal/Legal Asst./Legal Admin.
 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
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.

	Undergraduates		Special Grad ¹
Directed Independent Studies	3905	4906	5907
Directed Independent Research		4912	5917
Special Topics/Seminars	3930	4932	5937
Internships, Practicums, Clinical Practice	3940	4941	5944 ²
Directed Independent Research		4912	5917
Cooperative Education (COE) ³	1949, 2949, 3949, 4949		5949

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

¹The Special Graduate Courses are primarily for graduate students, but may be taken by advanced seniors with the consent of their deans.

²Enrollment is limited to those students who are fully admitted to the Graduate Program.

³Enrollment is limited to those students who are admitted into the co-op program.

PR: PREREQUISITE

A Course in which credit must be earned prior to enrollment in the listed course.

CR: COREQUISITE

A course which must be taken concurrently with or prior to the listed course.

CI: CONSENT OF INSTRUCTOR

HOURS CODE

Each course listed is followed by a code which shows hours credit, and contact hours.

Example:

CHM 3120C

AS 5(3,6)

Analytical Chemistry I: CHM 3120C carries 5 hours credit but requires 9 contact hours; 3 in class and 6 in laboratory or field work. It is scheduled to be offered in the College of Arts and Sciences.

College designation: AS = Arts and Sciences; BA = Business Administration;

ED = Education; EN = Engineering; HLTH = Health;

US = Undergraduate Studies

AVAILABILITY OF COURSES

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

- ACG 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)**
Principles of Accounting II: PR: ACG 2001 and MAC 1104 or equivalent. A continuation of ACC 2001. Partnerships, corporations, long-term debt, cash flow statements, cost standards, budgeting, taxes, and management accounting analysis.
- ACG 2023** **BA 6(6,0)**
Principles of Accounting I and II: PR: Junior standing and MAC 1104 or equivalent. Same as 2001, 2011. Credits may not be earned in both ACG 2023 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 2023 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, relevant cost analysis, and overhead/joint cost allocations.
- ACG 3501** **BA 3(3,0)**
Financial Accounting for Governmental and Nonprofit Organizations: PR: ACG 3103 with a grade of "C" or better, or C.I. Accounting for governments and other nonprofit organizations with emphasis on financial reporting issues and problems.
- ACG 4123** **BA 3(3,0)**
Financial Accounting III: PR: ACG 3113 with a grade of "C" or better. Specialized financial accounting topics.
- ACG 4203** **BA 3(3,0)**
Financial Accounting IV: PR: ACG 3113 with a grade of "C" or better. Accounting for business combinations, consolidations.
- ACG 4401** **BA 3(3,1)**
Accounting Information Systems I: PR: ACG 3103 and CGS 3000, ACG 3113 and ACG 3361 with a grade of "C" or better. An introduction to manual and computer-based accounting information systems.
- ACG 4651** **BA 3(3,0)**
Auditing: PR: ACG 3113 and ACG 4401 with a grade of "C" or better. The standards, practices and procedures followed in the audit function.
- ACG 5005** **BA 3(3,0)**
Financial Accounting Concepts: PR: Acceptance into the graduate program. (Not open for Accounting majors.) The conceptual background for financial statements.
- ACG 5206** **BA 3(3,0)**
Financial Accounting V: PR: ACG 4123 or C.I. and meet school admission requirements. Problems of partnerships, accounting for branches, bankruptcy, installment sales, accounting for estates and trusts, and interim reporting.
- ACG 5255** **BA 3(3,0)**
International and Multinational Accounting: PR: ACG 4123 or C.I. and meet school admission requirements. An examination of the environmental factors affecting international accounting concepts and standards. Cross-country differences in accounting treatments are compared.
- ACG 5346** **BA 3(3,0)**
Cost Accounting II: PR: ACG 3361, ACG 4123, FIN 3403, ECO 3411 or C.I. and meet school admission requirements. Overhead allocation, capital budgeting and analysis, EOQ analysis, decentralization, quantitative decision analysis.
- ACG 5435** **BA 3(3,0)**
Accounting Control Systems: PR: Graduate standing, ACG 3361 and ACG 4401, or ACG 5625, or C.I. An integrative course designed to provide a systematic approach to the integration of financial accounting, managerial accounting, taxation, and general business courses.
- ACG 5506** **BA 3(3,0)**
Managerial Accounting for Governmental and Nonprofit Organizations: PR: ACG 3501, ACG 4123, or C.I. and meet school admission requirements. Study of problems and methods of applying managerial accounting concepts in a nonprofit environment.

- ACG 5625** **BA 3(3,0)**
Auditing and EDP: PR: ACG 4401, ACG 4123, ACG 4651 and meet school admission standards. An examination of auditing procedures followed when a company uses a computer to process financial records.
- ACG 5636** **BA 3(3,0)**
Advanced Auditing: PR: ACG 4401, ACG 4123, ACG 4651, STA 3023 and meet school admission requirements. Special topics relative to the standards, practices, and procedures followed in the audit function.
- ACG 5675** **BA 3(3,0)**
Operational Auditing: PR: ACG 4123, ACG 4651 and meet school admission requirements. The standards, principles, practices, and procedures followed in the internal audit function.
- ADV 4000** **AS 3(3,0)**
Principles of Advertising: Overview of the field of advertising; purposes, techniques, the role of agencies, advertisers and the media.
- ADV 4003** **AS 3(3,0)**
Advertising Layout and Preparation: PR: ADV 4000 or C.I. Advertising design and layout for print media; reproduction methods and requirements, art background not required.
- ADV 4101** **AS 3(3,0)**
Advertising Copy and Campaigns: PR: ADV 4000 or C.I. and Grammar Proficiency Exam. Creative copywriting for print, RTV, and other media. Campaign strategies and formulation.
- ADV 4103** **AS 3(3,0)**
Radio-Television Advertising: PR: ADV 4000 or C.I. Radio and television advertising sales; including interpretation of rate structures, program audiences, and creative approaches to sponsor needs.
- AFH 3404** **AS 3(3,0)**
Sub-Saharan Africa - Eastern and Southern: PR: EUH 2000 and 2001 or C.I. Survey of history of Eastern and Southern Africa including origins of man, Bantu migrations, Arab and European influences, and colonial and national periods.
- AFR 1101** **US 1(1,1)**
The Air Force Today: Capability and National Security I: PR: Qualification for Air Force ROTC or permission of Professor of Aerospace Studies. History, mission, organization and doctrine of the United States Air Force and a study of U.S. Strategic Offensive and Defensive Forces.
- AFR 1111** **US 1(1,1)**
The Air Force Today: Capability and National Security II: PR: AFR 1101 or permission of Professor of Aerospace Studies. A brief review of the Army, Navy, and Marine force. An introduction to special operations and counterinsurgency.
- AFR 2130** **US 1(1,1)**
The Development of Airpower: PR: AFR 1111 or approval of the PAS. A study of the development of airpower from experiments by 18th century balloonists to the achievement of combat airpower capabilities during World War II.
- AFR 2131** **US 1(1,1)**
The Aerospace Age: PR: AFR 2130 or approval of PAS. A study of the development of aerospace capabilities since World War II, highlighting technological advancements and the role of aerospace power in the contemporary world.
- AFR 3220** **US 3(3,1)**
Air Force Management and Leadership: PR: GMC or Two-Year Program Selection and/or approval of the PAS. An introductory study of Air Force management fundamentals, communications skills and basic leadership styles.
- AFR 3230** **US 3(3,1)**
Air Force Management and Evaluation: PR: AFR 3220 or approval of the PAS. A concluding study of Air Force management fundamentals including performance evaluation skills.
- AFR 4201** **US 3(3,1)**
Societal Role and Defense Strategy: PR: AFR 3230 or approval of PAS. Examination of the military and its role in American society. A study of the framework and formation of defense strategy.
- AFR 4210** **US 3(3,1)**
Implementation of Defense Policy: PR: AFR 4201 or approval of PAS. An examination of defense implementation and its impact on the decision-making process. A study of the military justice system and its protection of individual rights.
- AMH 2010** **AS 3(3,0)**
U.S. History: 1492-1877: Survey of U.S. history from 1492-1877.
- AMH 2020** **AS 3(3,0)**
U.S. History: 1877-Present: Survey of U.S. history from 1877 to the present. May be taken before AMH 2010.
- AMH 2020H** **AS 3(3,0)**
Honors U.S. History: 1877-Present: Same as AMH 2020 with Honors-level content.
- AMH 3316** **AS 3(3,0)**
Sport in America: History of sport from colonial times to present. Emphasis on social and economic development, intercollegiate and professional sport, and changing attitudes toward work, sport and play.
- AMH 3370** **AS 3(3,0)**
American Economic History: PR: AMH 2010 and 2020 or C.I. An introduction to the economic development of the U.S. with emphasis on agriculture, labor, industrialization, transportation and banking.

- AMH 3402** **AS 3(3,0)**
History of the South to 1865: PR: AMH 2010 or 2020 or C.I. Development of the southern colonies, beginning sectionalism, the cotton economy, slavery, Calhoun's constitutional theories, secession, Civil War and its aftermath.
- AMH 3403** **AS 3(3,0)**
History of the South Since 1865: PR: AMH 2010 and 2020 or C.I. Reconstruction, the "solid South" and the racial dilemma, progressivism for whites only, southern literature, 20th century economic, political and social changes, and the new Reconstruction.
- AMH 3421** **AS 3(3,0)**
History of Florida to 1845: PR: AMH 2010 and 2020 or C.I.
- AMH 3423** **AS 3(3,0)**
Florida History 1845-Present: PR: AMH 2010 and 2020 or C.I.
- AMH 3441** **AS 3(3,0)**
History of the Frontier: Eastern America: PR: AMH 2010 and 2020 or C.I. The progression of the westward movement from the colonial settlements to the Mississippi considered as an interpretive approach to American history.
- AMH 3442** **AS 3(3,0)**
History of the Frontier: Western America: PR: AMH 2010 and 2020 or C.I. The development of the trans-Mississippi West and its impact upon American history.
- AMH 3445** **AS 3(3,0)**
Spanish Borderlands: PR: AMH 2010 and 2020 or C.I. Survey of Spanish settlement in South and southwestern U.S. with emphasis upon cultural conflicts found in the imperial rivalries for control of the area.
- AMH 3460** **AS 3(3,0)**
History of Urban America: Cities as "spearheads in the wilderness, antiurban bias, urban promotion, rivalry, industrialization, ethnicity, reform movements including public health, housing, planning." Metropolitanism and demographic trends.
- AMH 3540** **AS 3(3,0)**
Military History: A survey of US military history from the European background of the colonial period through the contemporary military experience.
- AMH 3560** **AS 3(3,0)**
Women in American History: Women in colonial America, "republican" motherhood, "separate spheres," suffrage battle, entry into paid labor force, new educational and professional opportunities, changing family pattern, "new" feminism.
- AMH 3570** **AS 3(3,0)**
Black American History: PR: AMH 2010 and 2020 or C.I. History of Negroes from their African heritage through American Slavery to freedom and their role in 20th century America.
- AMH 3586** **AS 3(3,0)**
History of the Hispanic Minorities in the U.S.: Course begins with 16th century through the modern period. Special emphasis on Chicanos, Puerto Ricans and Cubans.
- AMH 3800** **AS 3(3,0)**
Canadian History: Canada since Colonial times and the present but with emphasis on the period since the British North America Act, 1867.
- AMH 4110** **AS 3(3,0)**
Colonial America, 1607-1763: PR: AMH 2010 and 2020 or C.I. The voyages of discovery, the origins of the thirteen colonies, and their political, economic, social, and religious life in the 17th and 18th centuries.
- AMH 4130** **AS 3(3,0)**
The Age of the American Revolution, 1763-1789: PR: AMH 2010 and 2020 or C.I. The American Revolution — its origins, course, and impact upon American society — the Articles of Confederation, the Philadelphia Convention and its work.
- AMH 4140** **AS 3(3,0)**
Jeffersonian America: PR: AMH 2010 and 2020 or C.I. The Confederation era, the Federalists, Jeffersonian Democracy, and the War of 1812.
- AMH 4160** **AS 3(3,0)**
Jacksonian America: PR: AMH 2010 and 2020 or C.I. The risk of American nationalism, Jacksonian Democracy, the Mexican War and sectional conflict.
- AMH 4170** **AS 3(3,0)**
Civil War and Reconstruction: PR: AMH 2010 and 2020 or C.I. Reconstruction, and impact of industrialism.
- AMH 4201** **AS 3(3,0)**
Robber Baron Era: PR: AMH 2010 and 2020 or C.I. The Agrarian Revolt, the Spanish-American War, and the Progressive Era.
- AMH 4231** **AS 3(3,0)**
United States History: 1914-1945: PR: AMH 2010 and 2020 or C.I. The progressive Reforms of Woodrow Wilson, World War I, post-war prosperity, the Depression, and the New Deal; World War II.
- AMH 4270** **AS 3(3,0)**
United States History: 1945-Present: PR: AMH 2010 and 2020 or C.I. Contemporary America from World War II.

- AMH 4311** **AS 3(3,0)**
American Culture I: PR: AMH 2010 and 2020 or C.I. The European Backgrounds; Puritanism; Enlightenment, the Great Awakening; Revolutionary Thought; Romanticism; the Southern Mind and the Yankee Response; Popular Culture and the rise of recreation.
- AMH 4313** **AS 3(3,0)**
American Culture II: PR: AMH 2010 and 2020 or C.I. The Darwinian Revolution; revolt of the intellectuals; the media explosion; mass entertainment in mass culture; the loss of community, the nuclear age, and presentism.
- AMH 4510** **AS 3(3,0)**
Rise of the United States to World Power, 1776-1914: PR: AMH 2010 and 2020 or C.I. The evolution of basic American policies. American expansion, America's major wars, and the emergence of America as a world power.
- AMH 4511** **AS 3(3,0)**
United States as a Great Power: 1914-Present: PR: AMH 2010 and 2020 or C.I. American foreign policy in World War I, the interwar period, World War II, and the Cold War.
- AMH 5116** **AS 3(3,0)**
Colloquium in U.S. Colonial History: PR: Senior Standing or C.I. Reading and discussion of the literature on selected topics in U.S. history.
- AMH 5137** **AS 3(3,0)**
Colloquium in U.S. Revolutionary Period: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics in the Revolutionary Era, 1763-1789.
- AMH 5149** **AS 3(3,0)**
Colloquium in Early U.S. Hist., 1789-1815: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics of the early national period.
- AMH 5169** **AS 3(3,0)**
Colloquium Age of Jackson: PR: Senior Standing or C.I. Intensive reading and class discussion on selected topics of the Jacksonian age.
- AMH 5176** **AS 3(3,0)**
Colloquium in Civil War and Reconstruction: PR: Senior Standing or C.I. Intensive reading and class discussion on selected topics of the Civil War and Reconstruction era.
- AMH 5219** **AS 3(3,0)**
Colloquium in Late 19th Century U.S.: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics of late 19th century U.S.
- AMH 5296** **AS 3(3,0)**
Colloquium in 20th Century U.S.: PR: Senior Standing or C.I. Reading and class discussion on selected topics in 20th century U.S.
- AMH 5391** **AS 3(3,0)**
Colloquium in U.S. Cultural History: PR: Senior Standing or C.I. Students will read and discuss a common or diverse body of the significant literature in the field.
- AMH 5407** **AS 3(3,0)**
Colloquium in American South: PR: Senior Standing or C.I. Intensive reading and class discussion on selected topics of Southern history from colonial origins to the Present.
- AMH 5446** **AS 3(3,0)**
Colloquium in U.S. Frontier: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics of frontier history.
- AMH 5515** **AS 3(3,0)**
Colloquium in U.S. Diplomatic History: PR: Senior Standing or C.I. A survey of the historical literature of American foreign policy.
- AML 3031** **AS 3(3,0)**
American Literature I: PR: ENC 1102. Major American writers from beginning through Whitman.
- AML 3051** **AS 3(3,0)**
American Literature II: PR: ENC 1102. Major American writers from Twain to present.
- AML 4101** **AS 3(3,0)**
American Novel: PR: ENC 1102. Analysis of major American novelists.
- AML 4261** **AS 3(3,0)**
Literature of the South: PR: ENC 1102 or C.I. Development of Southern literature from its beginnings in the "Old South" through the post-Civil War and the Southern Renaissance to the present. Emphasizes reading from Poe, Ransom, Tate, Faulkner, Porter, Warren, O'Connor, Percy and Styron.
- AML 4321** **AS 3(3,0)**
Modern American Literature: PR: ENC 1102. Major writers of modern American literature.
- ANT 2003** **AS 3(3,0)**
General Anthropology: An introductory survey of the four major subfields of anthropology: Social Anthropology, Physical Anthropology, Linguistics and Archaeology.
- ANT 3122** **AS 3(3,0)**
Archaeological Method and Theory: A survey of archaeological field and laboratory techniques, including the interpretation of written archaeological reports.
- ANT 3141** **AS 3(3,0)**
The Emergence of Civilizations: The emergence of high civilizations in Europe, Africa, Asia, and the ancient Americas.

- ANT 3142** **AS 3(3,0)**
Old World Prehistory: A comparative study of social evolution in Africa, Europe and Asia from the earliest humans to the beginnings of recorded history.
- ANT 3144** **AS 3(3,0)**
Prehistory of the American Indians: The trajectory of New World society from the earliest big game hunters to the European conquest of the American civilizations.
- ANT 3145** **AS 3(3,0)**
Archaeology of Complex Society: Theoretical perspectives on ancient hierarchies of power.
- ANT 3153** **AS 3(3,0)**
Archaeology of North America: An introduction to the archaeology of North America including its prehistoric and historic aspects.
- ANT 3162** **AS 3(3,0)**
Archaeology of Middle and South America: An introduction to the prehistory of Middle and South America focusing on the high civilizations up to and including the Spanish conquest.
- ANT 3163** **AS 3(3,0)**
Mesoamerican Archaeology: An introduction to the prehistory of Mexico, Guatemala, and upper Central America from earliest times through the Spanish conquest.
- ANT 3211** **AS 3(3,0)**
Human Origins (Anthropology I): The evolution of human society from foraging and hunting groups to the earliest cities and states.
- ANT 3241** **AS 3(3,0)**
Magic, Ritual, and Belief: Patterns in religious behavior in various societies with primary emphasis on myth, rite, taboo and festival social phenomena.
- ANT 3262** **AS 3(3,0)**
Rural Society: An introduction to rural society in the U.S. and abroad. Problems of third world development in the rural sector.
- ANT 3271** **AS 3(3,0)**
Law and Culture: An introduction to law as an organizing force in society including a study of primitive forms of law and social control.
- ANT 3302** **AS 3(3,0)**
Sex, Gender and Culture: The traditional and changing roles of women and men viewed in a cross-cultural perspective.
- ANT 3311** **AS 3(3,0)**
Indians of the Southeastern United States: A study of the social and cultural history of the Indians of the Southeast.
- ANT 3312** **AS 3(3,0)**
Ethnology of North American Indians: A survey of the aboriginal cultures of North America with emphasis on the pre-contact cultural condition.
- ANT 3313** **AS 3(3,0)**
Indians of North America High Plains: A study of the social and cultural history of the Indians of the North American High Plains.
- ANT 3328** **AS 3(3,0)**
Maya Archaeology: An examination of the Prehistoric Maya culture focusing on both the archaeology and current issues in the field.
- ANT 3332** **AS 3(3,0)**
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.
- ANT 3360** **AS 3(3,0)**
Peoples of the Far East: A survey of the peoples of China, Japan and Korea from the anthropological perspective.
- ANT 3363** **AS 3(3,0)**
Anthropology of Japan: An examination of Japanese culture and its contemporary behavioral and organizational patterns by drawing upon archaeology, cultural history, linguistics, cultural anthropology, and social organization.
- ANT 3410** **AS 3(3,0)**
Cultural Anthropology (Anthropology II): An introduction to human diversity as exemplified among various cultures and ethnic groups.
- ANT 3418** **AS 3(3,0)**
Aging and Death: General considerations and theories of aging and death in a cross-cultural perspective.
- ANT 3422** **AS 3(3,0)**
Peoples of the World: A comparative study of religion, family, politics, philosophy, and other elements of socio-cultural organization of pre-literate societies.
- ANT 3432** **AS 3(3,0)**
Culture and the Individual: Focus on the socio-cultural dimensions of child rearing, mental illness/mental health, sexual behavior, personality, and testing.
- ANT 3462** **AS 3(3,0)**
Medical Anthropology: The therapeutic environment examined in a cross-cultural perspective. The implications of the comparative approach to health care in the industrialized world.

ANT 3511	AS 3(3,0)
The Human Species: Human biological variation in an evolutionary perspective.	
ANT 3512	AS 3(3,0)
Biobehavioral Anthropology: An introduction to the study of human behavior in terms of mutual interaction between human biology and cultural environments.	
ANT 3610	AS 3(3,0)
Language and Culture: PR: Sophomore standing. The study of language in a non-western setting; language and behavior; language and perception.	
ANT 3705	AS 3(3,0)
Action Anthropology: Application of principles of anthropology to problems of directed social and technological change.	
ANT 4084	AS 3(3,0)
Anthropological Method and Theory: Method, theory, research design and field techniques in the anthropological endeavor.	
ANT 4124	AS 9(9,0)
Advanced Archaeological Fieldwork: Supervised archaeological fieldwork. Students admitted only with permission of instructor.	
ANT 4180	AS 3(1,4)
Seminar in Laboratory Analysis: The processing of archaeological finds from excavation through publication.	
ANT 5479	AS 3(3,0)
Comparative Cultural Analysis: The dynamics of cultural processes in a multi-ethnic setting.	
APA 3471	BA 3(3,0)
Accounting for Engineers: General Accounting principles and practice, cost accounting, budgeting and control techniques. Not usable for BSBA degree credit.	
APB 3263C	HLTH 4(3,3)
Cardiopulmonary Physiology: PR: PCB 3703C. Normal ventilation, lung mechanics, pulmonary circulation, diffusion and blood gases with an emphasis toward diagnostic cardiology.	
APB 3600	HLTH 3(3,0)
Introduction to Pharmacology: Review of terminology and regulations. Study of drug types and usage.	
APB 4651	HLTH 2(2,0)
Medical Pharmacology I: Drugs in pulmonary diseases; effects on nervous system, and neuroeffectors, depressants & stimulants; influence on metabolism and endocrines. <i>Bronchodilators, mycolytics, etc.</i>	
APB 4652	HLTH 2(2,0)
Medical Pharmacology II: PR: APB 4651 or C.I. Drugs used in cardiovascular disorders. Includes inotropic, chronotropic agents, beta blocker drugs, calcium channel antagonists.	
APB 5581	AS 3(3,0)
Applied Microbiology: PR: MCB 3013C or C.I. Microbial biochemistry of industrial processes including: economics, screening, scale up, quality control and applied genetics.	
ARE 3550	AS 3(3,0)
Introductory to Art Therapy: A survey of the literature, theories and practices of art therapy.	
ARE 3554	AS 3(3,0)
Art Therapy Methods: This course presents methodologies used by the Art Therapists and demonstrates how Art Therapy is put into practice.	
ARE 3662	AS 3(3,0)
Community Arts I: A Survey of the basic theoretical issues related to Community Arts programming.	
ARE 3663	AS 3(3,0)
Community Arts II: A survey of the basic methodologies for applying the theoretical issues to community arts programming taught in Community Arts I.	
ARE 3944	AS 3(2,3)
Community Arts Practicum: A supervised experience for students to facilitate art programming in a variety of community settings.	
ARE 4143	ED 2(2,0)
Methodology for Teaching K-12 Art Education I: Methods and curriculum materials for teaching art in elementary and secondary schools.	
ARE 4144	ED 2(2,0)
Methodology for Teaching K-12 Art Education II: Continuation of ARE 4143.	
ARE 4313	ED 3(2,1)
Art in the Elementary School: Basic principles, purposes, scope and sequence; organization for instruction; evaluation of activities; selected art experiences.	
ARE 4945	AS 12(0,12)
Community Arts Internship: An on-site indepth experience for community arts majors with a concentration in administration, education or therapeutic experience.	
ARE 5251	ED 3(2,1)
Art for Exceptionalities: Concepts, principles, and methods of integrating art processes into the education of the physically, emotionally, and mentally handicapped.	
ARE 5255	ED 3(2,1)
Arts in Recreation: Art activities and experiences appropriate for use in playground, leisure services, occupational orientation and other recreational areas.	

- ARE 5358** **ED 3(3,0)**
Found Arts: PR: C.I. Materials available for instruction in the public schools will be explored in depth in relation to their appropriateness and productive qualities.
- ARE 5444** **ED 3(3,0)**
Jewelry Making in Schools: PR: C.I. Jewelry making appropriate for school age children using standard public school equipment.
- ARE 5648** **ED 3(3,0)**
Contemporary Visual Arts Education: PR: C.I. Continued study of current programs and innovations in public school Visual Arts Programs.
- ARH 2050** **AS 3(3,0)**
The History of Art I: Painting, sculpture and architecture from the Prehistoric Era through the Renaissance period.
- ARH 2051** **AS 3(3,0)**
The History of Art II: Painting, sculpture and architecture from the Baroque through the 20th century.
- ARH 2051H** **AS 3(3,0)**
Honors History of Art II: Same as ARH 2051 with honors-level content.
- ARH 3060** **AS 3(3,0)**
History of Architecture: History of Architecture - Survey of Western architectural styles.
- ARH 3456** **AS 3(3,0)**
Art After 1945: A seminar for upper level art students to examine historically the art of Post WWII.
- ARH 3520** **AS 3(3,0)**
African Art: Teach the continuatives between African, Afro-Caribbean and Afro-American Arts.
- ARH 3530** **AS 3(3,0)**
Asian Art: History of visual arts of China, Japan, India and other Eastern cultures.
- ARH 3683** **AS 3(3,0)**
Southern Folk Arts: History of Folk Architecture, Ceramics, Painting, Sculpture, Textiles and Toys in three main Southern ethnic cultures: EuroAmerican, Afro-American, and American Indian.
- ARH 3710** **AS 3(3,0)**
History of Photography: The development of still photography in terms of historical, aesthetic and social content from 1839 to the present.
- ARH 3720** **AS 3(3,0)**
History of Prints: History of printmaking in the Western world, surveying works by the "great printmakers".
- ARH 3802** **AS 3(3,0)**
Happenings Art: To study the aesthetic and social significance of "Total Art" in its attempt to break down the customary distinctions between life and art.
- ARH 3820** **AS 3(3,0)**
Visual Arts Administration: Vitas; grant applications; Personnel; copyright laws; museum practices, etc.
- ARH 4071** **AS 4(4,0)**
Symbolism in the Visual Arts: A study of the origin, migration, and transmutation of signs, symbols and images in art history.
- ARH 4170** **AS 3(3,0)**
Greek & Roman Art: A study of the art and architecture of the ancient civilizations of the Mediterranean, comprising Greece, Etruria, and Rome.
- ARH 4311** **AS 3(3,0)**
Early Italian Renaissance Art: A survey of Italian Art and Architecture from 1300 to 1500.
- ARH 4312** **AS 3(3,0)**
Later Italian Renaissance Art: A survey of Art in Italy, from the High Renaissance through Mannerism.
- ARH 4350** **AS 3(3,0)**
Baroque Art: A study of European Art in the 17th and 18th centuries.
- ARH 4430** **AS 3(3,0)**
19th Century Art: A survey of the trends and developments in art during the 19th century, including the art of America and of Western Europe.
- ARH 4450** **AS 3(3,0)**
20th Century Art: A survey of the art from Fauvism, Futurism, Cubism to the art of the present.
- ARH 4655** **AS 3(3,0)**
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.
- ARH 4690** **AS 1(1,0)**
Mexican Art—Fieldwork: A field trip in connection with ARH 4655.
- ARH 4730** **AS 4(4,0)**
Environmental Art: Analysis of aesthetic design factors, related to city planning, architecture, product design, and experimental environmental arts.
- ARH 4800** **AS 3(3,0)**
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.

ARH 4821	AS 3(3,0)
Methods in Art Administration: PR: ARH 3820. Theories and methodologies for designing, implementing and administrating art programs for a variety of populations.	
ART 2201C	AS 3(2,3)
Design Fundamentals I: Materials, processes, form. Emphasis on two-dimensional design problems, including problems in black and white and basic color theory.	
ART 2202C	AS 3(2,3)
Design Fundamentals II: Continuation of color theory and basic three-dimensional design using the various sculptural media.	
ART 2300C	AS 3(2,3)
Drawing Fundamentals I: Drawing as a means of formal organization. Introduction to problems in drawing methods and media. Emphasis on description techniques.	
ART 2301C	AS 3(2,3)
Drawing Fundamentals II: Continuation of ART 2300C.	
ART 2481C	AS 3(2,3)
Introduction to Computer Graphics: The principles underlying the generation and display of graphical pictures by computer. Topics include graphical software packages and graphics systems.	
ART 3100C	AS 3(2,3)
Three-Dimensional Design: PR: ART 2202C or C.I. Intermediate problems in three-dimensional materials, processes, forms.	
ART 3110C	AS 3(2,3)
Ceramics: Basic concepts of ceramic design, experience in processes of forming, decorating, glazing, and firing pottery.	
ART 3230C	AS 3(2,3)
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.	
ART 3232C	AS 3(3,2)
Graphic Design II: PR: ART 3280C or C.I. Methods, materials and processes related to perceptual studies in graphic design.	
ART 3280C	AS 3(3,2)
Graphic Design I: PR: ART 2201C, 2202C, or C.I. Current: Use of type, color and illustration on layout elements and mechanical separations.	
ART 3281C	AS 3(3,2)
Type & Design: A survey of type, calligraphy and letter forms and their appropriate use as subject matter for graphic design and publication.	
ART 3330C	AS 3(2,3)
Intermediate Drawing I: PR: Six semester hours of Drawing Fundamentals or C.I. Intermediate problems in drawing with emphasis on the human form.	
ART 3331C	AS 3(2,3)
Intermediate Drawing II: PR: C.I. Continuation of Intermediate Drawing I.	
ART 3400C	AS 3(2,3)
Printmaking: PR: Three semester hours of Drawing Fundamentals or C.I.	
ART 3484C	AS 3(2,3)
Computer Graphics: PR: ART 2481C, & ART 3280C; or C.I. Intermediate problems involving the use of computer graphic systems for Advertising Art, Page Layout, Interior Design, and Scientific Illustrations.	
ART 3510C	AS 3(2,3)
Painting: PR: Three semester hours in Design Fundamentals and three semester hours in Drawing Fundamentals or C.I. Concentration of basic techniques and aesthetic factors in painting.	
ART 3701C	AS 3(2,3)
Sculpture: PR: Six semester hours in Design Fundamentals, to include three semester hours in three-dimensional work, or C.I.	
ART 4108C	AS 3(2,3)
Advanced Three-Dimensional Design: PR: ART 3100C. May be repeated for credit. Advanced problems in three-dimensional materials, processes, forms.	
ART 4111C	AS 3(2,3)
Advanced Ceramics: PR: ART 3110C. May be repeated for credit.	
ART 4130C	AS 3(2,3)
Fibers, Fabrics, Textiles and Synthetics: Textile design and production, including non-loom weaving processes. May be repeated for credit.	
ART 4166C	ED 3(2,3)
Metals, Woods, Leathers and Stones: Processes and techniques of production.	
ART 4235C	AS 3(3,2)
Advanced Graphic Design: PR: ART 3280C, ART 3232C, or C.I. Practical studio problems with emphasis on organization of visual design elements.	
ART 4237C	AS 3(3,2)
Special Problems in Graphic Design: PR: ART 3232C or C.I. Advanced problems in visual design and reproduction. May be repeated for credit.	

ART 4320C		AS 3(2,2)
Advanced Drawing: PR: ART 3331C. May be repeated for credit.		
ART 4402C		AS 3(2,3)
Advanced Printmaking: PR: ART 3400C. May be repeated for credit.		
ART 4530C		AS 3(2,3)
Advanced Painting: PR: ART 3510C. May be repeated for credit.		
ART 4703C		AS 3(2,3)
Advanced Sculpture: PR: ART 3701C. May be repeated for credit.		
ART 5109C		ED 3(2,1)
Crafts Design: Crafts design and production, including the use of rigid, flexible, and linear materials.		
ASH 3300		AS 3(3,0)
Survey of East Asia: PR: EUH 2000 and 2001 or C.I. An introduction to Far Eastern Cultures including India since the Age of the Moguls, China since early European penetration, Japan since the Hermit Kingdom.		
ASH 4404		AS 3(3,0)
China in 19th and 20th Centuries: PR: EUH 2000 and 2001 or C.I. The Mongols in China; coming of the Europeans; social structure; Communist movement; Japanese aggression.		
ASH 4442		AS 3(3,0)
Modern Japan, 19th and 20th Centuries: PR: EUH 2000 and 2001 or C.I. A survey of the Tokugawa Shogunate; Western contact in the 19th century; World War I; Japanese militarism; World War II; and U.S. occupation.		
AST 2002		AS 3(3,0)
Astronomy: PR: PSC 1512. An up-to-date survey of the solar system, the properties and evolution of stars, galaxies, and cosmology. Optional night observation sessions offered.		
AVM 4510		US 3(3,0)
Airline Management: PR: HFT 1000. The trends, operation, practices and procedures of the airline industry. Special emphasis on ticketing, scheduling, marketing and terminal management.		
BCH 4053		AS 3(3,0)
Biochemistry I: PR: CHM 3211. A consideration of proteins, carbohydrates, nucleic acids, enzymes and their effect on biochemical systems, and inter-relationship of intermediary metabolism.		
BCH 4054		AS 3(3,0)
Biochemistry II: PR: BCH 4053. Continuation of BCH 4053.		
BCH 4103L		AS 2(0,6)
Biochemical Methods: PR: BCH 4053 and CHM 3120C. A laboratory course stressing the application of the chemical arts to the separation, identification, and quantification of materials of biological significance.		
BES 3512		AS 2(2,0)
Behavioral Weight Control: Application of behavioral techniques to produce weight loss. Diet, exercise, and behavioral self regulation principles are used in an individual student case study approach.		
BOT 1000C		AS 4(3,2)
Plant Science: Plant life related to biological principles and the physical and cultural impact of plants on human individuals and civilization. Designed for non-majors.		
BOT 2010C		AS 3(1,4)
General Botany: PR: High school biology or C.I. Introduction to botany; plant structure and function with emphasis on forms and applications important to man.		
BOT 2800		AS 3(3,0)
Plants and Man - Ethnobotany: PR: C.I. Man's historical and modern uses of plants economically important in various cultures. Designed for majors and non-majors.		
BOT 3154		AS 3(1,4)
Local Flora: PR: BOT 2010C or C.I. Recognition and identification of Florida higher plants, especially those common to central Florida, stressing environmental and ethnobotanical significance. Weekend field trips may be required.		
BOT 3820		AS 3(2,1)
Plants and the Urban Environment: PR: C.I. The selection, placement, propagation and care of ornamental plants in residential and industrial areas. Designed for majors and non-majors.		
BOT 4223C		AS 4(3,3)
Plant Anatomy: PR: BOT 2010C. A study of development, structure and function of the principal organs and tissue of vascular plants.		
BOT 4303C		AS 5(3,6)
Plant Kingdom: PR: BOT 2010C. A survey of the plant kingdom utilizing comparative morphology, structure and functions to demonstrate relationships among extant and extinct forms.		
BOT 4503C		AS 4(3,3)
Plant Physiology: PR: PCB 3023 or C.I. A study of mechanisms used by plants to cope with the environment.		
BOT 4623		AS 3(3,0)
Plant Geography: PR: 8 hours Botany or C.I. The major climatic plant formations of the world and historical plant geography.		

- BOT 4713C** AS 5(3,6)
Plant Taxonomy: PR: BOT 2010C. An introduction to systematic classification and identification of vascular plants with emphasis on the flora of peninsular Florida.
- BOT 5495C** AS 3(2,3)
Bryology: PR: BOT 4303C or C.I. A lecture-laboratory survey course on the diversity and classification of mosses, liverworts, and hornworts with special emphasis on those found in Florida.
- BOT 5705C** AS 4(3,2)
Plant Biosystematics: PR: Graduate standing or C.I. Evolutionary processes among plant taxa and populations utilizing cytology, morphology, biochemistry, breeding systems and co-evolution.
- BSC 1020C** AS 4(3,2)
Biological Principles: A study of various biological factors which affect the health and survival of man in modern society. Designed for non-majors.
- BSC 1030C** AS 4(3,2)
Biology and Environment: Biological implications of the interaction among human society, population, and technology in relation to the environment and natural systems. Designed for non-majors.
- 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)
History 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 3402** ED 2(2,1)
Business Instructional Analysis I: PR: EDG 4321. Techniques, materials, and instructional media; psychological principles, evaluation, and current trends in typewriting instruction.
- BTE 4410** ED 2(2,0)
Business Instructional Analysis III: PR: EDG 4321. Techniques, materials, and instructional media; psychological principles, evaluation, and current trends in accounting and basic business instruction.
- BUL 3111** BA 3(3,0)
Legal Environment of Business: PR: Junior standing. Analysis of the law as a dynamic social and political institution in the business environment, including ethical considerations. (Not open to Accounting majors).
- BUL 3112** BA 3(3,0)
Business Law I: PR: Junior Standing. Introduction to law: a social and political institution in the business environment. Analysis of statutory and common law principles involved in the formation, operation and termination of recognized business organizations. Analysis of the effects of government regulation on business activity, including anti-trust and securities regulation.
- BUL 3121** BA 3(3,0)
Business Law II: PR: BUL 3112. Coverage of the Uniform Commercial Code; the law of commercial transactions, including sales, commercial paper, secured transactions and suretyship, contracts, wills and trusts, and property law.
- BUL 3301** BA 3(3,0)
Property Law: PR: BUL 3111. An analysis of real and personal property law, bailments, and insurance.
- 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 4453** AS 3(3,0)
Introduction to Robot Vision: Pin hole camera and eye, perspective and orthographic projections, edges, regions, binary images, recognizing human faces, mobile robots, texture, illusions, robot arm kinematics.
- CAP 4600** AS 3(3,0)
Introduction to Artificial Intelligence: PR: COP 3530 and COT 3100. Current methods in AI: knowledge-based systems, representation, inference, planning, natural language. Programming in Lisp or Prolog required.
- CAP 5410** AS 3(3,0)
Computer Vision: PR: COP 3530. Image formation, binary vision, region growing and edge detection, shape representation, dynamic scene analysis, texture, stereo and range images, and knowledge representation.
- CAP 5600** AS 3(3,0)
Artificial Intelligence and Prolog: PR: CAP 4600. Analysis of deductive databases, applications of logic programming to knowledge representation and "expert systems."
- CAP 5601** AS 3(3,0)
Advanced Artificial Intelligence: PR: CAP 4600. AI theory of knowledge representation, "expert systems," memory organization, problem solving, learning, planning, vision and natural language.

CAP 5610	AS 3(3,0)
Machine Learning: PR: CAP 4600 or C.I. Origin/evaluation of machine intelligence; machine learning concepts and their applications in problem solving, planning and "expert systems;" symbolic role of human and computers.	
CAP 5700	AS 3(3,0)
Computer Graphics Systems I: PR: COP 3530 or equivalent. Architecture of graphics processors; display hardware; principles of programming and display software; problems and applications of graphic systems.	
CBH 3003	AS 3(3,0)
Comparative Psychology: PR: PSY 2013. A study of comparative behaviors of lower animals.	
CCE 4004	EN 3(3,0)
Construction Engineering I: PR: EGN 3331 and CEG 4101C. Building construction, materials and types of construction, soils in construction and handbook applications in the field of construction engineering. Also form work design.	
CCE 4014	EN 3(3,0)
Construction Estimating: PR: MAC 1104, MAC 1114. Construction estimating techniques used in building construction. Classification of work and quantity survey procedures.	
CCE 4031	EN 3(3,0)
Construction Scheduling: Project planning, scheduling and cost management for building construction.	
CCE 4101	EN 3(3,0)
Construction Materials: Structural steels, concrete mixes, wood, masonry, concrete reinforcement, steel decks, formwork, insulation and interior finish materials.	
CCE 5005	EN 3(3,0)
Construction Engineering II: PR: CCE 4004 or C.I. Construction planning, equipment, and methods used in heavy construction.	
CCE 5035	EN 3(3,0)
Construction Law and Project Management: PR: C.I. Contracts, specifications, and law for engineers. Strategic planning, management, development, design, and production of construction projects. Value engineering, project funding and cash flow.	
CCJ 3010	AS 3(3,0)
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	AS 3(3,0)
Criminal Justice System: An examination of the components and of their interdependence in light of their traditional autonomy.	
CCJ 3210	AS 3(3,0)
Criminal Law in Action: Basic concepts of criminal law: elements of major crimes, criminal responsibility, defenses, and parties to crime.	
CCJ 3290	AS 3(3,0)
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	AS 3(3,0)
The Corrections and Penology: Theories, structures and methods of institutional and non-institutional processing and treatment of convicted criminals and juvenile offenders.	
CCJ 3341	AS 3(3,0)
Community Treatment Modes: Treatment techniques and practices in the community setting. Builds upon modes covered in prerequisite course and may include practicum experience in a community setting.	
CCJ 3451	AS 3(3,0)
Justice System Technology: Examination of the relevance of scientific and technological developments to justice systems and their applicability to the operations and management of the systems.	
CCJ 3452	AS 3(3,0)
The Criminal Justice Manager: PR: C.I. Elements of first-line supervision and executive development. Administrative leadership; its nature; methods and traits. Recent theories and research in leadership.	
CCJ 3483	AS 4(3,1)
Public Sector Labor Relations in Criminal Justice: Examine the role of public sector labor relations in criminal justice to include management-employee relationships, collective bargaining process, employee organizations, and federal-state laws.	
CCJ 4459	AS 3(3,0)
Justice Agency Operations: Elements, functions, and processes essential to the continuing management of various criminal justice agencies, institutions and court systems.	
CCJ 4481	AS 3(3,0)
Police and Society: PR: CCJ 3020. Examination of the dynamics of public expectations of police, the impact of community demographic changes and police alienation from the community.	
CCJ 4540	AS 3(3,0)
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. **AS 4(4,0)**
- CCJ 4640** **Organized Crime:** An examination of organized crime including structures, history and activities, and of issues surrounding efforts to define and control it. **AS 3(3,0)**
- 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. **AS 6-9(0,12-36)**
- CCJ 5406** **Research and Technology Implementation:** Changing roles of social and physical sciences as related to the objectives and administration of public safety agencies. **AS 3(3,0)**
- CCJ 5466** **Finance and Planning for Public Safety:** Acquisition, control and management of resources for criminal justice and public safety agencies; organization of finance systems, planning mechanisms and strategies for the budgetary process. **AS 3(3,0)**
- CCJ 5467** **Justice and Safety System Manpower:** Processes essential to administration to human resources in criminal justice and public safety agencies; structure and processes for acquisition, training and maintenance of personnel. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- CDA 4105** **Introduction to Computer Architecture:** PR: Computer Science Major or C.I. and COP 3402C and EEL 3341C. Survey of machine instructions, processor characteristics, and microprogramming concepts. **AS 3(3,0)**
- CDA 4131** **Programming for Large Scale Digital Systems:** PR: Computer Science Major or C.I. and COP 3402C. Programming techniques and instruction sets for large scale digital computers. **AS 3(3,0)**
- CDA 4300** **Microprocessor Fundamentals:** PR: Computer Science Major or C.I., COP 3402C and EEL 3341C. Semiconductor Technology, 8-bit and 16-bit Microprocessor Architectures and programming, memory system design, I/O methods, interrupts, development system concepts. **AS 3(2,2)**
- CDA 4311** **Microprocessor Application:** PR: Computer Science Major or C.I. and CDA 4300. Total system design methodology and applications, advanced topics on microprocessors, patent search and applications. **AS 3(2,2)**
- CDA 4312** **Microprocessor Interface:** PR: Computer Science Major or C.I. and CDA 4300. Interfacing of CPU to various devices, CPU support devices, peripheral devices and controllers, BUS concepts and standards, single chip computers. **AS 3(2,2)**
- CDA 5106** **Advanced Computer Architecture I:** PR: CDA 4105. Evolution of computer architecture; memory organization; cache; virtual memory; highspeed processor design; pipeline multi-functional and array machines; special architecture case studies; overview of channel architecture. **AS 3(3,0)**
- CDA 5110** **Parallel Architecture & Algorithms:** PR: COT 4210, CDA 5106. General -purpose vs. special - purpose parallel computers; arrays, message-passing; shared-memory; Taxonomy; parallelization techniques; communication synchronization and granularity; parallel data structures; automatic program restructuring. **AS 3(3,0)**
- CDA 5210** **Architecture and Design of VLSI Systems:** PR: CDA 4105 or equivalent. Overview of VLSI technology. Stick diagrams; logical design of basic subsystems; integrated system design tools; design of a VLSI computer system. **AS 3(3,0)**
- CDA 5212** **VLSI Design Tools:** PR: CDA 5210, a strong programming background and C.I. VLSI implementation systems; layout languages; graphic tools; sticks compactor; design rule checking algorithms; simulation models; routing algorithms; silicon compilers; knowledge-based VLSI tools. **AS 3(3,0)**
- CDA 5213** **VLSI Testing and System Integration:** PR: CDA 5210. Test vectors; fault models; design for testability; LSSD; languages for testing; performance measurements; interrupts, BUS concepts and standards; testing and systems integration. **AS 3(3,0)**
- CEG 3301** **Engineering and Environmental Geology:** PR: CHS 1440 or equivalent. Principles of physical geology with emphasis on engineering and environmental topics. Study of land forms, geologic maps, geologic structure, weathering, groundwater, mass wasting, and earthquakes. Lab sessions are practical applications. **EN 3(2,2)**
- CEG 4101C** **Geotechnical Engineering I:** PR: EGN 3331 and EGN 3353. Engineering properties and classification of soils. Design considerations for compaction, seepage, consolidation, and settlement analysis. **EN 4(3,2)**

CEG 5015	EN 3(3,0)
Geotechnical Engineering II: PR: CEG 4101C. Continuation of CEG 4101C with emphasis on shear strength and design factors for earth pressures bearing capacity, and slope stability.	
CEG 5805	EN 2(1,2)
Geotechnical Engineering Design: PR: CEG 4101C and CEG 5015. Project course on design of foundations and other soil structures using geotechnical design methodologies.	
CES 4102	EN 3(2,2)
Structural Engineering Analysis: PR: EGN 3331. Topics in structural mechanics, energy methods, indeterminate structures by flexibility, stiffness method, analysis of columns.	
CES 4130	EN 1(0,3)
Structures Laboratory: PR: EGN 3331; CR: CES 4102. Laboratory exercises on the behavior of Structures and Structural materials.	
CES 4144	EN 3(3,0)
Matrix Methods of Structural Analysis: PR: EGN 3331. Structural analysis of beams, frames, and plates by matrix methods.	
CES 4605	EN 3(2,2)
Structural Steel Design: PR: CES 4102 or C.I. Design of steel structural members. Selected topics in beam design, column design, plastic design, connections and built-up members.	
CES 4608	EN 2(1,2)
Steel Design: PR: CES 4605. Project course on design of steel structures using steel and structural analysis methodologies.	
CES 4702	EN 3(2,2)
Structural Concrete Design: PR: CES 4102 or C.I. Principles of designing reinforced concrete members. Selected topics in concrete mixes, beams, columns, and ultimate analysis.	
CES 4709	EN 2(1,2)
Concrete Design: PR: CES 4702. Project course on design of concrete structures using concrete and structural analysis methodologies.	
CES 5143	EN 3(3,0)
Matrix Structural Analysis: PR: CES 4102 or equivalent. Optimization and matrix methods applied to the design of real structures.	
CET 3123C	EN 3(2,3)
Microprocessor Electronics: CR: EET 3035C. Introduction to the Electronics of Basic Microprocessing.	
CET 3144C	EN 4(3,2)
Applied Microprocessor Technology: PR: CET 3123C. Analysis and design of the architecture, components, and interfacing of microprocessor-based systems. An overview of IBM XT, AT, and PS/2 series.	
CET 3303	EN 3(3,0)
Microcomputer Technology I: PR: CET 3123C. Microcomputer assembly programming including overview of architecture and operating system environment.	
CET 3323C	EN 3(2,2)
Computer Organization Technology: PR: CET 3123C. Digital logic, memory devices, interrupt and I/O handling techniques.	
CET 3383	EN 3(3,0)
Applied Systems Analysis and Design: PR: Information Systems Technology major. The study of system and program development of complicated problems for computer solution.	
CET 4131C	EN 4(2,6)
Microprocessor Electronics II: PR: CET 3123C. A continuation of CET 3123C with emphasis on Applications of Microprocessor applications in Engineering Technologies.	
CET 4188	EN 4(4,0)
Microcomputer Technology II: PR: CET 3303. Continuation of CET 3303. Macros, system subroutines, high-level language interfacing, device drivers, and operating system enhancements.	
CET 4198C	EN 4(3,2)
Digital Systems: PR: AC Circuits and Digital Circuits I. Advanced digital circuits. Sequential logic, MSI and LSI devices.	
CET 4333C	EN 4(3,2)
Applied Computer Systems I: PR: CET 3303 and 3144C. Design and analysis of microcomputer interfacing. I/O devices. System connections, timing, and troubleshooting.	
CET 4334C	EN 4(3,2)
Applied Computer Systems II: PR: CET 4333C. Continuation of computer systems with emphasis on advanced hardware and I/O devices. Networking.	
CET 4345	EN 2(2,0)
Minicomputer Applications in Technology: PR: CET 3323C. Utilization of minicomputers in real time industrial and business environments. Analysis of data communications methods.	
CET 4361	EN 3(3,0)
Applied Computer Graphics in Technology: PR: COP 2001 and MAC 3253. Fundamentals of computer graphics using high-level structured language and graphics libraries.	

- CET 4381** **EN 3(3,0)**
Digital Signal Processing: PR: EET 4329C and COP 1200 or equivalent. Introductory treatments of the concepts of digital signal processing. Survey of current applications including consideration of available hardware and software.
- CET 4427** **EN 3(3,0)**
Applied Data Base Systems: PR: CET 3383. Design and implementation of data base systems within the concept of central administration, structured data storage. Programming project.
- CET 4429** **EN 3(3,0)**
Applied Database II: PR: CET 4427. Continuation of CET 4427—Study of Hierarchical database system. Programming project is required.
- CET 4505** **EN 3(3,0)**
Applied Microcomputer Operating Systems: PR: COP 2001. Modifying the operating systems to support new types of devices. Analysis of limitations and strengths of commercial mass storage operating systems in industry. O.S. tool box usage.
- CET 4523** **EN 3(3,0)**
Applied Systems Analysis II: PR: CET 3383. Continuation of CET 3383 with emphasis on distributed processing which include the interfacing of minis, mainframes, software, communications, and data base technology into a responsive information system.
- CET 4527** **EN 3(3,0)**
Applied Operating Systems II: PR: CET 4505. Continuation of CET 4505 with emphasis on multitasking. Multi-users environmental programming project is required.
- CET 4915** **EN 2(0,4)**
Senior Design Project: PR: Computer Technology, Electronics, or Information Systems senior entering graduation year. Supervised individual or group projects involving project definition, planning, design, development, testing and evaluation. Progress reports and final report are required.
- CGN 3501** **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.
- CGS 1060** **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.
- CGS 3000** **AS 3(3,0)**
Computer Fundamentals for Business Applications: Hardware/software for business data processing; survey use of business applications programs utilizing prewritten programs. Not open to Computer Science Majors.
- CGS 3061** **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.
- CGS 3100** **AS 3(3,0)**
Business Applications Programming: PR: CGS 3000 or equivalent. Basic programming concepts and techniques, algorithm design, documentation, programming for selected business applications using BASIC. Programming projects. Not open to Computer Science majors.
- CGS 3110** **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.
- CGS 3262** **AS 3(3,0)**
Survey of Hardware: PR: CGS 3100. Survey of microcomputer hardware. Machine instructions, loaders, file structures, file maintenance, operating systems, utility programs and architecture. Not open to Computer Science majors.
- CGS 3300** **AS 3(3,0)**
Survey of Software: PR: CGS 3262. Introduction to the fundamentals of information systems development and systems requirements. Evaluation and use of current software. System design case studies. Not open to Computer Science majors.
- CGS 3422** **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.
- CGS 4140** **AS 3(3,0)**
Computerized Health Information Systems: PR: CGS 3000 or equivalent. Analyses of computerized health information systems with emphasis upon the design and implementation phases. On-site visitations of several local computerized health information systems. Not open to Computer Science majors.
- CGS 5111** **AS 3(3,0)**
Applications of Computers in Education: PR: At least Senior standing in College of Education. Computer programming; computer-assisted instruction, computer-managed instruction; simulation and games; computerizing teachers' records. Not open to Computer Science majors.

CGS 5310	AS 3(3,0)
Computer Based Educational Systems: PR: COP 4020 or equivalent. The design and implementation of computer based educational systems. Selected projects using high-level programming languages.	
CHI 1120	AS 4(4,1)
Elementary Chinese Language and Civilization I: Designed to initiate the student to the major language skills; listening, speaking, reading and writing.	
CHI 1121	AS 4(4,1)
Elementary Chinese Language and Civilization II: PR: CHI 1120 or equivalent.	
CHM 1020	AS 3(3,0)
Concepts in Chemistry: PR: MAC 1104 or MGF 1203. Concepts will be examined to provide insight into the significant role that chemistry plays in our culture. Intended as a general education course.	
CHM 1032	AS 3(3,0)
General Chemistry: PR: MAC 1104, MGF 1203 or equivalent. An introductory study of the fundamental concepts of chemistry, primarily oriented toward COH and Biology Education majors.	
CHM 2045	AS 4(3,1)
Chemistry Fundamentals I: PR: High School Chemistry or CHM 1032. Basic Physical theory of chemical reactivity, atomic structure, chemical bonding, periodicity, stoichiometry, equilibria, thermodynamics, and kinetics.	
CHM 2045H	AS 4(3,3)
Honors Chemistry Fundamentals I: PR: Admission to University, Honors Program and High School Chemistry. Same as CHM 2045 with honors-level content.	
CHM 2046	AS 3(3,0)
Chemistry Fundamentals II: PR: CHM 2045. Continuation of CHM 2045.	
CHM 2046L	AS 1(0,3)
Chemistry Fundamentals Laboratory: PR: CHM 1032 or CR: CHM 2046. Illustration of chemical principles and introduction to the techniques of inorganic and physical chemistry.	
CHM 2046H	AS 4(3,3)
Honors Chemistry Fundamentals II: PR: 2045H. Same as CHM 2046 with honors-level content.	
CHM 2205	AS 5(5,0)
Introduction to Organic and Biochemistry: PR: CHM 1032 or equivalent. An introduction to organic chemistry, stressing the chemistry of functional groups and a survey of the biochemistry of proteins, carbohydrates, lipids and nucleic acids.	
CHM 3120C	AS 5(3,6)
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	AS 3(3,0)
Organic Chemistry I: PR: CHM 2046. Theory and applications of organic chemistry: structure, bonding, kinetics, thermodynamics, reaction mechanisms, synthesis, and stereochemistry. Structure elucidation via spectrometric techniques.	
CHM 3211	AS 3(3,0)
Organic Chemistry II: PR: CHM 3210. Continuation of CHM 3210.	
CHM 3211L	AS 2(0,6)
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	AS 2(0,6)
Organic Laboratory Techniques II: PR: CHM 3211 and 3211L. Open-end laboratory to develop synthesis techniques and structure elucidation skills.	
CHM 3410	AS 4(3,1)
Physical Chemistry I: PR: CHM 2046, PHY 3049, and MAC 3312. Rigorous treatment of atomic and molecular structure, thermodynamics, kinetics, and chemical bonding.	
CHM 3410L	AS 1(0,3)
Physical Chemistry Laboratory I: PR: CHM 3120C and COP 1200 or CGS 3422. CR: CHM 3410. A practical course in the use of computers for collecting and analyzing data from a select number of physical chemistry experiments.	
CHM 3411	AS 3(3,0)
Physical Chemistry II: PR: CHM 3410. Continuation of CHM 3410.	
CHM 3411L	AS 2(0,6)
Physical Chemistry Laboratory II: PR: CHM 3410L. Classical as well as modern instrumental techniques coupled with computer data processing to measure physical properties and determine atomic and molecular parameters.	
CHM 4130C	AS 4(2,4)
Advanced Analytical Laboratory Technique: PR: CHM 3211, CHM 3120C and CHM 3411. A lecture-laboratory course designed to give in-depth coverage to modern methods of analysis including electrochemistry, spectroscopy, and separation techniques.	
CHM 4220	AS 3(3,0)
Advanced Organic Chemistry I: PR: CHM 3211 and CR: CHM 3410. Theoretical and physical organic concepts of organic systems from the perspective of modern structural theory, thermodynamics and kinetics.	

CHM 4221	AS 3(3,0)
Advanced Organic Chemistry II: PR: CHM 3211 and CR: CHM 3410. A survey of organic reaction mechanisms and their application to synthetic chemistry.	
CHM 4610	AS 3(3,0)
Inorganic Chemistry: CR: CHM 3411. A discussion of descriptive inorganic chemistry based on various bonding theories, thermodynamics and kinetics.	
CHM 5235	AS 3(3,0)
Applied Molecular Spectroscopy: PR: CHM 3120C and CHM 3211. Determination of chemical structure through interpretation of UV, IR, NMR and Mass Spectra.	
CHM 5450	AS 3(3,0)
Polymer Chemistry: PR: CHM 3211. An introduction to the chemistry of synthetic polymers. Synthetic methods, polymerization mechanisms, characterization techniques and polymer properties will be considered.	
CHM 5580	AS 3(3,0)
Advanced Physical Chemistry: CR: 3411 and PR: MAC 3313. Selected topics of thermodynamics, kinetics, quantum mechanics, and structure.	
CHM 5710	AS 2(2,0)
Chemical Structure I: PR: CHM 3211, 3120C, and 3411; or equivalent. Concepts in molecular structure and the relationships between structure and the chemical and physical properties of a substance.	
CHM 5711	AS 2(2,0)
Chemical Structure II: PR: CHM 5710. Continuation of CHM 5710.	
CHS 1440	AS 4(3,1)
Fundamentals of Chemistry for Engineers: PR: One year of high school chemistry or CHM 1032. Basic concepts of chemistry with emphasis on problem solving and engineering applications. Atomic and molecular structure, states of matter, stoichiometry, equilibria, electrochemistry and thermodynamics.	
CHS 3501	AS 3(3,0)
Introduction to Forensic Science: Intended for majors and non-majors to provide an overview of the specialty areas in Criminalistics (crime lab).	
CHS 3505	AS 3(1,6)
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	AS 3(1,6)
Trace Evidence: PR: CHS 3505. An advanced study of the techniques used to identify and compare trace evidence.	
CHS 3531	AS 3(1,6)
Forensic Analysis of Controlled Substances: PR: CHM 3120C. The study of the presumptive tests, isolation, and instrumental techniques used in identification of controlled substances.	
CHS 4110C	AS 3(2,3)
Nuclear and Radiochemistry: PR: CHM 3120C and CR: CHM 3411. A lecture-laboratory course examining theories of fundamental particles, the chemical effects of nuclear transformations and the special uses of isotopes.	
CHS 4200	AS 3(3,0)
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	AS 6(0,40)
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	AS 2(2,0)
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	AS 2(2,0)
Chemical Dynamics II: PR: CHS 5240. Continuation of CHS 5240.	
CHS 5250	AS 2(2,0)
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	AS 2(2,0)
Chemical Synthesis II: PR: CHS 5250. Continuation of CHS 5250.	
CIS 4321	AS 3(3,0)
Data Processing Systems Analysis and Design: PR: Computer Science Major or C.I. and COP 3530. Data organization; physical storage; database system architecture. Students participate in the design of a data processing system.	
CIS 4322	AS 3(3,0)
Data Processing Systems Implementation: PR: Computer Science Major or C.I. and CIS 4321. System implementation project. Students experience the task of implementing a large computing system.	

- CIS 5101** **Computational Techniques in Management Information Systems:** PR: COP 4710. Computers in management information systems; analysis, design approaches, processing methods and data management; use of state of the art software in design and development. **AS 3(3,0)**
- CIS 5420** **Managing the Computer Professional:** PR: COP 5711 and MAN 5051; or C.I. The programming group, team and project tasks, personality factors, motivating, training, experience. **AS 3(3,0)**
- CIS 5610** **Software Engineering:** PR: COP 4020. Study of design techniques for large software systems, modularization, task assignment, management techniques, implementation techniques, testing quality control, documentation and maintenance. **AS 3(3,0)**
- CJT 3820** **Security Administration:** Discussion of modern security administration and the security-law enforcement interface emphasizing a systems approach and utilizing the design of a security plan for a plant. **AS 3(3,0)**
- CJT 3821** **Practical Security Applications:** An examination of basic security principles applied to practical specific security situations encountered in the Central Florida area. **AS 3(3,0)**
- CJT 3842** **Special Security Problems:** Review and application of basic security principles to retail security, transportation/cargo security, utility security, computer security, and other special security situation. **AS 3(3,0)**
- CLA 3850** **Classical Mythology:** Myths of the Greeks & Romans studied through excerpts from ancient sources and experienced through works of art, literature and music. **AS 3(3,0)**
- CLP 3003** **Psychology of Adjustment:** PR: PSY 2013. Psychological principles of adjustment; application of psychology to problems in living. Designed for non-majors. **AS 3(3,0)**
- CLP 3143** **Abnormal Psychology:** PR: PSY 2013. Classification, causation, and treatment of deviant patterns of behavior. **AS 3(3,0)**
- CLP 3302** **Clinical Psychology:** PR: PPE 3003 or CLP 3143. An overview of approaches to psychopathology, methods of clinical assessment, and various approaches to individual and group counseling. **AS 3(3,0)**
- CLP 3413** **Contemporary Behavior Therapy:** PR: CLP 3143. Emphasis on the underlying principles and the specific intervention procedures which are utilized in contemporary behavior therapy, including treatment strategies for particular behavior disorders. **AS 3(3,0)**
- CLP 4440** **Individual Intelligence Testing:** PR: PSY 3302. The nature of intelligence and its measurement. Training in Stanford-Binet and Wechsler testing. Lecture/Laboratory **AS 4(2,2)**
- CLP 5004** **Psychology of Adult Adjustment:** A survey of situations encountered during adulthood, including marriage, birth, parenthood, trauma, illness, death, etc. Effective adjustment. **AS 3(3,0)**
- CLP 5166** **Advanced Abnormal Psychology:** Consideration of classification, causation, management and treatment of emotional disorders. Review of theories and research in the field. Lecture-Laboratory. **AS 3(3,0)**
- COM 3011** **Communication and Human Relations:** Introduction to semantics; symbols and meaning and the relationship with human behavior. **AS 3(1,2)**
- COM 3110** **Business and Professional Communication:** PR: SPC 1600 or C.I. Theoretical and practical training in effective presentational speaking for business and professions. **AS 3(3,0)**
- COM 3120** **Organizational Communication:** A study of communication functions and problems within the contexts of hierarchies. **AS 3(3,0)**
- COM 3311** **Communication as a Behavioral Science:** Basic principles of the behavioral science approach to the study of contemporary communication. **AS 3(3,0)**
- COM 4463** **Communication and Court Room Advocacy:** A study of the application of communication theory and practice to the judicial setting. **AS 3(2,1)**
- COP 1200** **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. **AS 3(3,0)**
- COP 2000** **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. **AS 3(3,0)**

- COP 2001** **AS 3(3,0)**
Programming II: PR: COP 2000. Continuation of COP 2000; recursion; simple data structures; program verification; continued experience with a procedure-oriented language.
- COP 3120** **AS 3(3,0)**
Programming in COBOL: PR: CGS 3100 or C.I. COBOL programming fundamentals, concepts of sequential, indexed, and random files. Programming projects. Not open to Computer Science majors.
- COP 3400C** **AS 3(3,2)**
Assembly Language: PR: COP 2001 or equivalent programming experience. Computer structure, number systems, data representation, arithmetic and logic instructions, addressing schemes, looping techniques, sequential input/output, subroutines, macros, and other topics.
- COP 3402C** **AS 3(3,2)**
Computer Systems Concepts/Programming: PR: COP 3400C. Linker, loader, assembler design and development. Detailed examinations of one computer's operating system and its associated architecture. Advanced topics in assembly language including file input/output.
- COP 3530** **AS 3(3,0)**
Data Structures: PR: COP 2001 and COT 3100. Basic concepts of data and abstract data types (arrays, linear lists, trees, etc.) and their possible implementations. Searching, sorting and other applications.
- COP 4020** **AS 3(3,0)**
Programming Languages I: PR: Computer Science Major, C.I. and COP 3530. Survey of programming languages (LISP, MODULA, SIMULA, SMALLTALK, ADA, CLU). Basic concepts underlying programming languages: data typing, data abstraction, binding, parameter evaluation, concurrency, functional programming.
- COP 4124** **AS 3(3,0)**
COBOL Environment: PR: Computer Science Major or C.I. and Computer Science core. Basic and advanced features; creation of user libraries; system utilities; file processing; sub-program linkage; programming efficiencies; compiler study; assembly interfaces and JCL.
- COP 4600** **AS 3(3,0)**
Programming Systems: PR: Computer Science Major 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 4710** **AS 3(3,0)**
Databases: PR: Computer Science Major of C.I. and COP 3530. Basic concepts of databases, I/O processing, file organization and access, study of selected database systems, database project.
- COP 5021** **AS 3(3,0)**
Programming Languages II: PR: COP 4020 and COT 4210. Introduction to compiler construction, parsing, parser generators, attributed grammars and the implementation of block structures and recursion. Students write a high-level language translator.
- COP 5570** **AS 3(3,0)**
Software Tools: PR: COP 4600 and COP 5021. Systems programming languages, concurrent programming, design and implementation of software development/maintenance tools. A large programming project is required.
- COP 5611** **AS 3(3,0)**
Operating System Design Principles: PR: COP 4600. Structure and functions of operating systems, process communications techniques, high-level concurrent programming, virtual memory systems, elementary queueing theory, security, distributed systems, case studies.
- COP 5711** **AS 3(3,0)**
Principles of Data Base Systems: PR: COP 4710. Physical data organizations, popular data base systems, data models, reorganization, security, recovery, concurrency, distributed data bases, data base machines.
- COT 3100** **AS 3(3,0)**
Introduction to Discrete Structure: PR: MAC 3311 and knowledge of a programming language. Logic, sets, functions, relations, combinatorics, graphs, Boolean algebras, finite-state machines, Turing machines, unsolvability, computational complexity.
- COT 4210** **AS 3(3,0)**
Discrete Computational Structures: PR: Computer Science Major or C.I. and COT 3100, MAC 3312. Review of discrete structures, introduction to automation theory, computational complexity, analysis of algorithms, computability theory, and formal languages.
- COT 4500** **AS 3(3,0)**
Numerical Calculus: PR: Computer Science Major or C.I. and COP 2001 or CGS 3422 and MAC 3312. Numerical methods for finding roots of nonlinear equations, solutions of systems of linear equations, and ordinary differential equations.
- COT 5310** **AS 3(3,0)**
Formal Languages and Data Theory: PR: COP 4020 and COT 4210. Classes of formal grammars and their relation to automata, normal forms, closure properties, decision problems, LR(K) grammars.
- COT 5400** **AS 3(3,0)**
Design and Analysis of Algorithms: PR: COT 4210. Classifications of algorithms, e.g., recursive, divide-and-conquer, greedy, etc. Data Structures and algorithm design and performance. Time and space complexity analysis.

- COT 5410** **AS 3(3,0)**
Computational Complexity: PR: COT 4210. Properties of algorithms, computational equivalence of machines, time-space complexity measures, examples of algorithms of different complexity, classification of algorithms, classes P and NP.
- COT 5501** **AS 3(3,0)**
Computational Methods/Applications: PR: COT 4500. Computational solution techniques for algebraic equation, ODE and PDE Models of applications selected from science, engineering, applied mathematics, and computer science.
- COT 5510** **AS 3(3,0)**
Computational Methods/Linear Systems: PR: COT 4500 and MAS 3113. Mathematical models for linear systems, linear programming, the simplex method, integer and mixed-integer programming, introduction to nonlinear optimization and linearization.
- CPO 3034** **AS 3(3,0)**
Politics of Developing Areas: Comparative analysis of theories, problems and politics of development in Third World nations.
- CPO 3103** **AS 3(3,0)**
Comparative Politics: Government and politics in selected nations with emphasis upon comparative analysis of contemporary problems, politics, political culture, behavior and institutions.
- CPO 3132** **AS 3(3,0)**
Introduction to Canadian Studies: A multi-disciplinary approach to the study of Canada, its people, culture, government and economy.
- CPO 4024** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
Comparative Latin American Politics: Comparative analysis of politics, society and culture in Latin America and selected countries of the region.
- CPO 4643** **AS 3(3,0)**
Government and Politics of the Soviet Union: Study of the origins, institutions, and functioning of the Soviet system, including the role of the Communist party; its influence on domestic and foreign policy formation and implementation.
- CPO 5090** **AS 3(3,0)**
Issues in Comparative Politics: PR: C.I. Analysis of contemporary problems and issues of comparative politics such as political economy, development, authority patterns, and instability.
- CRW 2100** **AS 3(3,0)**
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** **AS 3(3,0)**
Introduction to Verse Writing: PR: ENC 1102. Practice in writing poetry; group analysis and criticism of work produced by individual students.
- CRW 3000** **AS 3(3,0)**
Introduction to Creative Writing: PR: ENC 1102. An exploratory course in the several types of creative writing; group analysis of original writing; critical reading of established authors.
- CRW 3010** **AS 3(3,0)**
Creative Writing Workshop I: PR: C.I. Practice in established forms: essay, short story and poetry.
- CRW 3011** **AS 3(3,0)**
Creative Writing Workshop II: PR: CRW 3010 or C.I. Individualized practice in writing in one of the established forms; analytic study of the work of pertinent authors.
- CRW 3310** **AS 3(3,0)**
Structure of Verse: PR: ENC 1102. Intensive study of the structural characteristics of English, poetry, metrical systems, rhyme, scansion, and poetic rhetorical devices.
- CRW 3410** **AS 3(3,0)**
Writing Scripts: PR: ENC 1102 and Grammar Proficiency Exam. Theory and practice of writing scripts for film and TV.
- CRW 4940** **AS 3(3,0)**
Advanced Writing Workshop I: PR: C.I. Intensive writing practice in fiction, non-fiction, or verse.
- CRW 4941** **AS 3(3,0)**
Advanced Writing Workshop II: PR: CRW 4940. Continuation of CRW 4940.
- CRW 5932** **AS 3(2,1)**
Teaching Creative Writing: PR: Senior standing or C.I. Creative writing practicum.

- CWR 4101C** **EN 3(2,2)**
Hydrology: PR: STA 3032; EGN 3353. Hydrological cycle, probabilistic forecasting, rainfall excess, meteorology, groundwater, storm-water runoff, flood routing and design applications.
- CWR 4201C** **EN 3(2,2)**
Hydraulics: PR: EGN 3353. Transmission systems, peak flows, water distribution, wastewater and storm water collection, pipe flow, open channels and pumps with design applications.
- CWR 5205C** **EN 3(2,3)**
Hydraulic Engineering: PR: EGN 3353. Environmental and civil engineering hydraulics application. Pipe and open channel flow, fittings, flow measurements, etc.
- CWR 5545** **EN 3(3,0)**
Water Resources Engineering: PR: CWR 4101C, CWR 4201C. Systems identification and solution to complex water allocation problems, and other hydraulic engineering designs and operations using economic analysis and operations research techniques.
- DAA 2200** **AS 3(2,2)**
Theatre Dance I: Fundamentals of Classical Ballet, includes practical class work as well as Dance History lectures.
- DAA 3000** **AS 3(2,2)**
Theatre Dance: PR: DAA 2200 & 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** **AS 3(2,2)**
Theatre Modern Dance: PR: DAA 2200 & 3201 or C.I. Exploration of form, style, and technique in creative movement. Includes practical class work and history lectures.
- DAA 3160C** **ED 2(2,1)**
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 3201** **AS 3(2,2)**
Intermediate Classical Ballet: PR: DAA 2200 or C.I. Indepth study of classical ballet technique including principles, theory and practice technique.
- DAA 3500** **AS 3(2,2)**
Intermediate Jazz Dance: PR: DAA 2200 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(2,2)**
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(2,2)**
Advanced Jazz Dance: PR: DAA 2200 & 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(2,2)**
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-8.
- DEP 3004** **AS 3(3,0)**
Developmental Psychology: PR: PSY 2013. The effects of genetic, psychological, maturational and social factors on behavior throughout the life cycle.
- DEP 3202** **AS 3(3,0)**
Psychology of Exceptional Children: Psychological problems of exceptional children including diagnosis, associated emotional problems, effects of institutionalization, special class placement, attitudes, and appropriate intervention methods.
- DEP 3212** **AS 3(3,0)**
Psychological Approaches to Mental Retardation: The problems of mentally retarded citizens including diagnosis, environment versus heredity, legal restrictions, institutionalization, as well as methods of behavioral remediation.
- DEP 3464** **AS 3(3,0)**
Psychology of Aging: PR: PSY 2013. An examination of basic psychological processes related to the aging process with emphasis on the applied implications of changes in perceptual-motor, social-emotional and cognitive-intellectual function.
- DEP 5057** **AS 3(2,2)**
Developmental Psychology: PR: Graduate admission or C.I. Psychological aspects of development including intellectual, social and personality factors.
- EAB 3703** **AS 4(3,2)**
Principles of Behavior Modification: PR: EXP 3404. An examination of the control of behavior through applications of principles and theories of learning. Examples are drawn from clinical and social psychology and from child rearing. Lecture/Practicum.

- EAB 3704** **Behavioral Self Control:** PR: PSY 2013. Application of behavioral and biofeedback techniques to self-regulation. **AS 3(3,0)**
- EAB 5765** **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. **AS 3(3,0)**
- EAS 4101** **Aerodynamics I:** PR: EML 4709. Fundamental aerodynamic analysis of wings and bodies in incompressible and compressible flows. **EN 3(3,0)**
- EAS 4105** **Aerodynamics II:** PR: EAS 4101. Analysis of performance, stability and control of aircraft and space vehicles. **EN 3(3,0)**
- EAS 4134** **Gas Dynamics:** PR: EGN 3353. Study of compressible flows phenomena including isentropic, Fanno line, and Raleigh line flows, shocks, nozzle design, external flow. **EN 3(3,0)**
- EAS 4200** **Flight Structures:** PR: EGN 3331, CGS 3422. Load analysis and fundamental design of structural components of aircraft and space vehicles. Classical and modern computer techniques using fatigue analysis and finite element methods. **EN 3(2,2)**
- EAS 4300** **Propulsion Systems:** PR: EML 4703. Analysis of jet propulsion systems including turbojets, ramjets, and rockets. **EN 3(3,0)**
- EAS 4505** **Orbital Mechanics:** PR: EGN 3321, MAP 3302. The solar system; coordinates and time-keeping; observational data; the two-body and many-body problems; perturbations. **EN 3(3,0)**
- ECM 3000** **Survey of Computer Engineering:** Introduction to the Field of Computer Engineering, including appreciation of its breadth, depth, and scope in modern engineering practice. **EN 1(0,2)**
- ECM 3507C** **Computer-Aided Engineering Design:** PR: EGN 3210 and EEL 3342C or C.I. Review of currently available CAE tools for digital hardware and software design applications. **EN 3(2,2)**
- ECM 4114** **Engineering Mathematical Analysis:** PR: MAP 3302. The application of mathematical methods to engineering problems. Vector and tensor fields, state space, coordinate systems, orthogonal functions. **EN 3(3,0)**
- ECM 4230** **Engineering Data Structures:** PR: ECM 4804. Design of algorithms and data structures with emphasis on performance analysis, memory organization, stacks, queues, linked lists, searches, and sorts. Concept of object-oriented programming. **EN 3(3,0)**
- ECM 4301** **Engineering Applications of Computer Methods:** PR: MAP 3302, STA 3032, ECM 4804. Engineering applications of numerical methods, including solution of differential equations, simulation, optimization, and multidimensional root-finding, integration and series approximations. **EN 3(3,0)**
- ECM 4411** **Discrete Time Systems:** PR: EGN 4703. Discrete time signals, convolution, properties of linear discrete systems, the z-transform, system response, digital filters. **EN 3(3,0)**
- ECM 4451** **Engineering Applications of Intelligent Systems:** PR: ECM 4230. Intelligent models, computer vision, natural language understanding, pattern analysis, knowledge-based systems, symbolic programming and advanced architectures. **EN 3(3,0)**
- ECM 4504C** **Embedded Computer Systems:** PR: ECM 4509C, ECM 4230, ECM 4723C. Computer Applications in Systems role, sensor and actuator interfacing. Design Projects, including problem statements and specifications, design methodology, implementation, testing, and documentation. **EN 3(2,3)**
- ECM 4508C** **Computer System Design I:** PR: EEL 3342. Basic computer architecture and organization. Introduction to design of computer systems at gate, register, and processor level. Assembly language programming in support of micro design. **EN 3(2,3)**
- ECM 4509C** **Computer System Design II:** PR: ECM 4508C, ECM 4804. Continuation of ECM 4508C. The study of instructions, interrupts and DMA for I/O subsystem development in the design of microcomputer systems. Role of high level languages. **EN 3(2,3)**
- ECM 4708C** **Modeling and Design of Engineering Systems:** PR: ECM 4301, EEL 4657. State variables for modeling linear and nonlinear systems. Use of continuous simulation languages for analysis and design of dynamic systems. **EN 3(2,3)**

- ECM 4721C** **EN 3(1,4)**
Systems Lab Instrumentation: PR: EGN 4703. Introduction to the types of instrumentation used in the field of Industrial Process Control. Hands-on experience with controllers, sensors, transmitters and final control elements.
- ECM 4723C** **EN 4(3,3)**
Computer Control Systems: PR: EEL 4657, ECM 4708C, ECM 4508C. Discrete-time systems, the z-transform, and single loop computer control systems. Digital simulation in the analysis and design of processes with embedded computers.
- ECM 4804** **EN 3(3,0)**
Engineering Software Design: PR: COT 3100, EGN 3420. Software design, development, testing and documentation; introduction to a modern programming language; design and development of a large software project.
- ECM 4814** **EN 3(2,3)**
Real Time Computer Systems: PR: EGN 4703 and ECM 4504C. Computer I/O Systems and equipment, sampling, quantization, buffering and Real Time processing. Use of a mini-computer system for data acquisition, display and control.
- ECM 4910** **EN 3(2,2)**
Senior Project in Computer Engineering: PR: Senior Standing and C.I. Front-End Analysis, Design, Implementation, and Documentation of a representative Industrial System Design Project.
- ECM 5135** **EN 3(3,0)**
Engineering Math Analysis I: PR: MAP 3302. Topics in advanced engineering mathematics including systems of differential equations, phase plane, linear algebra and vector differential calculus.
- ECM 5431** **EN 3(3,0)**
Expert Systems and Knowledge Engineering: PR: ECM 4451 or C.I. Introduction to Expert Systems in Engineering. Expert systems tools and interviewing techniques. This course is hands-on and project oriented.
- ECM 5441** **EN 3(3,0)**
Image Processing: PR: MAP 3302, EGN 4703. Two dimensional signal processing techniques; pictorial image representation; spatial filtering; image enhancement and encoding; segmentation and feature extraction; introduction to image understanding techniques.
- ECM 5453** **EN 3(3,0)**
Pattern Recognition: PR: MAP 3302, EGN 4703. Graph-theoretic and syntactic methods of pattern analysis. Decision functions; optimum decision criteria; training algorithms; feature extraction; unsupervised learning; data reduction and potential functions.
- ECM 5505C** **EN 3(2,3)**
Microcomputer-based Monitoring and Control Systems: PR: EEL 3342C or equivalent, CGS 3422 or equivalent. Machine-language programming; software development aids; interfacing considerations.
- ECM 5506C** **EN 3(2,3)**
Engineering Applications of Computer Graphics: PR: CGS 3422. Introduction to the use of computer graphics with engineering applications. Laboratory program assignments.
- ECM 5806** **EN 3(3,0)**
Software Engineering I: PR: CGS 3422, ECM 4504C or equivalent. Design reliability, testing, and implementation of engineering software.
- ECO 2013** **BA 3(3,0)**
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.
- ECO 2013H** **BA 3(3,0)**
Honors Principles of Economics I: PR: Open to Honor Students only. Same as ECO 2013 with honor-level content.
- ECO 2023** **BA 3(3,0)**
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.
- ECO 3101** **BA 3(3,0)**
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.
- ECO 3203** **BA 3(3,0)**
Aggregate Economic Conditions Analysis: PR: ECO 2013 and ECO 2023. A study of the measurement, analysis, and control of aggregate economic activity.
- ECO 3401** **BA 3(3,0)**
Mathematical Economics I. PR: ECO 2013 and 2023 and calculus. The study of economic processes expressed as equations and economic systems as mathematical models.
- ECO 3411** **BA 3(3,0)**
Quantitative Methods and Business Decision Analysis: PR: Junior standing, ACG 2011, ECO 2013, 2023, and STA 3023. The use of statistical methods as scientific tools in the analysis of economics and business problems.

ECO 3622	BA 3(3,0)
American Economic History. PR: ECO 2013 and ECO 2023. Survey of the history of American economic development. Involves application of economic analytical tools to American history.	
ECO 3703	BA 3(3,0)
International Economics: PR: ECO 2023 and ECO 2013. Fundamental principles of international trade and foreign exchange, including the balance of payments and problems of foreign economic policy.	
ECO 4224	BA 3(3,0)
Money: Issues and Analysis: PR: FIN 3233. Study of the supply of and demand for money, emphasizing the role of the Federal Reserve System in contemporary stabilization policy.	
ECO 4303	BA 3(3,0)
History of Economic Thought: PR: ECO 2023 and ECO 2013. A study of the principal ideas of the major contributors to the development of economic thought.	
ECO 4412	BA 3(3,0)
Economic Statistics and Econometrics: PR: ECO 3411. Concepts and methods of developing, analyzing and interpreting measures of economic activity, and business and economic change.	
ECO 4504	BA 3(3,0)
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.	
ECO 5005	BA 3(3,0)
Economic Concepts: PR: Acceptance into the graduate program. Introduction to micro and macro economic analysis.	
ECO 5415	BA 3(3,0)
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.	
ECP 3004	BA 3(3,0)
Seminar on Current Economic Topics. PR: ECO 2013 and ECO 2023. Current economic problems and issues. Emphasis on the social and ethical aspects of economic policy and the interrelatedness of economic and non-economic activities.	
ECP 3203	BA 3(3,0)
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.	
ECP 3424	BA 3(3,0)
The Economics of Regulated Industries: PR: ACG 2001, ACG 2011, or ACG 2023, 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.	
ECP 3433	BA 3(3,0)
Transportation Economics: PR: ECO 2023 and ECO 2013. Economic characteristics and governmental regulation of public carriers. Consideration of competitive relations between modes of transportation and criteria for public investment in transportation and criteria of public investment in transportation systems.	
ECP 4403	BA 3(3,0)
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.	
ECP 4603	BA 3(3,0)
Urban and Regional Economic Problems: PR: ECO 2023 and ECO 2013. Analysis of the location, organization and problems of urban and regional economic activities.	
ECP 4703	BA 3(3,0)
Managerial Economics: PR: Junior standing. ACG 2011 or ACG 2023, ECO 2023, ECO 2013 and ECO 3411. The uses of economic analysis in economic decision making and business policy formulation.	
ECS 4003	BA 3(3,0)
Comparative Economic Systems: PR: ECO 2023 and ECO 2013. An analysis of the fundamental institutions of the American economic system with those of socialist and command economics. Emphasis is placed on performance criteria and economic modeling.	
ECS 4013	BA 3(3,0)
Economic Development: PR: ECO 2023 and ECO 2013. The study of problems, theories and issues of economic development with reference to the third world.	
EDE 3942	ED 3-6(0,16)
Junior Student Teaching-Elementary: PR: EDG 4321, RED 3012, MAE 3810 and 3811 or MAE 3112. Student teaching assignment in an elementary school under the supervision of a certified classroom teacher.	
EDE 3943	ED 3-6(0,16)
Junior Student Teaching-All K-12 Majors: PR: Except. Ed. Majors; EDG 4321; RED 3012; MAE 3112. Student teaching under the supervision of a certified teacher. Half in elementary, half in secondary.	

- EDE 4937** **Drug Abuse Education:** PR: C.I. Drug abuse in contemporary society. Objectives, content, resources, and techniques of drug abuse education. **ED 3(3,0)**
- 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. **ED 7-12(0,35)**
- 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. **ED 3(3,0)**
- EDF 3337** **Individual Adjustment In Education:** PR: Education major, Junior standing. Individual assessment and exploration of careers in education. Includes field study. **ED 3(3,0)**
- EDF 3603** **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. **ED 3(3,0)**
- 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. **ED 3(3,0)**
- EDF 4282** **Applications of Technology in Education:** Classroom applications of instructional media including computers. Includes experiences with equipment, commercial and teacher made media, and their uses. **ED 3(3,0)**
- EDF 4604** **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. **ED 3(3,0)**
- EDG 4321** **Teaching Strategies:** Analysis of the learning environment; emphasis on planning for instruction, skill development and measurement and evaluation. **ED 4(4,0)**
- 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. **ED 3(3,0)**
- 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. **ED 1-8(0,1-8)**
- 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. **ED 3(3,0)**
- 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. **ED 3(3,0)**
- EDP 3004** **Educational Psychology:** PR: PSY 2013. Application of psychological principles and research methods to classroom behavior and learning. **AS 3(3,0)**
- 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. **ED 3(2,1)**
- 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. **ED 3(3,0)**
- 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. **ED 3(3,0)**
- EEC 5206** **Organization of Instruction in Early Childhood Education:** PR: Regular Certificate or C.I. Organization in instruction relating to language arts, social sciences, sciences, mathematics, health and physical education, problems relating to reading readiness and cognition (K-3). Concurrent laboratory experiences. **ED 3(3,0)**
- 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 4(4,0)**

- EED 4011** **Introduction to the Emotionally Disturbed:** PR: Senior standing. Development and practice of appropriate cognitive, affective and motor strategies for selected categories, levels, and degrees of severity of exceptional population. **ED 4(4,0)**
- EED 4212** **Curriculum and Program Adaptations, E.H.:** PR: Senior Standing. Development of highly specialized techniques and materials to be used with exceptional students. **ED 4(4,0)**
- EEL 3122C** **Electrical Networks:** PR: EGN 3373 and MAP 3302. Analysis and design of linear circuits, transients, network function. Laplace transform. **EN 4(3,3)**
- EEL 3140C** **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. **EN 4(3,3)**
- EEL 3306** **Semiconductor Devices I:** PR: EGN 3373. Electronic devices including p-n junctions, bipolar transistors, field effect transistors and device models. **EN 3(3,0)**
- EEL 3307C** **Electronic Engineering:** PR: EEL 3306, EGN 3375C and MAP 3302. Electronic devices and circuits design including small signal amplifiers, and switching circuits. **EN 4(3,3)**
- EEL 3341C** **Introduction to Digital Circuits:** PR: COP 2000 and PHY 3049. Logic gates, memory devices, combinational and sequential subsystems. Karnaugh Maps. Intended primarily for computer science majors. **EN 3(2,3)**
- EEL 3342C** **Introduction to Digital Circuits and Systems:** PR: PHY 3049 or C.I. Switching theory and devices. Combinational and sequential logic. Logic design using standard components such as ROM, arithmetic units, multiplexers, registers and counters. **EN 4(3,3)**
- EEL 3470** **Electromagnetic Fields:** PR: EGN 3375C and MAP 3302. Introduction to electric and magnet fields and electromagnetic waves. **EN 3(3,0)**
- EEL 3552C** **Signal Analysis & Communications:** PR: EEL 3122. Signal theory. Fourier series and integral. Design of modulation systems. **EN 4(3,3)**
- EEL 4012C** **Senior Electrical Design:** PR: EEL 4657, and all required EEL 3xxx courses. Application of the design process in the solution of realistic and meaningful problems. Feasibility, design, and testing of individual or team projects. **EN 4(2,4)**
- EEL 4309C** **Active Circuits:** PR: EEL 3307C: Analysis and synthesis of transfer functions. Analog active filters. Design of nonlinear circuits, function generators, and oscillators. **EN 4(3,3)**
- EEL 4343C** **Sequential Circuits and Systems:** PR: EEL 3342C and EGN 3375C. Analysis of device and circuit models. Design, simulation and realization of synchronous sequential systems. **EN 3(2,3)**
- EEL 4436C** **Microwaves:** PR: EEL 3470. Microwave devices and systems and measurement techniques. **EN 4(3,3)**
- EEL 4440** **Optical Engineering:** PR: EEL 3470, EEL 3552C or C.I. Lens systems, aberrations, sources, radiometry, detectors, physical optics, interferometric devices, applications to engineering design problems. **EN 3(3,0)**
- 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. **EN 4(3,3)**
- EEL 4570C** **Data Communications Engineering:** PR: EEL 4701C or ECM 4504C. Analysis, design and operation of Data Communications Systems. Applications in remote computing networks and process monitoring. **EN 3(2,3)**
- EEL 4571C** **Data Acquisition and Control:** PR: EEL 3122, EEL 3307C, EEL 3342C. Fundamentals of signal acquisition and conditioning, filtering, signal conversion, microcomputer input and output interface circuits, channels, transducers, feedback. **EN 4(3,3)**
- EEL 4657** **Linear Control Systems.** PR: EGN 3373. control theory. Transfer function modeling. Nyquist criteria, root locus, Bode plots. Design of lead and lag compensation. **EN 3(3,0)**
- EEL 4701C** **Digital Systems Organization:** PR: EEL 3342C. The study of basic machine organization, operation, and subsystem integration. System investigation and design using a register transfer and control-sequence design language. **EN 4(3,3)**
- EEL 4702C** **Digital Systems Design:** PR: EEL 4701C or C.I. Continuation of EEL 4701C. Microprocessor and LSI based approaches to the design of digital systems. Current topics in the design of control communications, and display systems. **EN 4(3,3)**

- EEL 4800C** **EN 3(2,2)**
Analog Computers: PR: EGN 3373 and EGN 4703. Theory and operation of modern analog computer. Analysis and design of systems by simulation.
- EEL 5173** **EN 3(3,0)**
Signal and System Analysis: PR: EEL 3122C or EEL 4657. Continuous and discrete dynamic models; emphasis on state variable models. Laplace, Z-transform and time domain solutions of dynamic model behavior. Real-time digital simulation. Sampling theory.
- EEL 5355C** **EN 4(3,3)**
Fabrication of Solid-State Devices: PR: EEL 3306. Fabrication of microelectronic devices, processing technology, ion implantation and diffusion, device design and layout. Laboratory includes device processing technology.
- EEL 5365** **EN 3(3,0)**
Introduction to Digital Systems: PR: EEL 3342C or equivalent. Analysis and synthesis of combinational, synchronous and asynchronous sequential logic circuits. Introduction to controller design using a digital design language.
- EEL 5434** **EN 3(3,0)**
Microwave Solid-State Devices: PR: EEL 3470. Device and circuit principles of p-n junctions, BJTs, FETs, Gunn, IMPATT, TRAPATT and BARITT diodes.
- EEL 5441** **EN 3(3,0)**
Introduction to Wave Optics: PR: EEL 4440 or PHY 4424 or C.I. Electromagnetic foundation of light waves as applied to reflection, refraction, diffraction, interference, polarization, coherence, and guided waves.
- EEL 5446** **EN 3(3,0)**
Optical Systems Design: PR: C.I. Design principles of lens and mirror optical systems' evaluation of designs using computer techniques.
- EEL 5451L** **EN 3(1,4)**
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 5462C** **EN 3(3,1)**
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 5513** **EN 3(3,0)**
Introduction to Digital Signal Processing: PR: EEL 3552C, EEL 3122C Sampling theory; Z-transform theory; theory; Introduction to digital filters and computation of DFT.
- EEL 5517** **EN 3(3,0)**
Surface Acoustic Wave Devices and Systems: PR: EEL 3552C. Course discusses SAW technology which includes the physical phenomenon, transducer design and synthesis, filter design and performance parameters. Actual devices and communication systems are presented.
- EEL 5542** **EN 3(3,0)**
Random Processes I: PR: EEL 3552C and STA 3032. Elements of probability theory, random variables, and stochastic processes.
- EEL 5555** **EN 3(2,1)**
RF Communications: PR: EEL 3552C. RF communication systems, 10 MHz to 1500 MHz. Scattering parameter noise, receiver design, system implementation, spread spectrum. RF network and spectrum analyzers, PC board layout.
- EEL 5563** **EN 3(3,0)**
Fiber Optics Communication: PR: EEL 3552C, EEL 3470. Use of Fiber Optics as a communication channel. Principles of Fiber optics. Mode theory, transmitters, modulators, sensors detectors and demodulators.
- EEL 5630** **EN 3(3,0)**
Digital Control Systems I: PR: EEL 4567 and EEL 3342C. Real time digital control system analysis and design. Z-transforms, sampling and reconstruction, time and frequency response, stability analysis, digital controller design.
- EES 3104C** **EN 3(2,3)**
Environmental Engineering Biology: PR: EGN 3704. Principles of biology applicable to the engineering design and analysis of wastewater treatment, lake management, energy systems and water treatment.
- EES 4111C** **EN 3(2,3)**
Biological Process Control: PR: EES 4202C or C.I. and CR: ENV 4561. Engineering design, measurements and analysis of biological systems in environmental engineering for water management, bio-energy products, wastewater treatment and others.
- EES 4202C** **EN 3(2,3)**
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 4401C** **EN 3(2,2)**
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 5415C** **EN 3(2,3)**
Potable Water Treatment: PR: EES 4202C and 4111C. Engineering application of potable water chemistry involving coagulation, softening, filtration, corrosion, disinfection quality and drinking water.
- EET 3035C** **EN 4(3,2)**
Electricity and Electronics: PR: MAC 1104 and MAC 1114. Basic principles of electric circuits and electronic amplifiers. Introduction to integrated circuits.
- EET 3716** **EN 3(3,0)**
Electric Network Analysis: PR: Electronics Technology Major. CR: MAC 3254 or MAC 3312. Analysis of linear network laws and theorems, time and frequency response of circuits. Introduction to computer-aided design. For Electronic Technology majors only.
- EET 4158C** **EN 3(2,2)**
Linear Integrated Circuits: PR: EET 3716. Study of linear integrated circuits and design of electronic systems.
- EET 4329C** **EN 4(3,2)**
Electronic Communications I: PR: EET 3716. The study of active RF circuits and modulation/demodulation systems. Introduction to digital and data communications.
- EET 4339C** **EN 3(2,2)**
Antennas and Propagation: PR: EET 3716 and CGS 3422 or equivalent. Basic theory and technology used in high frequency transmission lines and wave-guides, propagation and radiation, antennas.
- EET 4349C** **EN 4(3,2)**
Electronics Communications II: PR: EET 3716. Pulse and digital communication concepts, radar principles, digital radio and space communications, fiber optics communications. Technology of radiation and propagation. Associated lab experiments.
- EET 4389C** **EN 3(2,2)**
Satellite Communication Systems: PR: EET 4329C. Analysis of communications satellites and how they affect systems design; technology, tradeoffs, design strategies.
- EET 4508** **EN 3(3,0)**
Power Utilization: PR: EET 3716. Analysis of the economic aspects of distribution and use of power in industry. Analysis of motors and generators.
- EET 4548** **EN 3(3,0)**
Power Transmission: PR: EET 3716. Analysis of transmission systems and components. Control, stability, fault and protection in power systems.
- EET 4732** **EN 3(3,0)**
Feedback Control: PR: EET 3716. LaPlace transform analysis of electrical networks and feedback control systems. Analysis and design techniques, control system components, and applications to practical control systems.
- EEX 3010** **ED 3(3,0)**
Orientation to Special Education: Definition, characteristics, theories, current trends, and controversies in the various categories of exceptional education.
- EEX 3102** **ED 3(3,0)**
Language Development and Common Disorders: PR: Junior standing. Interdisciplinary approach to language development, identification and remediation of common disorders.
- EEX 3221** **ED 3(3,0)**
Assessment of Exceptional Learners: Diagnosis of learning problems of exceptional students; assessing performance and determining appropriate placement and programming.
- EEX 3241** **ED 4(4,0)**
Methods for Academic Skills for Exceptional Students: 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** **ED 4(4,0)**
Arts and Sciences for Exceptional Students: PR: Junior standing. Adapting curriculum, materials, and teaching strategies in the area of language arts, science, social studies, music and art for the exceptional student.
- EEX 4243** **ED 3(3,0)**
Techniques for the Exceptional Adolescent-Adult: A study of strategies, skills and alternative procedures when teaching adolescents and adults.
- EEX 4601** **ED 3(3,0)**
Behavioral Management: Study of management techniques based on behavioral management (applied behavioral analysis) principles for modifying the effective behavior of exceptional students.
- EEX 5051** **ED 3(3,0)**
Exceptional Children in the Schools: PR: Senior standing or C.I. Characteristics, definitions, educational problems, and appropriate educational programs for the exceptional children in schools.
- EGC 5005** **ED 3(3,0)**
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 5036** **ED 3(3,0)**
Guiding Human Relationships: PR: Senior standing or basic teacher certificate. Human relationship skills which will enhance intra- and interpersonal relation skills in classrooms.

- EGM 5584** **EN 3(3,0)**
Biomechanics and Biomaterials: PR: EGN 3365C and EGN 3331. Properties of natural biological materials and their relation to microstructure, biocompatibility, artificial biomaterials and their applications, with analysis of biomechanical forces of the body.
- EGN 1006** **EN 1(0,2)**
Introduction to Engineering: 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 3211** **EN 3(3,0)**
Engineering Analysis and Computation: PR: MAC 3311. Engineering analysis and computation with structured constructs. Subscripted variables, subprograms, input/output. Batch processing and timesharing. Engineering applications will be emphasized.
- EGN 3310** **EN 3(3,0)**
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** **EN 3(3,0)**
Engineering Analysis-Dynamics: PR: EGN 3310; CR: MAC 3313. Kinematics and kinetics of particles and rigid bodies; mass and acceleration, work and energy impulse and momentum.
- EGN 3331** **EN 3(3,0)**
Mechanics of Materials: PR: EGN 3310; CR: MAC 3313. Concepts of stress, strain, strength, deflection of axial force members, shafts in torsion, beams in flexure; combined stress; stability of columns, and design of simple elements.
- EGN 3343** **EN 3(3,0)**
Thermodynamics: PR: EGN 3321 and MAP 3302. Work, heat and energy transformations. Relation of properties. Laws, concepts and modes of analysis common to all applications of thermodynamics in engineering.
- EGN 3353** **EN 3(3,0)**
Fluid Mechanics: PR: MAP 3302; CR: EGN 3343. Basic principles of continuum fluid mechanics.
- EGN 3358** **EN 3(3,0)**
Thermo-Fluids-Heat Transfer: PR: EGN 3321, MAP 3302. Introduction to first and second laws of thermodynamics, continuum fluid mechanics, and heat transfer for electrical, industrial and computer engineering majors.
- EGN 3365C** **EN 3(2,2)**
Structure and Properties of Materials: PR: CHS 1440 and MAC 3312. Electrons and bonding, crystalline and non-crystalline solids, phase diagrams, phase transformations, plastic deformation, electrical and magnetic properties of materials.
- EGN 3373** **EN 4(4,0)**
Principles of Electrical Engineering: PR: PHY 3049; CR: MAP 3302. Fundamental laws of electrical circuits and circuit analysis; fundamentals of electronics and power systems.
- EGN 3375C** **EN 3(2,3)**
Electrical Devices and Systems: PR: EGN 3373. Continuation of EGN 3373. Electronic circuits, devices, and systems.
- EGN 3420** **EN 3(3,0)**
Engineering Analysis: PR: High-level language or equivalent (FORTRAN preferred); MAC 3312. Engineering analysis and computation using FORTRAN; engineering applications of numerical methods including curve fitting, matrix operations, root finding, integration and plotting.
- EGN 3613** **EN 2(2,0)**
Engineering Economic Analysis: PR: ECO 2013 and sophomore standing. Economic evaluation of engineering alternatives and design. Time value of money and economic impact of taxes, risk, depreciation.
- EGN 3704** **EN 2(2,0)**
Engineering and 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** **EN 2(2,0)**
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** **EN 3(3,0)**
Technology and Social Change: PR: History/Humanities Sequence or C.I. Review of existing theories of social change, analysis of the role of technology as related to social change, and study of contemporary events in technology and their possible impact on society.
- EGN 4624** **EN 3(3,0)**
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** **EN 2(2,0)**
Operations Research: PR: STA 3032. Mathematical methods of operations research; linear programming, techniques of optimization.

- EGN 4703** **EN 3(3,0)**
Systems Analysis and Control: PR: EGN 3343, 3353, 3373; MAP 3302. Analysis and design of process control systems including first and second order systems and classical linear control theory.
- 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: PR: History/Humanities sequence or C.I. Important developments in engineering and technology and their effect on society and our socio-economic processes.
- EGN 4818** **EN 3(3,0)**
Engineering and Technology in North America: PR: History/Humanities sequence or C.I. Episodes and periods of significant technological change in North America, with emphasis on 19th and early 20th 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 4830** **EN 3(3,0)**
Telecommunications: Telecommunications and its role in contemporary local, national, and international society.
- 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: CGS 1060 or equivalent. Representation of man/machine systems through analytic and computer-based models. Case studies in the analysis and improvement of systems in industry, education and government.
- 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)**
Engineering Codes and Standards: PR: C.I. Development, history and function of engineering codes and standards and their use in protecting public health and safety.
- EGS 1111C** **EN 2(1,3)**
Engineering Graphics: PR: Trigonometry. Spatial visualization, sketching and graphical presentation as a form of engineering communication. Engineering drawing, descriptive geometry, manipulation of vectors and graphical solution techniques.
- EIN 3314C** **EN 3(2,2)**
Work Measurement & Design: PR: EGN 3613, STA 3032. Management standards for evaluation and control of man and man/machine systems. Flow and operations analysis, work measurement, job evaluations. Laboratory assignments.
- EIN 4116C** **EN 3(2,3)**
Information Systems Analysis and Design: PR: ESI 4305. Systems Analysis Methodology, Information Systems Models, System requirement, Specifications, Systems Design Methodology and Decision Support. Cost Benefit Analysis and implementation Planning.
- EIN 4118C** **EN 3(2,3)**
Industrial Engineering Applications of Computers: PR: FORTRAN. Survey of microcomputer methods in industrial engineering practice. Topics include: spreadsheets, databases, expert systems, and project management. Lab exercises.
- EIN 4891C** **EN 3(2,3)**
Industrial Engineering Senior Project Design: PR: ESI 4234, EIN 4116C, ESI 4523C, APA 3471, EIN 4333C. Capstone design course, application of IEMS techniques to real world design applications.

- EIN 4214** **Safety Engineering and Administration:** Analysis of accidents in the industrial operating environment. Application of fault trees, OSHA requirements. Consideration of accident costs and organizational aspects of accident prevention. **EN 3(3,0)**
- EIN 4243C** **Human Engineering:** PR: EIN 3315C; Senior standing. Man/machine systems; design and conduct of human engineering studies. **EN 3(2,2)**
- EIN 4305C** **Industrial Engineering Applications in The Service Industries.** PR: EIN 3315, ESI 4312, ESI 4254. Application of Industrial Engineering Principles to improve the quality and productivity of service industries such as restaurants, banks, hotels, health care, etc. **EN 3(2,2)**
- EIN 4333C** **Industrial Control Systems:** PR: ESI 4305. Decision rules in industrial environment including forecasting, scheduling, ordering, quality and inventory control. **EN 3(2,3)**
- EIN 4364C** **Industrial Facilities Planning and Design:** PR: EIN 4391C, EIN 4333C. Comprehensive design of industrial production systems including interrelationships of plant location, process design, and materials handling. Laboratory assignments. **EN 3(2,2)**
- EIN 4391C** **Manufacturing Engineering:** PR: EIN 3314C, EGN 3363. Introduction to manufacturing engineering with emphasis on current and emerging technologies in metalworking and electronics. **EN 3(2,2)**
- EIN 4411C** **Computer-Aided-Manufacturing:** PR: EIN 4391C. Computer-Aided-Manufacturing (CAM) including computer numerical control (CNC), robotics, parts classification (GT) and manufacturing resource planning (MRP). **EN 3(2,2)**
- 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. **EN 3(3,0)**
- EIN 5248C** **Ergonomics:** PR: C.I. Applications of anthropometry, functional anatomy, mechanics and physiology of musculoskeletal system concepts in the engineering design of industrial tools, equipments and workstations. **EN 3(2,2)**
- EIN 5255** **Training Simulator Engineering:** Introduction to significant topics relative to the development and use of simulators for knowledge transfer in the technical environment. **EN 3(3,0)**
- EIN 5381** **Engineering Logistics:** Study of the logistics life cycle involving planning, analysis and design, testing, production, distribution, and support. **EN 3(3,0)**
- EIN 5388** **Forecasting:** PR: STA 5156, ESI 5170 Industrial applications of forecasting methods with emphasis on microcomputer based packages. **EN 3(3,0)**
- EIN 5383** **Network Analysis:** PR: EGN 4634. Development, application and computerized analysis of networks for systems and control. Applications of CPM, PERT, GERT, and maximal flow concepts. **EN 3(3,0)**
- EIN 5602C** **Expert Systems in Industrial Engineering:** Overview of basic concepts, architecture and construction of expert systems, in IE. Intelligent simulation training systems, case studies and problems. Laboratory exercises. **EN 3(2,2)**
- 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. **ED 4(4,0)**
- ELD 4242** **Program Planning for Specific Learning Disabilities:** PR: Senior standing. Development of highly specialized techniques and materials to be used with exceptional students. **ED 4(4,0)**
- EMA 3000** **Engineering Polymeric, Ceramic, and Composite Materials:** PR: EGN 3363 or C.I. Structure, properties, processing of engineering polymeric, ceramic, and composite materials. **EN 3(3,0)**
- EMA 3012L** **Experimental Techniques in Materials Engineering:** PR: EGN 3363C and C.I. Metallurgical specimen preparation, metallography, heat treatment x-ray diffraction, electron microscopy, mechanical testing, wear and corrosion testing. **EN 2(1,2)**
- EMA 4413** **Electronic Properties of Materials:** PR: EGN 3363C. Electronic processes in solids. Electrical, magnetic and optical properties of solids. Electron energies in solids. Superconducting materials. **EN 3(3,0)**
- EMA 5108** **Surface Science:** PR: PHY 3049 and C.I. Methods of chemical and physical analysis of surfaces, with emphasis on ultra-high vacuum spectroscopies utilizing electron, ion and photon probes. **EN 3(3,0)**

- EMA 5126** **EN 3(3,0)**
Physical Metallurgy: PR: EML 3236. Study of strengthening mechanisms and phase transformations in metals and alloys.
- EMA 5140** **EN 3(3,0)**
Introduction to Ceramic Materials: PR: EGN 3363. Uses, structure, physical and chemical properties, and processing of ceramic materials. Discussions will include recent developments for high technology applications.
- EMA 5163** **EN 3(3,0)**
Polymer Science & Engineering: PR: EGN 3363. Molecular structure, physical and chemical properties, preparation and processing of macromolecular materials. Discussions will include recent developments for high technology applications.
- EMA 5304** **EN 3(2,2)**
Scanning Electron Microscopy, Principles and Practice: PR: PHY 3049 and C.I. The principles of operation of Electron Microscopes, specimen preparation, special techniques with emphasis on scanning microscopy and microprobe analysis.
- EMA 5326** **EN 3(3,0)**
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** **EN 3(3,0)**
Mechanical Metallurgy: PR: EML 3234. Study of the microscopic mechanical behavior of metals and alloys with emphasis on fracture, fatigue and creep.
- EME 4006** **ED 3(3,0)**
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 5051** **ED 3(3,0)**
Technologies of Instruction & Information Management: Theories and practices in utilizing instructional media and information technologies. Emphasis on new and emerging technologies and their effects on the school and media program.
- EME 5054** **ED 3(3,0)**
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.
- EMA 5056** **ED 3(3,0)**
Communication for Instructional Systems—Process: Principles of written and oral communications for instructional technologists; development of assertiveness and interpersonal skills; conducting training programs for employees; creating hard copy materials.
- EME 5057** **ED 3(3,0)**
Communication for Instructional Systems—Application: PR: EME 5056. Applications of technology, communications theory, platform skills, and instructional design to the effective presentation of training programs and instruction.
- EME 5208** **ED 3(3,0)**
Production Techniques for Instructional Settings: Skills in producing instructional materials. Emphasis on graphic, audio, video and photographic skills and the application of instructional and communication theories.
- EME 5225** **ED 3(3,0)**
Media for Children and Young Adults: Survey of materials for children's and young adults' informational and recreational needs; analysis, evaluation, and utilization of print and non-print materials.
- EME 5408** **ED 3(3,0)**
Computer Applications in Instructional Technology. Techniques and skills for the use of computers for productivity and instruction by the instructional technologist.
- EML 3101** **EN 3(3,0)**
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 3234** **EN 3(3,0)**
Mechanical Properties of Materials: PR: EGN 3365C. Microscopic treatment of the mechanical behavior of engineering materials, strengthening mechanisms, fracture, fatigue and creep.
- EML 3236** **EN 3(3,0)**
Structure and Properties of Alloys: PR: EGN 3365C. Relation of properties to microstructure and applications of major ferrous and non-ferrous alloys.
- EML 3262** **EN 3(2,2)**
Kinematics of Mechanisms: PR: EGN 3321. Graphical, mathematical, and computer-aided kinematics, analysis, and synthesis of basic mechanisms.
- EML 3303** **EN 1(0,3)**
Measurement Systems: PR: EGN 3331, 3373. Application of system design concepts to measurement. Fundamental theory of static and dynamic measurements. Transducer principles and validation of experimental data.

- EML 3500** **EN 3(3,0)**
Machine Design and Analysis: PR: EGN 3331. Application of the principles of mechanics of materials to the design of mechanical elements.
- EML 4142** **EN 3(3,0)**
Heat Transfer: PR: EGN 3353. Conduction, radiation, and convection heat transfer. Basic energy balances emphasized. Steady state and transient problems, analysis and design of simple heat exchangers.
- EML 4220** **EN 3(3,0)**
Vibration Analysis: PR: EGN 3321, 3331. Undamped and damped vibration of single degree freedom systems. Forced vibration. Transient response. Multiple degree of freedom systems. Normal modes.
- EML 4260** **EN 3(3,0)**
Dynamics of Machinery: PR: EML 3262, EML 4222. Critical speeds and response of flexible rotor systems, whirl, gyroscopic effects; balancing of rotating and reciprocating masses; cam dynamics.
- EML 4304C** **EN 3(2,2)**
Measurements Laboratory: PR: EGN 3373, EGN 3353, EGN 3331. Fundamental theory and practice of static, and basic electrical dynamic measurements, transducer principles and data acquisition. Laboratory experiments conducted to reinforce thermal, fluid and mechanical concepts.
- EML 4312** **EN 3(3,0)**
Feedback Control Design: PR: MAP 3302, EGN 3373. Mathematical modeling of control system components; pneumatic, hydraulic, electromechanical control systems; transient and frequency response; stability and root locus; controller design.
- EML 4411** **EN 3(3,0)**
Mechanical Power Systems: PR: EML 3101. Analysis and design of large power generating systems and components with emphasis on steam plants utilizing both chemical and nuclear fuels.
- EML 4501C** **EN 3(2,3)**
Engineering Design I: CR: EML 4304C. Application of the design process in the team solution of a state-of-the-art problem. Aerospace, mechanical, thermo-fluid, or material problems are considered.
- EML 4502C** **EN 3(2,3)**
Engineering Design II: PR: EML 4501C. Continuation of the design process in the team building and testing of a prototype. A test plan and a test report are completed.
- EML 4535** **EN 3(2,3)**
Computer Aided Design: PR: EML 3101, 3500, and CGS 3422 or equivalent. Introduction to computational methods in mechanical and thermal systems design.
- EML 4545C** **EN 3(2,3)**
Experimental Design: PR: EML 4142 and EML 4220. Fundamentals of static and dynamic measurements, transducer principles, and validation of experimental data. Design of experimental projects in mechanical and thermal systems.
- EML 4703** **EN 3(3,0)**
Fluid Mechanics II: PR: EGN 3353, continuation of EGN 3353. Application of fundamentals to boundary layers, compressible flow, potential flow theory, submerged bodies, and measurements.
- EML 5105** **EN 3(3,0)**
Statistical Thermodynamics: PR: EGN 3343, PHY 3101. Statistical approach to thermodynamic concepts, laws, and methods of analysis. Generalized p-v-T data. Special systems.
- EML 5152** **EN 3(3,0)**
Intermediate Heat Transfer: PR: EML 4142, EML 5713 or C.1. An intermediate level course dealing with heat and mass diffusion, boundary layer problems, and radiation from real bodies. Emphasis on combined modes, numerical methods.
- EML 5224** **EN 3(3,0)**
Acoustics: PR: MAP 3302. Elements of vibration theory and wave motion; radiation, reflection, absorption, and transmission of acoustic waves; architectural acoustics; control and abatement of environmental noise pollution; transducers.
- EML 5237** **ED 3(3,0)**
Intermediate Mechanics of Materials: PR: EGN 3331 and MAP 3302. Elements of plane elasticity; failure theories; curved beams; columns; bending and torsion of thin-walled structures; theory of thin plates; applications to design.
- EML 5245** **EN 3(3,0)**
Tribology: Principles of fluid film lubrication; bearing design and application; friction and wear of materials.
- EML 5271** **EN 3(3,0)**
Intermediate Dynamics: PR: EGN 3321, 3331. Dynamics of particles, distributed mass systems, and rigid bodies from an advanced viewpoint. Virtual work. Lagrange's and Euler's equations. Hamilton's equations.
- EML 5417** **EN 3(3,0)**
Solar Energy Systems: PR: EML 4142. Principles of solar energy thermal processes. Analysis and design of solar collectors and solar heating and cooling systems.
- EML 5451** **EN 3(3,0)**
Energy Conversion: PR: EML 3101 and PHY 3101. Direct methods of energy conversion; particular emphasis on fuel cells, thermoelectrics, thermionics, solar energy, photovoltaics and magnetohydrodynamics.

- EML 5453** **EN 3(3,0)**
Energy Analysis: PR: Consent of instructor. Examination of energy demands and potential supply, computer simulation of resource depletion, alternate energy resources, transportation systems, economic and environmental constraints.
- EML 5454** **EN 3(3,0)**
Photovoltaics: PR: EGN 3375C, EGN 3331, or C.I. Direct conversion of solar energy into electricity; crystalline and thin-film cell technologies; stand-alone and utility-interactive applications; emphasis on system design, sizing and analysis.
- EML 5455** **EN 3(3,0)**
Energy Conservation: PR: EML 4142. Analysis of energy use in economic sectors and design of conservation methodologies to reduce energy use. Heating and cooling loads, passive building designs will be presented.
- EML 5546** **EN 3(3,0)**
Engineering Design with Composite Materials: PR: EAS 4200, or EML 3500 or C.I. Mechanics of structural components of composite materials under static, thermal, vibratory loads. Instability. Lamina and laminate theory, energy methods, failure theories and structural joining methods.
- EML 5609** **EN 3(3,0)**
Environmental Thermodynamics: PR: EML 3101 and EML 4142. Thermodynamics of the environment emphasizing analysis and design of thermal systems. Building heating and cooling load calculations and energy conservation technologies analyzed.
- EML 5713** **EN 3(3,0)**
Intermediate Fluid Mechanics: PR: EML 4703. Fluid Kinematics; Conservation Equations; Navier-Stokes equations; Boundary Layer Flow. Inviscid Flow, Circulation and Vorticity; Induced Drag; Low Reynolds Number Flow; Turbulence.
- EMR 4011** **ED 4(4,0)**
Introduction to Mental Retardation: PR: Senior standing. Development and practice of appropriate cognitive, affective and motor strategies for selected categories, levels and degrees of severity of exceptional population.
- EMR 4372** **ED 4(4,0)**
Curriculum Method and Materials for Retarded Persons: PR: Senior Standing. Development of highly specialized techniques and materials to be used with exceptional students.
- ENC 1101** **AS 3(3,0)**
Composition I: Expository writing with emphasis on effective communication. Writing topics to be based on selected readings.
- ENC 1101H** **AS 3(3,0)**
Honors Freshman Composition I: PR: Score of 60+ on TSWE of SAT or C.I. Same as ENC 1101, with honors-level content.
- ENC 1102** **AS 3(3,0)**
Composition II: PR: ENC 1101. Frequent writing based on the analysis of short stories, dramas, poems, and a novel.
- ENC 1102H** **AS 3(3,0)**
Honors Freshman Composition II. PR: ENC 1101H or C.I. Same as ENC 1102, with honors-level content.
- Note on Freshman English Program:**
ENC 1101 and 1102 must be taken before enrolling in any English course numbered above 1102.
- ENC 2290** **AS 1(1,0)**
Careers in Writing: An examination of career opportunities in technical writing, emphasizing industrial, commercial, and governmental opportunities.
- ENC 3210** **AS 3(3,0)**
Business Report Writing: PR: ENC 1102. Emphasis on clear expository writing of memoranda, reports and articles in the student's particular field.
- ENC 3211** **AS 3(3,0)**
Introduction to Technical Writing: Provides definition, history, rhetorical bases of Technical Writing and its relationship to general English studies.
- ENC 3241** **AS 3(3,0)**
Technical Report Writing: PR: ENC 1102. Instruction and practice in scientific writing including preparation of scientific reports in the student's particular field.
- ENC 3283** **AS 3(3,0)**
Science and the Lay Reader: PR: ENC 3310, ENC 3311 or ENC 3341 or C.I. Analysis of lay scientific magazine articles and practice in scientific writing for the lay audience.
- ENC 3310** **AS 3(3,0)**
Magazine Writing I: PR: ENC 1102. Intensive practice in description narration, exposition and argumentation; control of tone, mood, viewpoint, and level of diction. Applicable to article, essay, and short story writing.
- ENC 3311** **AS 3(3,0)**
Advanced Expository Writing: PR: ENC 1102. Practice of expository writing directed to general reader.
- ENC 3341** **AS 3(3,0)**
Magazine Writing II: PR: ENC 3310 or C.I. Structure and organization of articles, essays, profiles, and reviews, market analysis; data gathering. May be repeated for credit.

- ENC 4215** **AS 3(3,0)**
Techniques of Technical Publications: PR: C.I. Study of new publishing technology, stressing composition and printing; word processing, automated text processing, methods of reproduction. Introduction of graphics; style, format, layout, and boardwork. Should be taken concurrently with ENC 4294.
- ENC 4218** **AS 3(3,0)**
Graphics Capabilities for the Technical Writer: PR: ENC 4293; to be taken concurrently with ENC 4215. Study and preparation of visuals and graphics in technical writing and documentation: use of computer graphics; slides; transparencies; charts; graphs; drawings.
- ENC 4245** **AS 3(3,0)**
Writing from Engineering Documents: PR: C.I. Introduction to reading and interpretation of basic engineering charts: specs, vocabulary, design and the writing techniques necessary for clear translation.
- ENC 4254** **AS 3(3,0)**
Technical Writing and the Uses of Imagination: PR: ENC 3310 or ENC 3311 or ENC 3341. An analysis of and practice in imaginative approaches to scientific or technical ideas.
- ENC 4280** **AS 3(3,0)**
Technical Vocabulary: PR: C.I. Review of dictionaries and articles in various technical fields. Recognition of specialized vocabulary. Familiarity with reading level indexes and standards.
- ENC 4293** **AS 3(3,0)**
Technical Documentation I: PR: ENC 3210 or 3341. Practice in translating highly technical information to organized documentation: hardware, software, military specifications. Theory of designing and organizing technical manuals. Preparation of proposals. Interview skills.
- ENC 4294** **AS 3(3,0)**
Technical Documentation II: PR: ENC 4293. Practical application of editing theory to large ongoing projects from the student's particular field. Should be taken concurrently with ENC 4215.
- ENC 4295** **AS 3(3,0)**
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 3210** **AS 3(3,0)**
Literary Magazines. PR: ENC 1102. Examination of fiction and poetry trends in current literary magazines, identifying editorial policies in publication of contemporary literature.
- ENG 3820** **AS 1(1,0)**
Careers in English:
- 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 3031** **AS 3(3,0)**
English Literature I: PR: ENC 1102. Beowulf to 1660.
- ENL 3051** **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 3334** **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)**
English Novel: PR: Enc 1102. Analysis of major English novelists.
- ENL 4220** **AS 3(3,0)**
English Renaissance Poetry and Prose: The course will examine selected poetry and prose of Wyatt, Surrey, Sidney, Spenser, Marlowe, Raleigh, Daniel, Shakespeare, Chapman, Lyly & others.
- ENL 4241** **AS 3(3,0)**
English Romantic Writers: PR: ENC 1101, ENC 1102. Study of English poets and essayists of the romantic period, including Wordsworth, Coleridge, Hazlitt, Lamb, Byron, Shelley & Keats.
- ENL 4251** **AS 3(3,0)**
The Victorian Age: Study of poets and essayists from 1837 to 1900, including Tennyson, the Brownings, Arnold Hopkins, Carlyle, Mill; emphasizing Dickens, George Eliot, the Brontes, and Hardy.
- 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)
Milton: PR: ENC 1102. Paradise Lost, Paradise Regained, Samson Agonistes, shorter poems and selected prose.	
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)
Modern British Literature: PR: ENC 1102. Major writers of modern British literature.	
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, drama 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)
The Age of Milton: PR: Senior standing or C.I. Emphasis on the non-dramatic works of John Milton. Selections from the non-dramatic works of other 17th Century figures.	
ENL 5356	AS 3(3,0)
Eighteenth Century Studies: Reading, analysis and discussion of literature in English: 1660-1880.	
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)
Nuclear Reactor Engineering: PR: EML 4142 and PHY 3101. Advanced and current topics in Nuclear Engineering. Application of thermodynamics, fluid mechanics, heat transfer, and materials to nuclear reactor designs, radiation protection, waste disposal and other nuclear topics.	
ENV 4121C	EN 3(2,3)
Air Pollution: PR: EGN 3704, EGN 3353. Sources, causes, and effects of air pollution. Engineering design, analysis and modeling for the control of air pollution.	
ENV 4341	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 4433	EN 2(1,2)
Water Resources Design: PR: CWR 4101C and CWR 4201C. Project course on designs of large and small water transmission systems using local and state regulations.	
ENV 4561	EN 4(4,0)
Environmental Engineering -- Process Design: PR: EGN 3704 and EGN 3353. Water treatment and wastewater treatment design considerations with effluent and sludge handling, treatment and disposal.	
ENV 4562	EN 2(1,2)
Environmental Engineering Systems Design: PR: ENV 4651. CR: CWR 4201C Project course on design of water and wastewater treatment plants, solid waste and atmospheric controls.	
ENV 4651	EN 3(3,0)
Urban Systems Engineering: PR: C.I. Theories and history of city development with administrative, planning, management and maintenance of municipal services.	
ENV 5045L	EN 1(0,2)
Research Methods in Environmental Engineering: PR: STA 3032, ENV 4561 or C.I. Experimental design and modeling of environmental engineering systems using fundamental concepts of computer programming, probability and statistics.	
ENV 5505	EN 3(3,0)
Sludge Management Operations in Environmental Engineering: PR: ENV 4561. Theory and design of sludge management operations and processes in environmental engineering, including stabilization dewatering and ultimate disposal.	
ENV 5615	EN 3(3,0)
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.	
ENY 4004C	AS 4(2,6)
General Entomology: PR: ZOO 2010C. Introduction to insects; their identification, biology and ecology.	
EPH 5335	ED 3(3,0)
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** **ED 3-16(0,3-16)**
Junior Student Teaching -- Secondary Level: PR: EDG 4321. Student teaching in a secondary school under the supervision of a certified classroom teacher.
- ESE 4943** **ED 7-12(0,35)**
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** **ED 3(3,0)**
Secondary School Curriculum Improvement: PR: Regular Certificate or C.I. Secondary School self studies for curriculum projects, accreditation reports, or staff development.
- ESI 4234** **EN 3(3,0)**
Quality Engineering: PR: STA 3032. Basic concepts and techniques of quality control; applications of statistics in industrial research; design of quality assurance systems; reliability engineering.
- ESI 4312** **EN 3(3,0)**
Operations Research PR: STA 3032, EIN 4118C. Introduction to Linear, Non-Linear, and Dynamic Programming. Decision Analysis, Random Processes, and Queueing. Course covers Theory through Application and Implementation of Results.
- ESI 4314** **EN 3(3,0)**
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 4523C** **EN 3(2,3)**
Systems Simulation: PR: STA 3032, EIN 4118C. Methods and procedures for simulating large scale systems with digital computers. FORTRAN and simulation languages are used.
- ESI 5170** **EN 3(2,3)**
Microcomputer Practicum: PR: Graduate standing or C.I. Survey of personal computer programming and use in decision support applications in engineering.
- ESI 5236** **EN 3(3,0)**
Reliability Engineering: PR: ESI 4234, or equivalent or C.I. Reliability theory and modeling approaches. Topics include: failure data analysis, maintainability, reliability standards (DOD), software reliability, reliability in design, and electronic systems reliability.
- ESI 5316** **EN 3(3,0)**
Operations Research: PR: EGN 4634. Methods of operations research including formulation for models and derivation of solutions; linear programming, network models queueing theory, simulation and nonlinear optimization techniques.
- ESI 5531** **EN 3(3,0)**
Discrete Systems Simulation: PR: STA 3032, CGS 3422. Methods for performing discrete systems simulation, including network modeling will be treated.
- ESL 1141** **AS 3(3,0)**
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 4535C** **EN 3(2,2)**
Electro-Mechanical Design: PR: EET 3035C. Introduction to mechanical and electromechanical devices and their applications in industry.
- ETC 4241** **EN 4(3,2)**
Construction Methods, Contracts and Specifications: PR: Engineering drawing. Construction principles, details, materials and methods used. Legal contractual provisions and interrelations of specifications applied to construction.
- ETC 4410C** **EN 3(2,2)**
Applied Structural Design I: PR: ETG 4530. Design of mechanical and structural elements. Strength, fatigue, safety factors and code requirements.
- ETC 4415** **EN 3(2,2)**
Applied Structural Design II: PR: ETC 4410C. Design applications of continuous beams, single span frames, and tapered members.
- ETG 3510** **EN 4(4,0)**
Applied Mechanics: PR: MAC 1104 and 1114 and PHY 3053C or equivalent. Coplanar, parallel, nonconcurrent 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.
- ETG 4530** **EN 3(3,0)**
Strength of Materials: PR: ETG 3510. Relationship between external forces and action of members of a structure. Topics include stress and strain, beams, trusses, columns, fatigue and modes of loading.
- ETG 4931** **EN 3(3,0)**
Current Topics in Technology: PR: C.I. Recent state-of-the-art topics that are particularly relevant for graduates planning to work in high-tech industries.
- ETG 4950** **EN 2(2,4)**
Senior Design Project: PR: ETG 3510 and ETI 3651C. Design or Operations Technology senior entering graduation year. Supervised individual or group projects involving project definition, planning, development, testing, and evaluation. Progress reports and final report required.

- ETI 3421** **EN 3(3,0)**
Materials and Processes: PR: MAC 1104 and 1114 or equivalent; chemistry. Relation between structure and properties of metals, wood, ceramics and polymers. Testing and inspection, casting, forming and working of metals, heat treatment, and joining.
- ETI 3440** **EN 3(3,2)**
Product Design: Principles of layout and dimensions for production. Consideration of design factors, standards, specifications and codes with emphasis on productability.
- ETI 3651C** **EN 4(3,2)**
Computer Applications: PR: COP 1200 or equivalent. Application of a high level program packages to solution of problems in industrial practice. Includes CAD/CAM and spreadsheets.
- ETI 3671** **EN 2(2,0)**
Technical Economic Analysis: PR: MAC 1104 or equivalent, Junior standing. Analysis of cost elements in technical operations. Basis for comparison of alternatives.
- ETI 3690** **EN 2(2,0)**
Technical Sales: Application of technical knowledge in sales and service. Relationship of technical sales organization to production, customers, and competitors.
- ETI 4110** **EN 3(3,0)**
Industrial Quality Control: PR: STA 3023. Fundamentals of industrial quality control. Technical specifications, measurements standards, inspection, and gaging. Process control techniques.
- ETI 4185** **EN 3(3,0)**
Applied Reliability: PR: ETI 4110. Practical application of reliability concepts and analysis applicable to the design, production and logistics phases of systems and system components.
- ETI 4522C** **EN 3(2,2)**
Applied Automation and Robotics: PR: CET 4131C. Analysis and design of industrial control systems using microprocessors and small computers. Real-time industrial robotics applications.
- ETI 4611** **EN 3(2,2)**
Plant Layout and Material Handling: PR: Engineering Drawing. Design of Manufacturing Facilities and Efficient Materials Handling. Basic principles and Automated Systems.
- ETI 4650** **EN 4(4,0)**
Process Planning and Work Measurement: PR: MAC 1104, COP 1200 or equivalent. Scheduling Techniques (PERT), (CPM) are Presented. Time Study Methods, Work Sampling and MTM are covered.
- ETI 4700** **EN 2(2,0)**
Occupational Safety: Accident prevention and the operation of an industrial safety program. Basic requirements of the Occupational Safety and Health Act standards.
- ETM 3314** **EN 3(3,0)**
Hydraulics and Hydrology: PR: Junior standing. Applied hydraulics and hydrology including design of closed and open channel flow, rainfall, runoff, seepage, ground water, storage and impoundments, wells, etc.
- ETM 4220** **EN 2(2,0)**
Applied Energy Systems: PR: ETM 4310. Introduction to solar energy systems, thermal and photovoltaic, bio-gas-methane gas systems. Applications to be stressed.
- ETM 4310** **EN 4(4,0)**
Applied Thermodynamics and Fluid Mechanisms: PR: MAC 3253 or equivalent; Chemistry; College Physics. Introduction to energy, work and thermal systems and processes. Flow through pipes, orifices and nozzles.
- ETM 4403C** **EN 3(2,2)**
Applied Kinematics: PR: Engineering Drawing and ETG 3510. Masses, motions, kinematics and dynamics of mechanisms.
- ETM 4512C** **EN 3(2,2)**
Applied Design of Machine Elements: PR: ETG 3510, ETG 4530, ETM 4403C and Engineering Drawing. Design of basic machine elements including cams, gears, bearings and coupling taking into account loads, stresses, and strength of materials.
- ETM 4750** **EN 3(3,0)**
Applied Air Conditioning: PR: ETM 4310. Analysis of body comfort, psychometrics, heat sources, cooling load, air distribution, duct sizing, control systems, and balancing.
- EUH 2000** **AS 3(3,0)**
Western Civilization I: A survey of western civilization from ancient to 1648.
- EUH 2001** **AS 3(3,0)**
Western Civilization II: A survey of western civilization from 1648 to present. May be taken before EUH 2000.
- EUH 3121** **AS 3(3,0)**
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.
- EUH 3122** **AS 3(3,0)**
Medieval Society and Civilization: PR: EUH 2000 and 2001 or C.I.
- EUH 3142** **AS 3(3,0)**
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.

- EUH 3235** **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. **AS 3(3,0)**
- EUH 3242** **The Emergence of Modern Society, 1870-1930:** PR: EUH 2000 and 2001 or C.I. Europe in the era of modern technology, militarism, the First World War, Paris Peace Conference, popular culture, and new democratic institution east of the Rhine. **AS 3(3,0)**
- EUH 3281** **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. **AS 3(3,0)**
- EUH 3401** **Ancient Greece:** PR: EUH 2000 and 2001 or C.I. Greek foundations of Western Civilization from Minoans and Mycenaeans to the Age of Alexander. Emphasis on achievements of Classical Age. **AS 3(3,0)**
- EUH 3411** **Ancient Rome:** PR: EUH 2000 and 2001 or C.I. Romans and their contributions to Western Civilization. Covers traditions of Roman Republic, Carthaginian Wars, Imperial Period. **AS 3(3,0)**
- EUH 3651** **War and Society:** Evolution of weapons, tactics, strategy; role, social status, recruitment of soldiers; influence of military on governments; and international efforts to preserve peace. **AS 3(3,0)**
- EUH 4284** **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. **AS 3(3,0)**
- EUH 4456** **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. **AS 3(3,0)**
- EUH 4461** **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. **AS 3(3,0)**
- EUH 4465** **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. **AS 3(3,0)**
- EUH 4500** **English History to 1485:** PR: EUH 2000 and 2001 or C.I. **AS 3(3,0)**
- EUH 4501** **English History: 1485-1815:** PR: EUH 2000 and 2001 or C.I. **AS 3(3,0)**
- EUH 4502** **British History: 1815-Present:** PR: EUH 2000 and 2001 or C.I. **AS 3(3,0)**
- EUH 4530** **British Empire and Commonwealth:** PR: EUH 2000 and 2001 or C.I. Development of the British Empire and Commonwealth since the American Revolution. **AS 3(3,0)**
- EUH 4571** **History of Russia to 1801:** PR: EUH 2000 and 2001 or C.I. Kievan State; Mongol Yoke; Development of Muscovite Expansionism and Absolutism; Time of Troubles; Westernization of Russia under Peter I and Catherine; Role of Orthodox Church. **AS 3(3,0)**
- EUH 4574** **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. **AS 3(3,0)**
- EUH 4576** **History of the Soviet Union: 1917-Present:** PR: EUH 2000 and 2001 or C.I. First War; 1917 Revolutions; Civil War; New Economic Policy; Stalin-Trotsky Struggle; Collectivization; Stalinist Purges; Second War; Post-Stalin Russia; Khrushchev; Sino-Soviet Relations. **AS 3(3,0)**
- EUH 4620** **European Great Powers: 1815-1914:** PR: EUH 2000 and 2001 or C.I. Congress of Vienna, Metternich's system Crimean War, unifications of Italy & Germany, the Bismarckian era, the alliance systems, and the outbreak of World War I. **AS 3(3,0)**
- EUH 4621** **War and International Politics in Europe. 1914 to Present:** PR: EUH 2000 and 2001 or C.I. The relationship of the European Great Power from the outbreak of WW I to the present. **AS 3(3,0)**
- EUH 5237** **Colloquium Europe from 1815-1848:** PR: Senior standing or C.I. Reading and class discussion of the literature on selected topics in European history from 1815-1848. **AS 3(3,0)**

- 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 4795** 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.
- 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** ED 4(4,0)
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** ED 3(3,0)
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** ED 3(3,0)
Essential Teaching Skills in Vocational Education: Study, practice, and achievement in selected essential teaching skills for beginning vocational instructors.
- EVT 3562** ED 3(3,0)
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** ED 3(3,0)
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 4065** ED 2-4(2-4,0)
Principles and Practices of Vocational Education: PR: Regular Certification or C.I. Study of the history, structure, and current status of vocational education. Achievement of competency in applying principles of vocational education to contemporary instructional programs.
- EVT 4368** ED 2-4(2-4,0)
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** ED 2-4(2-4,0)
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. **ED 2-3(2-3,0)**
- 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. **ED 2-3(2-3,0)**
- 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. **ED 2-3(2-3,0)**
- 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. **ED 2-3(2-3,0)**
- 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. **ED 2-4(2-4,0)**
- 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. **ED 2-4(2-4,0)**
- EXP 3204C** **Perception:** PR: PSY 2013, PSY 3214. Consideration of physical and psychological variables in perceptual phenomena. Lecture/Lab. **AS 4(2,2)**
- EXP 3304** **Motivation:** PR: PSY 2013. Psychological and physiological aspects of human motivation. **AS 3(3,0)**
- EXP 3404** **Basic Learning Processes:** PR: PSY 2013 and PSY 3214. Theories and research findings from basic laboratory investigation of learning phenomena. Lecture/Lab. **AS 4(2,2)**
- EXP 3513C** **Cognitive Psychology:** Theory and research on attention, memory, complex human learning and problem solving. **AS 4(2,2)**
- EXP 5208** **Sensation & Perception:** PR: C.I. A study involving the human information processing with regard to physical and psychological variables in sensory and perceptual phenomena. **AS 3(3,0)**
- EXP 5255** **Human Performance:** PR: C.I. Human performance dimensions and concepts of assessment of human capabilities; performance acquisition, information processing and decision making; applications of principles to understanding of stress and performance effectiveness. **AS 3(3,0)**
- EXP 5256** **Human Factors I:** Survey of human factors literature. Introduction to topics including human capabilities and human interfaces with human-machine systems. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- EXP 5506** **Human Cognition and Learning:** PR: EXP 3404 and EXP 3513. Research and theory relating to attention, memory, problem solving and reasoning. **AS 3(3,0)**
- EXP 5608** **Cognition:** PR: C.I. Pattern recognition, attention, short-term memory, long-term memory, visual imagery, categorization, language, problem solving. **AS 3(3,0)**
- FIL 3100** **Film and Television Writing:** PR: Grammar Proficiency Exam. Introduction to techniques of scriptwriting. Intensive initiation into dramatic writing. Basic elements of mediated storytelling. **AS 3(3,0)**
- FIL 3200** **Beginning Film Production:** Introduction to production utilizing video equipment. Basic technical and aesthetic aspects of production. **AS 3(1,2)**
- FIL 3242** **Film Design:** PR: ART 2201, ART 2300 and ART 2301. A series of exercises in craft, technique and production design for film animation. Several types of animation techniques are explored. **AS 3(2,3)**
- FIL 3300** **Film Documentary:** The uses and analysis of the non-fiction film. **AS 3(3,0)**
- FIL 3400** **History of Motion Pictures:** The history of motion pictures as art and industry: from 1895 to the present. **AS 3(2,2)**

- FIL 3410** **AS 3(3,0)**
History of Animated Films: Survey from early animators to the development of the "cartoon" industry. Television animation included.
- FIL 3503** **AS 3(2,2)**
Film Theory: Reading and writing in film theory; major historical and social emergences in the theoretical approach to film.
- FIL 4102** **AS 3(3,0)**
Screen Adaptation: PR: FIL 3100 or CRW 3410; Grammar Proficiency Examination. Study of mediated narrative other than film/video and the adaptation of those forms into the screenplay.
- FIL 4103** **AS 3(3,0)**
Advanced Screen Writing: PR: FIL 3100, or CRW 3410; FIL 4102, Grammar Proficiency Examination. Accelerated program of screenwriting. Emphasis on the business aspect of screenwriting; marketability of ideas, budgetary constraints, copyrights.
- FIL 4104** **AS 3(3,0)**
Senior Seminar in Screen Writing: PR: FIL 4103, Grammar Proficiency Examination. Students write an economically viable feature-length screenplay. Contract negotiation. Rewrites.
- FIL 4201** **AS 3(1,2)**
Advanced Film Production: PR: FIL 3200. Advanced exploration of the aesthetic and technical facets of filmmaking.
- FIL 4202** **AS 3(1,2)**
Film Studio Techniques: PR: FIL 3200, FIL 4201. Culmination of the production sequence. Emphasizes 16/35 millimeter production within the context of a studio environment.
- FIL 4208** **AS 3(3,0)**
Film Directing: PR: FIL 4201. Principles and practice in directing narrative and documentary motion pictures.
- FIL 4230** **AS 3(2,3)**
Film Graphics Animation: PR: FIL 3410, FIL 3242. Problems involving conceptual design and scenic space are explored using various media, materials and techniques.
- FIL 4231** **AS 3(2,3)**
Computer Animation: PR: FIL 3410, FIL 3242. Mechanics of the moment are analyzed as students prepare animation boards using computer technology.
- FIL 4504** **AS 3(2,2)**
Motion Picture Genre/Aesthetics: PR: FIL 3503 Analysis and evaluation of films; major genres, directors, styles or periods considered in depth.
- FIL 4600** **AS 3(3,0)**
The Film Producer: PR: FIL 4208. The role of the producer is examined in the context of theatrical film.
- FIL 4601** **AS 3(3,0)**
Production Management: PR: FIL 3200. Preproduction, budgeting, script breakdown, construction of production boards, scheduling, location scouting and crew procurement.
- FIL 4942** **AS 3(2,3)**
Animation Workshop: PR: FIL 4230, FIL 4231. An intensive study of various film animation techniques under the tutelage of professional animators.
- FIN 3100** **BA 3(3,0)**
Personal Finance and Investments: PR: Junior standing. Fundamentals of managing and investing one's money and acquiring, safeguarding and disposing of one's assets. Not usable for credit by Finance majors.
- FIN 3233** **BA 3(3,0)**
Money and Banking: PR: Junior standing and ECO 2013. Nature of money, commercial banking system, monetary theory and their relationship to the level of economic activity, and activities of the Federal Reserve and U.S. Treasury.
- FIN 3303** **BA 3(3,0)**
Financial Institutions: PR: FIN 3403. A study of financial institutions, their role, regulation and of how they obtain and use their funds; also a study of funds flows in the economy.
- FIN 3324** **BA 3(3,0)**
Commercial Bank Administration: PR: FIN 3403. Administrative areas of a commercial bank including organization, management of bank assets and liabilities, lending policies, trust and fiduciary activities, international and regulatory aspects.
- FIN 3403** **BA 3(3,0)**
Business Finance: PR: ACG 2011 or ACG 3023 and STA 3023 or equivalent. With the balance sheet as a reference point, this course provides an introduction and overview of the acquisition, financing, and management of business assets.
- FIN 3453** **BA 3(3,0)**
Financial Models: PR: FIN 3403, ECO 3411. Mathematical models applied specifically to financial problems, including those models suitable for representation and solution on computers.
- FIN 3502** **BA 3(3,0)**
Investments: PR: FIN 3403. A survey of the investments area including an introduction to security markets, investment vehicles, the investment environment, economic and security analysis, and portfolio management.

FIN 4126	BA 3(3,0)
Seminar in Financial Services: PR: FIN 3502, TAX 3000, RMI 3011, and FIN 4127. This course is designed to study current issues in financial planning in case analysis and discussion.	
FIN 4127	BA 3(3,0)
Employee Benefits and Retirement Planning: PR: FIN 3403 and RMI 3011. This course considers the process of establishing specific financial objectives at various stages of life and how those objectives can be reached.	
FIN 4430	BA 3(3,0)
Asset Selection Management: PR: FIN 3403. Decisions related to use of funds for working capital and fixed assets.	
FIN 4431	BA 3(3,0)
Financial Structure Management: PR: FIN 3403. Funding decisions and the effects of these decisions on the value of the firm.	
FIN 4520	BA 3(3,0)
Security Analysis and Portfolio Management: PR: FIN 3502. A detailed investigation into the techniques of fundamental and technical security analysis as well as industry and economic analysis. Further, examines portfolio construction and evaluation.	
FIN 4624	BA 3(3,0)
International Financial Management: PR: FIN 3403, GEB 4351. Analysis of the foreign financial methods and investment, currency futures market, capital budgeting, cash management, examination of Eurocurrency market and international bond markets.	
FIN 5405	BA 3(3,0)
Financial Concepts: PR: Acceptance into the graduate program, ACG 5005 and ECO 5005 and ECO 5415 or equivalents. Effects of financial decisions upon the firm, interrelationships of these effects and alternatives available to financial managers in making these financial decisions.	
FLE 3063	ED 2(2,1)
Foreign Language as Human Behavior: PR: Or CR: LIN 3010 or C.I. Nature of language, language learning and teaching basic skills. Weekly laboratory.	
FLE 3333	ED 4(3,2)
Foreign Language Instructional Analysis: EDG 4321. Objectives for a school curriculum and of methods and materials for teaching foreign language.	
FRE 1005	AS 1(1,0)
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	AS 4(4,1)
Elementary French Language and Civilization I: Designed to initiate the student to the major language skills; listening, speaking, reading and writing.	
FRE 1121	AS 4(4,1)
Elementary French Language and Civilization II: PR: FRE 1120 or equivalent. Continuation of FRE 1120.	
FRE 1170	AS 8(16,10)
Elementary French Study Abroad: Elementary French language and civilization taught in the native environment.	
FRE 2200	AS 4(4,1)
Intermediate French Language and Civilization I: PR: FRE 1121 or equivalent. Development of language skills at the intermediate level, review of grammar, study of syntax, idiomatic expressions, study of French culture.	
FRE 2201	AS 4(4,1)
Intermediate French Language and Civilization II: PR: FRE 2200 or equivalent. Continuation of FRE 2200 with emphasis on French civilization.	
FRE 2240	AS 4(4,0)
Intensive French Conversation: PR: One year of French or equivalent. Practical use of the language leading toward fluency and correctness in speaking.	
FRE 2270	AS 8(16,10)
Intermediate French Study Abroad: PR: Elementary French. Intermediate French language and civilization taught in the native environment.	
FRE 3244	AS 3(3,1)
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	AS 3(3,0)
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	AS 3(3,0)
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. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- FRE 4780** **French Phonetics and Diction:** PR: FRE 3244 or equivalent. French phonology with emphasis on phonic groupings. **AS 3(3,0)**
- FRW 3100** **Survey of French Literature I:** PR: FRE 2201 or equivalent. Main literary currents and works from the Middle Ages through the eighteenth century. **AS 3(3,0)**
- FRW 3101** **Survey of French Literature II:** PR: FRE 2201 or equivalent. Main literary currents and works of the 19th and 20th centuries. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- FRW 4281** **Twentieth Century French Literature:** PR: FRW 3101. Contemporary French novel. **AS 3(3,0)**
- FRW 4310** **Seventeenth Century French Theatre:** PR: FRW 3100. Corneille, Racine, and Moliere. A study of the lives and principal works of the authors. **AS 3(3,0)**
- FRW 4324** **20th Century French Literature:** PR: FRW 3101. Contemporary French drama. Authors: A. Jarry, Jules Romains, J. Giraudoux, J.P. Sartre, A. Camus, E. Ionesco, Samuel Beckett. **AS 3(3,0)**
- FRW 4440** **French Literature of the Eighteenth Century:** PR: FRW 3100. The philosophical movement: Montesquieu, Vauvenargues, Voltaire, Diderot, Buffon. **AS 3(3,0)**
- FRW 4532** **French Romanticism:** PR: FRW 3100. Great poets and dramatists of the Romantic Movement: Hugo, Lamartine, Vigny, Musset and others. **AS 3(3,0)**
- FRW 4552** **Nineteenth Century French Literature:** PR: FRW 3101. Realism and naturalism. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- FSS 2202C** **Food Production Techniques:** PR: HFT 1000. Basic principles of menu planning, food and beverage preparation and service. Laboratory work. **US 3(1,3)**
- FSS 3120** **Quantity Food Purchasing:** PR: HFT 1000; FSS 2202C. The purchasing procedures, specifications and controls of food products in the hospitality industry. **US 3(3,0)**
- 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. **US 3(3,0)**
- FSS 3232C** **Intermediate Techniques of Food Production:** PR: HFT 1000, FSS 2202C. An advanced food production course which provides the student the opportunity to develop skills in pantry, garde manager, garnishing and convenience foods and services. Laboratory class. **US 3(1,3)**
- FSS 3241C** **Classical Cuisine/Volume Feeding:** PR: HFT 1000, FSS 2202C, FSS 3223. Provides the student with production and managerial experience in the area of world renowned traditional dishes, lecture, demonstration and actual preparation of menu items. **US 3(1,3)**
- FSS 3301** **Nutrition Concepts and Issues in the Foodservice Industry:** PR: HFT 1000, FSS 3223. Introduces basic nutrition concepts. Discusses nutrition concepts and concerns in relation to food preparation and service in the hospitality industry. **US 3(3,0)**
- FSS 4226** **Sanitation in the Food Service Industry:** PR: HFT 1000, FSS 3223. The causes and prevention of food spoilage and food-borne illnesses. Certification through NIFI and ETS are both USDA approved. **US 3(3,0)**
- FSS 4284C** **Catering and Banquet Organization:** PR: HFT 1000, FSS 2202C. Methods and procedures for successful on and off premise catering functions. Emphasis on food and beverage preparation, menu planning, service and sales techniques. Laboratory class. **US 3(1,3)**

GEA 3300	EN 3(3,0)
Geography of Middle America: Basic elements of physical, cultural, and economic geographies as they relate to the development of Middle America.	
GEA 4206	EN 3(3,0)
Physical Geography of North America: Analysis of the North American landscape as affected by climate, vegetation, and geomorphology.	
GEA 4410	EN 3(3,0)
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	BA 3(3,0)
Management: PR: Junior standing. The interdisciplinary application of the managerial functions of planning, organizing, leading and controlling. For Non-Business Majors ONLY.	
GEB 4351	BA 3(3,0)
Business in the International Environment: PR: ECO 2013, 2023, ACG 2011 or 3023, FIN 3403, MAR 3023, MAN 3025. Provides an overall understanding of the nature, magnitude, and importance of the international business sector.	
GEO 1200	EN 3(3,0)
Physical Geography: Basic physical elements of geography including climate, landforms, soils, natural vegetation, minerals and their integrated patterns of world distribution.	
GEO 1200L	EN 1(0,2)
Physical Geography Laboratory: CR: GEO 1200. Analysis of climatic and meteorology methods topographic and geological maps, landforms, and landscape interpretation.	
GEO 3370	EN 3(3,0)
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	AS 3(3,0)
World Political Geography: Analysis of factors which affect power relations among nations including area, location, political styles, ethnic divisions, and the politics of energy.	
GEO 4140	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.	
GEO 4141	EN 3(2,2)
Geographic Information Systems: PR: Either GEO 1200 or GEO 3370 and Programming Experience. Analysis of land use, development, and natural resource planning through the employment of graphic and database management techniques.	
GER 1005	AS 1(0,1)
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	AS 4(4,1)
Elementary German Language and Civilization I: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.	
GER 1121	AS 4(4,1)
Elementary German Language and Civilization II: PR: GER 1120 or equivalent. Continuation of GER 1120.	
GER 2200	AS 4(4,1)
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	AS 4(4,1)
Intermediate German Language and Civilization II: PR: GER 2200 or equivalent. Continuation of GER 2200 with emphasis on German civilization.	
GER 2210	AS 4(4,0)
Intensive German Conversation: PR: One year of German or equivalent. Practical use of the language leading toward fluency and correctness in speaking.	
GER 3240	AS 3(3,0)
German Conversation: PR: GER 2201 or equivalent. Development of skills in conversation and comprehension through practice.	
GER 3420	AS 3(3,0)
German Composition: PR: GER 2201 or equivalent. Development of skills in composition.	
GER 4500	AS 3(3,0)
German Culture and Civilization: PR: GER 2201. A historical approach to German civilization with emphasis on German movements that took on international dimensions.	
GEW 3100	AS 3(3,0)
Survey of German Literature I: PR: GER 2201 or equivalent. Main literary currents and works from the Middle Ages through the 19th Century Romanticism.	
GEW 3101	AS 3(3,0)
Survey of German Literature II: PR: GER 2201 or equivalent. Main literary currents and works from 19th Century Realism to the present.	
GEW 3370	AS 3(3,0)
Short Story: PR: GER 2201 or equivalent. German short prose works of the 19th and 20th centuries.	

GEW 4480	AS 3(3,0)
German Post-War Literature: PR: GER 2201. This course examines post-war literature in West-Germany from 1950 to the present.	
GEW 4531	AS 3(3,0)
The Age of Goethe and Schiller: PR: GER 2201. Selected texts of Goethe and Schiller are examined with particular attention to their relationship to both German classicism and German romanticism.	
GEW 4542	AS 3(3,0)
German Romanticism: PR: GER 2201. Main aspects of the German Romantic movement from Kleist and Novalis to Heine.	
GEW 4554	AS 3(3,0)
German Realism and Naturalism: PR: GER 2201. The main literary works of German realism and naturalism from Gustav Freytag to Gerhart Hauptmann.	
GEW 4560	AS 3(3,0)
German Symbolist and Impressionist Literature: PR: GER 2201. A study of the German symbolist and impressionist writers from Stefan George to Robert Musil.	
GLY 1030	AS 3(3,0)
Geology and its Applications: Geologic principles, applications and hazards including: gemstones, rock cycle, moving continents, mountain building, metal ores, fossil fuels, groundwater, sinkholes, beach erosion, landslides, earthquakes, "tidal" waves, volcanism.	
GLY 4006	AS 3(3,0)
Geology of Our National Parks and Monuments: Unique geologic features preserved in our national park system and the processes that gave rise to these features.	
HBR 1120	AS 4(4,0)
Elementary Modern Hebrew Language and Culture I: Designed to initiate the student to the major language skills: listening, speaking, reading and writing, as well as to constitute an introduction to Israeli culture.	
HBR 1121	AS 4(4,0)
Elementary Modern Hebrew Language and Culture II: PR: HBR 1120 or equivalent. Continuation of HBR 1120.	
HBR 2200	AS 4(4,0)
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.	
HBR 2201	AS 4(4,0)
Intermediate Modern Hebrew II: PR: HBR 2200. Continuation of HBR 2200.	
HFT 1000	US 3(3,0)
Introduction to the Hospitality and Tourism Industry: An orientation to the hotel, restaurant and travel industry, its history, structure and operating procedures.	
HFT 2252	US 3(3,0)
Rooms Division Management: PR: HFT 1000. Practices and systems utilized in the operational management of the front office, reservation and housekeeping in hotels/motels.	
HFT 2750	US 3(3,0)
Fundamentals of Conventions and Conferences: PR: HFT 1000. An orientation to convention management field. Designed to illustrate the importance of conventions, meeting, and trade shows to the hospitality industry.	
HFT 3313	US 3(3,0)
Hospitality Physical Plant Management: PR: HFT 1000, HFT 2252. Analysis of operational problems related to the physical plant and structure of enterprises in the hospitality industry.	
HFT 3444	US 3(3,0)
Management Information Systems: PR: HFT 1000, HFT 2252, CGS 3000. Analysis, design and implementation of specialized information systems for lodging, foodservice and travel operations. Special emphasis is placed on implications for management organization, planning and control of such systems in the hospital environment.	
HFT 3603	US 3(3,0)
Legal Environment in the Hospitality and Tourism Industry: PR: HFT 1000. Principles of law as related to the Hospitality/Tourism Industry.	
HFT 3700	US 3(3,0)
Travel and Tourism Administration: PR: HFT 1000. Foreign and domestic tourism supply and demand, economic impacts, organization of tourism, social and cultural aspects.	
HFT 3754	US 3(3,0)
Convention and Conference Operations: PR: HFT 1000, HFT 2750 (Fundamentals of Conventions and Conferences) provides an in-depth understanding of the multiple facets of on-site operations associated with effective convention and conference planning and management.	
HFT 4210	US 3(3,0)
Hospitality Human Resources Development: PR: HFT 1000, HFT 2252. Proven training systems and personnel development methods for hospitality industry employees are presented. Specific applications of alternative methodologies are identified.	

- HFT 4343** **Hospitality Facilities Planning and Design:** PR: HFT 1000, HFT 2252, HFT 3313. Principles of facility planning layout and design that maximize efficiency in hospitality operations. **US 3(3,0)**
- HFT 4420** **Profit Planning and Decision Making in the Hospitality Industry:** PR: ACG 2001, ACG 2011 (or ACG 2023), HFT 3444. Emphasizes the use of financial statement data in the decision-making process relative to short/long term financial goals in the hospitality industry environment. **US 3(3,0)**
- HFT 4473** **Hotel Development Analysis:** PR: HFT 1000, HFT 4503, HFT 4420. Review of methodological operational, financial and marketing aspects of analyses for hotel development projects. **US 3(3,0)**
- HFT 4503** **Hospitality and Tourism Marketing:** PR: MAR 3023, HFT 1000. The application of marketing concepts to the Hospitality and Tourism Industry. Special emphasis on marketing planning and strategic marketing. **US 3(3,0)**
- HFT 4717** **Tourism Planning and Development:** PR: HFT 1000, HFT 3700. Analysis and review of physical, economic, social and environmental planning techniques used in tourism destination development. **US 3(3,0)**
- HFT 4722** **Travel Agency Management:** PR: HFT 1000, HFT 3700. The trends operation management procedures and practices of travel agents. Emphasis on tools utilized in agency operations. **US 3(3,0)**
- HFT 4752** **Convention Promotion and Public Relations:** PR: HFT 1000, HFT 2750 (Fundamentals of Conventions and Conferences) Introduces specific concepts related to marketing conventions and meetings. Also considers destination marketing and telemarketing concepts in relation to convention management. **US 3(3,0)**
- HFT 4753** **Convention and Conference Services:** PR: HFT 1000, HFT 2750. Provides an in-depth understanding of the acquisition and management of services (food and beverage, audio visual, transportation, etc.) integral to effective convention and conference operations. **US 3(3,0)**
- HFT 4754** **Exhibit and Trade Show Operations:** PR: HFT 1000, HFT 2750 (Fundamentals of Conventions and Conferences). Provides an in-depth study of exhibit and trade show operations. Focuses on both supply and demand pertaining to exhibits and trade shows. **US 3(3,0)**
- HFT 4860** **Beverage Management:** PR: HFT 1000, FSS 2202C, FSS 3223. The origin production, storing, marketing, and control of beverages in the hospitality industry. **US 3(3,0)**
- HIS 3462** **History of Scientific Thought:** PR: EUH 2000 and 2001 or C.I. History of science from the Greeks to Modern Times. **AS 3(3,0)**
- HIS 4150** **History and Historians:** PR: C.I. A study of European and/or American historiography. May be repeated once for credit. **AS 3(3,0)**
- HIS 4970** **Senior Thesis:** Original research paper available to advanced history majors, topics to be selected in consultation with a directing professor. **AS 3**
- HLP 4460** **Teaching Elementary School Health and Physical Education:** PR: Admission to Phase II or C.I. Organization, practice, and conduct of health (including drug abuse) and physical education programs in the elementary school. Includes field experience. **ED 3(2,1)**
- HMW 3200** **Readings in Modern Hebrew Literature:** PR: 2 years of Hebrew or equivalent. **AS 3(3,0)**
- HSA 3122** **U.S. Health Care Systems:** PR: Major or minor in College of Health or C.I. A survey of the economic, social, and political aspects of the health care system in the United States. **HLTH 3(3,0)**
- HSA 3170** **Health Care Finance:** PR: MRE 3000. Budgeting; resources for funding current and long term assets; cost and cost behavior; prospective payment; DRGs as reimbursement base. **HLTH 3(3,0)**
- HSA 4120** **Community and Public Health Services:** History and philosophy of public health, interphase of governmental, voluntary, and private health agencies; current community health problems, issues, and needs; social and economic factors. **HLTH 3(3,0)**
- HSA 4121** **History and Future of Health Care:** Health care institutions; purposes of health agencies, organizations and allied health professionals; new trends in health care delivery. Designed for non-majors. **HLTH 3(3,0)**
- HSA 4180** **Organization and Management for Health Agencies:** PR: STA 2014 and Major or Minor in College of Health or C.I. Organization and management of health agency organizations and management procedures. **HLTH 4(4,0)**
- HSA 4502** **Risk Management Systems:** PR: C.I. Health Safety laws/rules; community inter-relationships; liability insurance types/contracts; malpractice. **HLTH 4(4,0)**

HSA 4852	HLTH 2(0,8)
Risk Management Practicum: PR: HSA 4424. Assignment to a selected health care facility serving in an administrative capacity under the director of Certified Risk Manager.	
HSA 5198	HLTH 3(3,0)
Information Systems and Computer Applications in Medicine: PR: Graduate standing or C.I. Overview of health information systems with an emphasis on computer applications. Discussion of software and hardware requirements.	
HSC 2000	HLTH 2(2,0)
Introduction to the Allied Health Professions: A survey of allied health professions with regard to duties, responsibilities, education and training, ethics, and relationships with other health professionals.	
HSC 3110C	HLTH 3(2,2)
Medical Self Assessment: Development of clinical skills and understanding of one's health to encourage active participation of the individual in his own health care.	
HSC 3531	HLTH 3(3,0)
Medical Terminology: A study of the language of medicine and allied health specialties, including work construction, definitions and application of terms.	
HSC 3640	HLTH 3(3,0)
Health Law: Principles of law as applied to the health field with special reference to health practices.	
HSC 3930	HLTH 3(3,0)
AIDS: A Human Concern: Analysis of the AIDS epidemic. Topics include: epidemiology & immunology; basic facts, prevention; legal, economic and ethical issues; psychosocial aspects; substance abuse; sexuality and decision making.	
HSC 4243	HLTH 3(3,0)
Analysis of Instruction in Health Professions: Development of teaching aids, audiovisuals, learning packets. Course development, questioning strategies, evaluation of didactic and clinical performance.	
HSC 4244	HLTH 2(2,0)
Curriculum Planning in the Health Professions: Curriculum design and approval process for Health Science program. Curriculum design for professional, patient and consumer education.	
HSC 4550	HLTH 3(3,0)
Pathophysiologic Mechanisms: PR: ZOO 3733C and PCB 3703C, or C.I. A study of pathologic lesions and pathophysiologic mechanisms in causation and evolution of the various disease state.	
HSC 4564	HLTH 3(3,0)
Health Care Needs of the Elderly: Overview of the physical and emotional needs of the elderly including the institutional health care available.	
HSC 4651	HLTH 3(3,0)
Health Care Ethics: A study of ethical issues in health care including life saving measures, rights to die, transplants, surrogate parenthood, privacy and confidentiality, and decision making.	
HUM 2211	AS 3(3,0)
Western Humanities I: Examples of the philosophy, religion, literature, music, and visual arts, from Ancient Greece through the Middle Ages; ideas that shaped our world.	
HUM 2211H	AS 3(3,0)
Honors Western Humanities I: Same as HUM 2211 with honors-level content.	
HUM 2230	AS 3(3,0)
Western Humanities II: Continuation of HUM 2211, from the Renaissance through the Modern World.	
HUM 3431	AS 3(3,0)
The Ancient World: Greece: History and culture of Greece from the Minoan-Mycenaean to the Hellenistic age, with emphasis on contribution in art, literature and philosophy.	
HUM 3432	AS 3(3,0)
The Ancient World: Rome: History and culture of Rome from the Etruscan Period to the dissolution of the empire, with emphasis on contributions in architecture, law and literature.	
HUM 4301	AS 4(4,0)
The Classical Ideal in the Arts: PR: HUM 2211 and HUM 2230 or C.I. The search for order and form in the arts of various times and cultures. Concerns reason, structure, objectivity, harmony. Open to all upperclassmen.	
HUM 4302	AS 4(4,0)
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	AS 4(4,0)
The Spiritual Ideal in the Arts: PR: HUM 2211 and HUM 2230 or C.I. The search for the meaning and experience of the sublime reflected in the arts. Spiritual impulses contrasted to the pathos and ethos. Open to all upperclassmen.	
HUM 4906	AS 4-10
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	HLTH 3(3,0)
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.	

- IDH 1921** **AS 1(2,0)**
Honors Symposium I: Readings, lectures and discussions covering aspects of scholarship, artistic and other creative efforts.
- IDH 1922** **AS 1(2,0)**
Honors Symposium II: Continuation of Honors Symposium I. Emphasis on understanding scholarly and creative efforts.
- INP 3004** **AS 3(3,0)**
Industrial Psychology: PR: PSY 2013 and STA 2014. Analysis of the psychological principles underlying human behavior and performance in an industrial setting. Topics include selection, training, performance appraisal, job design and employee motivation.
- INP 3102** **AS 3(3,0)**
Psychology Applied to Business and Industry: PR: PSY 2013. Applications of principles of psychology to business and industrial settings. Designed for non-majors.
- INP 3951** **AS 3(0,10)**
Industrial/Organizational Field Work PR: C.I. This course is offered as an opportunity for advanced undergraduate psychology majors to become involved in the application of I/O psychology to local organizations.
- INP 4313** **AS 3(3,0)**
Organizational Psychology: PR: INP 3004. Analysis of the psychological principles underlying individual and group behavior in organizational setting. Topics include group dynamics, leadership and participation, intergroup behavior and organization development.
- INR 3002** **AS 3(3,0)**
International Relations-Theory and Practice: Analysis of the fundamental principles and factors affecting interstate relations and their application to contemporary global developments.
- INR 4035** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
Strategic Weapons and Arms Control: Control of strategic weapons and their impact. Technological and policy aspects including nuclear proliferation.
- INR 4224** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
Coercion in International Politics: Examination of the role of coercive techniques among states in a nuclear age, ranging from nuclear strategy and deterrence to wars of national liberations and coups.
- INR 4401** **AS 3(3,0)**
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** **AS 3(3,0)**
International Law II: PR: INR 4401 or C.I. Examination of various subareas of international law including maritime law, laws of the sea and seabed, air law, outer space, neutrality, and laws of war.
- INR 4504** **AS 3(3,0)**
International Organizations: The study of the structure and workings of international organizations of cooperation including the UN, its affiliates, and various regional organizations.
- ISM 3011** **BA 3(3,0)**
Management Information Systems: PR: CGS 3000, MAN 3025 An introduction to planning, organizing, use and management of information systems in Business Organization.
- ISM 4090** **BA 3(3,0)**
Seminar in Management Information Systems: PR: ISM 4212: Course designed to address new developments in Management Information Systems in a business environment, e.g. artificial intelligence, decision support systems, expert systems, and telecommunications.
- ISM 4113** **BA 3(3,0)**
Information Systems Analysis and Design: PR: ISM 4212. Introduction to the fundamentals of management information systems development, needs analysis and systems requirements.

- ISM 4130** **Implementing Information Systems:** PR: ISM 4113. Study of organizational information needs and systems for planning and control. **BS 3(3,0)**
- ISM 4212** **Data Base Management Systems:** PR: completion of or concurrent enrollment in ISM 3011 and COP 3120. Course designed to help student understand how to build, manipulate, and manage files and data bases in a business environment. **BA 3(3,0)**
- ISM 5021** **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. **BA 3(3,0)**
- ISS 4155** **Science Fiction and the Social Sciences:** A multi-media examination of note-worthy science fiction from the Social Science perspective. **AS 3(3,0)**
- ITA 1005** **Italian Diction:** This course is especially designed for music and voice students with an emphasis on musical terms, Italian songs and opera libretti. **AS 1(1,0)**
- ITA 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. **AS 4(4,1)**
- ITA 1121** **Elementary Italian Language and Civilization II:** PR: ITA 1120 or equivalent. Continuation of ITA 1120. **AS 4(4,1)**
- ITA 1170** **Elementary Italian Study Abroad:** Elementary Italian language and civilization taught in the native environment. **AS 8(16,10)**
- 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. **AS 4(4,0)**
- 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. **AS 4(4,0)**
- ITA 2210** **Intensive Italian Conversation:** PR: One year of Italian or equivalent. Practical use of the language leading toward fluency and correctness in speaking. **AS 4(4,0)**
- ITA 2270** **Intermediate Italian Study Abroad:** PR: Elementary Italian. Intermediate Italian language and civilization taught in the native environment. **AS 8(16,10)**
- ITA 3240** **Italian Conversation:** PR: ITA 2201 or equivalent. Development of skills in conversation and comprehension with an introduction to Italian culture. **AS 3(3,0)**
- ITA 3420** **Italian Composition:** PR: ITA 2201 or equivalent. Development of skills in composition with an introduction to Italian culture. **AS 3(3,0)**
- ITA 4500** **Italian Civilization:** PR: ITA 2201. A historical approach to Italian civilization with particular emphasis on art history. **AS 3(3,0)**
- ITW 3100** **Survey of Italian Literature I:** PR: ITA 2201. Main currents and writers in Italian literature from the 12th through the 15th centuries. **AS 3(3,0)**
- ITW 3101** **Survey of Italian Literature II:** PR: ITA 2201. Main currents and writers in Italian literature from the 15th century to the present. **AS 3(3,0)**
- ITW 3373** **The Modern Italian Short Story:** PR: ITA 2201. A study of the most representative modern Italian short stories. **AS 3(3,0)**
- JOU 3004** **History of American Journalism:** Development of mass media, leading innovators and the media's role in the nation's history. **AS 3(3,0)**
- JOU 3100** **News Reporting:** PR: grammar proficiency examination and Departmental typing exam. 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. **AS 3(3,1)**
- JOU 3101** **Advanced Reporting:** PR: Grammar Proficiency Examination and Departmental Typing Examination and JOU 3100. Advanced information-gathering and development of newswriting skills. **AS 3(3,0)**

- JOU 3200** **AS 4(4,2)**
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 3201** **AS 3(3,0)**
Editing I: PR: Grammar Proficiency Examination and JOU 3100. Editing Copy, writing headlines, managing newsroom operations.
- JOU 3202** **AS 3(3,0)**
Editing II: PR: Grammar Proficiency Examination and JOU 3200. Practical aspects of editing. Principles of design. Practice in editing and layout.
- JOU 4104** **AS 3(3,0)**
Public Affairs Reporting: PR: Minimum grade of "C" in JOU 3100, grammar proficiency examination, departmental typing exam, JOU 3101. Reporting on city, county and state government.
- JOU 4300** **AS 3(3,0)**
Feature Writing: PR: Grammar proficiency examination, Departmental typing exam, PUR 3100 and minimum grade of "C" in JOU 3100. Writing feature articles for newspapers and magazines.
- JOU 4302** **AS 3(1,2)**
Editorial and Column Writing: PR: Grammar proficiency examination, departmental typing exam and a minimum grade of "C" in JOU 3100. Building the editorial page, backgrounding and interpreting the news.
- JOU 4306** **AS 3(1,2)**
Critical Writing: PR: Grammar proficiency examination, departmental typing exam and a minimum grade of "C" in JOU 3100. Writing reviews of movies, plays, television programs, concert, books and other cultural works.
- JOU 4310** **AS 3(3,0)**
Freelance Writing: PR: Grammar proficiency examination, departmental typing exam and evidence of satisfactory writing skills. A study of the techniques and procedures of freelance writing, including the preparation of several manuscripts.
- JST 3100** **AS 3(3,0)**
The Hebrew Creative Mind: Survey of Hebrew Literature in Translation. A survey of the creative expressions of Hebrew civilization as found in the Hebrew Bible, Apocrypha and Pseudepigrapha, the Mishnah, and the Talmud, Medieval Hebrew Poetry and Prose.
- JST 3401** **AS 3(3,0)**
The Jewish People I: Introduction survey of the history and culture of the Jewish people from the beginnings of Judaism in the biblical era, through the Graeco-Roman and rabbinic periods.
- JST 3402** **AS 3(3,0)**
The Jewish People II: The life and history of the Jews in the medieval and modern worlds.
- JST 3550** **AS 3(3,0)**
Introduction of Modernism into Judaism: The transition from traditional Judaism to modern Judaism in the 18th century as epitomized by Moses Mendelssohn and writers of the Jewish Enlightenment (in translation).
- JST 3751** **AS 3(3,0)**
Literature of the Holocaust: A study of the traumatic experience of the Holocaust in Europe as expressed and depicted in contemporary Jewish and Hebrew Literature.
- JST 3810** **AS 3(3,0)**
The Jewish National Movement and Roots of Zionism: Roots of Zionism and Jewish nationalism and their relationship to modern anti-semitism, through analysis of European Jewish history and society.
- JST 3820** **AS 3(3,0)**
Modern Hebrew Culture: The Development of the State of Israel: Political and ideological struggle for the establishment of the State of Israel, with emphasis on forces which shaped contemporary Israeli society and politics.
- LAE 3335** **ED 4(3,2)**
English Instructional Analysis: PR: EDG 4321. Course objectives for a school curriculum and methods and materials which have special application for teaching English.
- LAE 3414** **ED 3(3,0)**
Literature for Children: PR: Phase I or C.I. General survey of books and materials; criteria for analysis and evaluation; types of books available considered in terms of interests, needs, and abilities of children.
- LAE 4314** **ED 3(3,0)**
Language Arts in the Elementary School: PR: Phase I or C.I. Content, principles, materials and techniques involved in teaching, speaking, listening, writing, and spelling in the elementary school; organizing for instruction.
- LAE 4342** **ED 3(3,0)**
Teaching Language and Composition: PR: EDG 4321. Techniques and methods in teaching of dialects, semantics, the various grammars. A survey of composition and rhetorical methods of selected authors.
- LAE 5367** **AS 3(3,0)**
English Composition and Literature for Teachers of Advanced Placement:

LAE 5372	AS 3(2,1)
Theory and Practice in Composition: PR: Senior standing or C.I. Intensive study of theories of composition, with practical experience in the writing laboratory and in composition classes.	
LAE 5465	ED 3(3,0)
Literature for Adolescents: PR: Senior standing or C.I. Selecting and evaluating books for adolescents with emphasis on the use of literature in the development of young people.	
LAH 3130	AS 3(3,0)
Latin American History I: PR: EUH 2000 and 2001 or C.I. The Colonial period.	
LAH 3200	AS 3(3,0)
Latin American History II: PR: EUH 2000 and 2001 or C.I. The National period.	
LAH 3400	AS 3(3,0)
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	AS 3(3,0)
History of the Caribbean: PR: EUH 2000 and 2001 or C.I. History of Cuba, Puerto Rico, Dominican Republic and Haiti from Pre-Colombian times to the present.	
LAH 5713	AS 3(3,0)
Colloquium in U.S.-Latin American Relations: PR: Senior Standing and C.I. The course will analyze U.S.-Latin American relations from an historical perspective. It will be presented through readings and discussion of selected materials.	
LAT 1120	AS 4(4,1)
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 1120H	AS 4(4,1)
Honors Elementary Latin & Civilization I: Same as LAT 1120 with honors-level content.	
LAT 1121	AS 4(4,1)
Elementary Latin Language and Civilization II: PR: LAT 1120 or equivalent. Continuation of LAT 1120.	
LAT 1121H	AS 4(4,1)
Honors Elementary Latin & Civilization II: PR: LAT 1120H or equivalent. Same as LAT 1121 with honors-level content.	
LEI 3140	ED 3(3,0)
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	ED 3(3,0)
Recreation Leadership: A study of the various styles of leadership as they relate to directing people and programs in public and private recreation.	
LEI 3434	ED 2(1,1)
Recreation and Intramurals: Principles and techniques of general and school recreation programs.	
LEI 3437	ED 3(3,0)
Administration and Supervision of Recreational Programs: Includes methods, principles and policies of administering recreational programs under varying conditions and to varying populations. Strategies for supervising personnel are included.	
LEI 3601	ED 3(3,0)
Recreational Planning for Facilities and Equipment: Planning for facilities and equipment will be analyzed including site selection, construction, purchasing and maintenance. Multi-cultural considerations will be examined and the needs of special populations will be taken into account.	
LEI 3700	ED 3(3,0)
Recreational Programming for Special Populations: Includes a study of recreational programming for special populations including the extreme age groups and the handicapped. Multi-cultural implications will also be considered.	
LIN 3010	AS 3(3,0)
Principles of Linguistics: PR: ENC 1102. An overview of the modern linguist's approach to language. Analytic methods of phonology, morphology, syntax. Brief systematic survey of dialectology, language acquisition and semantics.	
LIN 3200	AS 4(3,1)
English Phonetics and American Dialects: PR: ENC 1102. Physiological description and visual notation of speech sounds; regional dialects of American English.	
LIN 3340	AS 3(3,0)
Grammar and Composition: A systematic study of grammar and mechanics to improve editing for clarity and accuracy in writing.	
LIN 3640	HLTH 3(3,0)
Psychology of Oral Communication: Psychological principles involved in the communicative process with application to individuals and groups.	
LIN 3710	HLTH 3(3,0)
Foundations of Language: This course is designed to explore contributions to language from disciplines of Biology, Neurology, Psychology and Sociology.	

LIN 3710L	HLTH 1(0,2)
Foundations of Language: Students will have practical experience in analyzing children's language samples.	
LIN 4100	AS 3(3,0)
History of the English Language: PR: ENC 1102 and Sophomore standing. Study of the English language and its development from Anglo-Saxon to Modern.	
LIN 4202	AS 3(3,0)
Phonetics: PR: ENC 1102. Study of the sounds of language from an articulatory perspective.	
LIN 4341	AS 3(3,0)
Modern English Grammar: PR: ENC 1102 and Sophomore standing. Emphasis upon the analysis and comparison of traditional, structural and transformational grammar.	
LIN 4440	AS 3(3,0)
Sounds and Forms of Language: This course examines the sound systems (phonology) and word structure (morphology) of natural languages as two basic areas of linguistics.	
LIN 4612	AS 3(3,0)
Black English: PR: ENC 1102 and Sophomore standing. A study of the phonology, morphology and syntax of Black English. Provides an understanding of the implications of Black English in contemporary society.	
LIN 4660	AS 3(3,0)
Linguistics and Literature: PR: LIN 3010. Investigation of language study as an aid to understanding literature. Topics include analysis of figurative language, language as characterization, cohesion, sentence and discourse structure.	
LIN 4712	HLTH 3(3,0)
Normal Language Development: Students will study language development and develop skill in eliciting language samples, describing language use, and analyzing language samples through demonstrations and problem solving experience.	
LIN 4801	AS 3(3,0)
Language and Meaning: PR: ENC 1102 and Sophomore standing. A linguistic study of the nature of language, meaning, and the ways in which man uses language in various social, cultural, institutional, and professional settings.	
LIN 5137	AS 3(3,0)
Linguistics: PR: Senior or graduate standing or C.I. Modern linguistic theories and studies focusing on language acquisition and development, contemporary American English, semantics and para-linguistics.	
LIN 5705	HLTH 3(3,2)
Psycholinguistics: Foundations of language in affective consciousness and the human nervous system. Pragmatic analysis of word meaning and its precise scientific measurement. Implications for Communicative Disorders.	
LIN 5805	AS 3(3,0)
Language and Meaning: An examination of how language conveys meaning and the implications about the nature and structure of the mind.	
LIS 3016	ED 3(3,0)
Introduction to Media Services: Role and scope of media center. Major concepts, standards, trends, and media specialist functions emphasized.	
LIS 3412	ED 3(3,0)
Media for Children and Young Adults: Survey of media center materials for children and young adults; analysis and evaluation of print and non-print materials K-12.	
LIS 4310	ED 3(3,0)
Production of Materials for Media Center: PR: LIS 4428. Skill in producing teacher and student-made materials. Emphasizes graphic, photographic and audio techniques for schools. Lab TBA.	
LIS 4422	ED 3(3,0)
Administration and Operation of the Media Center: Administrative principles applied to developing resources and services; including planning, decision making, personnel and financial management, evaluation, acquisition, processing, maintenance, and inventory.	
LIS 4453	ED 3(3,0)
School Media Services: PR: C.I. Planning activities and programs to assist teachers and students in utilizing the Media Center. Includes skills development, R/L/V guidance, promotion and inservice techniques. Lab TBA.	
LIS 4510	ED 3(3,0)
Development of Media Collections: PR: C.I. Selection of policy and collection building of book and non-book media. Use of reviewing aids and media sources.	
LIS 4540	ED 3(3,0)
Interaction Techniques in Media Services: PR: C.I. Interpretation skills and communication processes applied to working with administrators, teachers, parents, and students in the media program.	
LIS 4601	ED 3(3,0)
Reference Sources and Services: PR: C.I. Development of skills in locating information and providing reference services.	

- LIS 4731** **ED 3(3,0)**
Organization of Media and Information: PR: C.I. Principles of informational science and bibliography. Methods of organizing and non-print media, with instruction in cataloging and classification using standard bibliographic tools.
- LIS 5262** **ED 3(3,0)**
Computer Applications in Instructional Technology: Emphasis on the applications of the computer for the media specialist and instructional technologist.
- LIT 2110** **AS 3(3,0)**
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 2120** **AS 3(3,0)**
World Literature II: PR: ENC 1102. Readings from Moliere, Voltaire, Goethe, Pushkin, Balzac, Tolstoy, Ibsen, Mann, Kafka, Camus, and others.
- LIT 2081** **AS 3(3,0)**
Literature of Modern Man: PR: ENC 1102. Reading and discussion of types and forms of modern literature.
- LIT 3000** **AS 3(3,0)**
Introduction to Literary Analysis: PR: ENC 1102. Analysis of fiction, drama, and verse in terms of major elements; plot conflict, characterization, viewpoint, rhetorical and poetic devices, figurative language, meter, rhyme, verse forms.
- LIT 3082** **AS 3(3,0)**
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 3188** **AS 3(3,0)**
Canadian and Commonwealth Literature: Fiction, poetry, and drama written in English in Canada and other Commonwealth nations including Australia and Caribbean and African nations with an English-speaking tradition.
- LIT 3313** **AS 3(3,0)**
Science Fiction: PR: ENC 1102. An investigation of science fiction as a literary form, together with selected readings.
- LIT 3383** **AS 3(3,0)**
Women in Literature: PR: ENC 1102. An investigation of attitudes toward women in literature. Selections from Shakespeare, Eliot, Flaubert, Ibsen, Freud, Lawrence, Hemingway, Albee, Freiden, Millet, Greer, and Steinem.
- LIT 4094** **AS 3(3,0)**
Modern Drama As Literature: A study of important plays, playwrights, themes, movements, and styles in modern American, British, and European drama.
- LIT 4312** **AS 3(3,0)**
Fantasy: PR: ENC 1102. A survey of the literature of fantasy with emphasis on such figures as C.S. Lewis.
- LIT 4354** **AS 3(3,0)**
Ethnic Literature in America: Contributions of linguistic and ethnic groups of non-English origin to the literature of the United States.
- LIT 4373** **AS 3(3,0)**
Literature of the Bible: PR: ENC 1102 or LIT 3000 or C.I. Literary forms in the Bible — narrative, poetic, and dramatic — and their reflection in modern literature.
- LIT 4433** **AS 3(3,0)**
Survey of Technical and Scientific Literature: PR: ENC 4293 or C.I. An analysis of the historical development of technical and scientific writing from the Renaissance to the present.
- LIT 5039** **AS 3(3,0)**
Studies in Contemporary Poetry: English language poetry from 1945 to the present. Emphasis will be on American poets, but others such as English or Australian will be included.
- LIT 5097** **AS 3(3,0)**
Studies in Contemporary Fiction: PR: Senior standing or C.I. Fiction in the last 20 years in the United States and Britain.
- LIT 5309** **AS 3(3,0)**
Media and Popular Literature: PR: Senior standing or C.I. Study of the literary content of contemporary media and of popular fiction. Application to classroom teaching.
- LIT 5366** **AS 3(3,0)**
The Romantic Revolt (19th Century Literature): PR: Senior standing or C.I. The romantic revolt in poetry and prose; English, American and Continental literature. 1798-1832.
- LIT 5367** **AS 3(3,0)**
The Victorian Age: PR: Senior standing or C.I. Study of poets and essayists from 1837 to 1900, including Tennyson, the Brownings, Arnold, Hopkins, Carlyle, Mill; emphasizing Dickens, George Eliot, the Brontes, and Hardy.
- MAA 4226** **AS 4(4,0)**
Advanced Calculus I: PR: MHF 2300 and MAC 3313 or C.I. Limits, sequences and continuity; differentiation and integration. Derivatives of integrals. Infinite series and convergence. The Balzano-Weierstrass Theorem and the Heine-Borel Theorem. Extensions in Euclidian n-space.

- MAA 4227** **Advanced Calculus II:** PR: MAA 4226 or C.I. Continuation of MAA 4226. **AS 3(3,0)**
- MAA 5210** **Topics in Advanced Calculus:** PR: MAC 3313 or C.I. Selected topics in multivariable calculus including limits, continuity, Euler's theorem, the Jacobian, and double series; extension of single variable concepts including uniform convergence and improper integrals. **AS 4(4,0)**
- MAA 5405** **Techniques of Complex Variables:** PR: MAC 3313 or C.I. Analytic functions. Integration in the complex plane. Laurent series and residue calculus. Inversion of Laplace transformations. Conformal mappings. Applications in engineering and the physical sciences. **AS 3(3,0)**
- MAC 1102** **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. **AS 3(3,0)**
- MAC 1104** **College Algebra:** PR: Intermediate algebra or 2 years of high school algebra or C.I. Inequalities. High degree polynomials. Graphs, rational, logarithmic, and exponential functions. Systems of equations, matrices, determinants, induction. This course prepares students for higher-level mathematics courses. **AS 3(3,0)**
- MAC 1114** **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. **AS 3(3,0)**
- MAC 3233** **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. **AS 3(3,0)**
- MAC 3253** **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. **AS 3(3,0)**
- MAC 3254** **Applied Calculus II:** PR: MAC 3253 or C.I. Continuation of MAC 3253. **AS 3(3,0)**
- MAC 3311** **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. **AS 4(4,0)**
- MAC 3312** **Calculus with Analytic Geometry II:** PR: MAC 3311 or C.I. Continuation of MAC 3311. **AS 4(4,0)**
- MAC 3313** **Calculus with Analytic Geometry III:** PR: MAC 3312 or C.I. Continuation of MAC 3312. **AS 4(4,0)**
- MAD 4203** **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. **AS 4(4,0)**
- MAD 5205** **Combinatorics and Graph Theory II:** PR: MAD 4203. Poly'a's theory of counting, Latin squares and rectangles, block designs, coding theory, networks, invariants and extremal graph theory, Ramsey theory, probabilistic methods, hypergraphs, applications. **AS 3(3,0)**
- MAE 3112** **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. **ED 4(3,1)**
- MAE 3330** **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. **ED 4(3,2)**
- MAE 3810** **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. **AS 3(3,1)**
- MAE 3811** **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. **AS 3(3,1)**

- MAE 3817** **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. **ED 4(4,1)**
- MAE 4326** **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. **ED 4(3,1)**
- MAE 4634** **Programs in Teaching of Mathematics:** PR: CI. A consideration of special programs, strategies, and materials. Emphasis on individual needs of students. **ED 3(2,1)**
- MAE 5318** **Current Methods in Elementary School Mathematics:** PR: Regular Certificate or C.I. Strategies of instruction of computation and concepts of number, geometry, and measurement; instructional materials. (Meets Elementary Education certification requirements.) **ED 3(3,0)**
- MAE 5325** **Teaching Mathematics in the Middle/Junior High School:** PR: 12 s.h. of mathematics including at least College Algebra. Consideration of the curriculum and instructional techniques appropriate for students in Middle/Junior High School. **ED 3(3,0)**
- MAE 5356** **Teaching General Mathematics in the Secondary School:** PR: MAE 3330 or C.I. This course addresses specific techniques for developing General Mathematics skills and concepts beginning in grade 6. Problem solving, motivation and innovative methods are explored. **ED 3(3,0)**
- MAE 5395** **Teaching Measurement in the Schools:** Metric system, methods of developing different measurement skills and concepts, and curriculum changes needed to accommodate measurement. **ED 3(3,0)**
- MAE 5637** **Laboratory Programs in Mathematics:** PR: Regular Certificate or C.I. Design and development of special materials and projects for mathematics independent study. Emphasis teaching and applying the metric system. (Meets certification requirements for secondary mathematics.) **ED 3(2,1)**
- MAN 3025** **Management of Organizations:** PR: Junior standing, ACG 2011 or 3023, ECO 2023, ECO 2013. Introduction to the theory and practice of managing formal organizations including planning, organization theory, human behavior and control. **BA 3(3,0)**
- MAN 3301** **Personnel Management:** PR: Junior standing, MAN 3025 or C.I. Systematic analysis of personnel functions in organizations. **BA 3(3,0)**
- MAN 3504** **Production/Operations Management:** PR: Junior standing, STA 3023. Introduction to the management of systems for the creation, distribution and maintenance of goods and services required for modern society. **BA 3(3,0)**
- MAN 3705** **Business Concepts:** PR: Junior standing. An introductory course in concepts, techniques, opportunities, decisions, and problems in American business. For non-business majors only. **BA 3(3,0)**
- MAN 4120** **Business and Society:** PR: MAR 3023, FIN 3403, MAN 3025. A study of the interrelationship between the institution of business and other institutions of our society. **BA 3(3,0)**
- MAN 4150** **Human Relations in Management:** PR: MAN 3025. The study of individual, interpersonal, group and intergroup problems in business organizations through the use of cases and experimental exercises. **BA 3(3,0)**
- MAN 4240** **Organizations: Theory and Behavior:** PR: MAN 3025. A course providing a micro/macro approach to the study of organizations by integrating organizational theory and organizational behavioral science concepts. **BA 3(3,0)**
- MAN 4310** **Personnel Management Issues:** PR: Junior standing, MAN 3301. An application-oriented course to give students in the area experiences generally reserved for practitioners in the field of personnel and labor relations. **BA 3(3,0)**
- MAN 4350** **Training and Development:** PR: MAN 3301. This course focuses on training and development activities as performed as organizational specialists. Theory, issues, practices and problems are discussed. **BA 3(3,0)**
- MAN 4401** **Labor Relations Management:** PR: Junior standing, MAN 3301. The impact of employee organizations on labor relations, current problems, conflicts and trends; the development of managerial approaches to achieve labor-management cooperation. **BA 3(3,0)**
- MAN 4420** **Service Organization Management:** PR: MAN 3025 and MAN 3504. Study of the special characteristics, problems, and methods for managing service-oriented organizations. **BA 3(3,0)**

- MAN 4521** **Production Planning and Control:** PR: MAN 3504. In depth study on long range, intermediate range and short range planning and control methods as applied to a manufacturing organization. **BA 3(3,0)**
- MAN 4590** **Procurement Management:** PR: MAN 3025 and MAN 3504. An elective course in procurement management. Designed to provide the student with fundamental concepts and processes involved in the procurement of goods and services required by modern society. **BA 3(3,0)**
- MAN 4600** **International Management:** PR: GEB 4351 The course examines issues involved in multinational management of business firms with special emphasis on comparative management. **BA 3(3,0)**
- MAN 4720** **Business Policies:** PR: Senior standing, completion of core. The student is expected to utilize the subject matter in the business core and his major in analyzing business problems. **BA 3(3,0)**
- MAN 4854** **Management Science:** PR: MAN 3025 and MAN 3504 and ECO 3411 and CGS 3000. Study of the application of quantitative models and use of simulation in organizational systems. **BA 3(3,0)**
- MAN 5051** **Management Concepts:** PR: Acceptance in MBA program. Theory and practice of managing organizations to include planning, organizational theory, human behavior and control. **BA 2(2,0)**
- MAN 5501** **Introduction to Production/Operations Management:** PR: Acceptance into the graduate program and ECO 5415 or equivalent. Introduction to the fundamental concepts, processes and institutions involved in the production of goods and services required by modern society. **BA 2(2,0)**
- MAP 3302** **Differential Equations:** PR: MAC 3313 or C.I. Methods of solution for first order equations. Linear equations. Laplace transforms. Series solutions. Selected applications. **AS 3(3,0)**
- MAP 3401** **Problem Analysis:** PR: MAC 3253 and COP 1200 or equivalent. Applications of computational techniques to selected problems in the practice of engineering technology. Problems relating to specific option areas. **EN 3(2,2)**
- MAP 4103** **Mathematical Modeling I:** An overview of model construction. Model fitting, optimization models, Empirical construction and modeling Dynamic behavior. Calculus and ordinary differential equations required. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- MAP 4363** **Applied Boundary Value Problems I:** PR: MAP 3302 or C.I. Systems of linear equations. Fourier series. The eigenvalue problem of Sturm-Liouville. The method of Green's functions. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- MAP 5407** **Applied Mathematics I:** PR: MAP 3302 or C.I. Fourier series, calculus of variations, Hamilton's principle, eigenvalues and stationary points, Rayleigh-Ritz method, partial differential equations, and approximation methods. (May be taken after Applied Math II). **AS 3(3,0)**
- 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. **AS 3(3,0)**
- 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. **BA 3(3,0)**
- MAR 3323** **Advertising Management:** PR: MAR 3023. Analysis of field of advertising; techniques, media, organization, and role of research; economic and social aspects of advertising. **BA 3(3,0)**
- MAR 3403** **Sales Management:** PR: MAR 3023. An overview of the sales management process. Emphasis on sales program formulation and implementation. **BA 3(3,0)**
- MAR 3503** **Consumer Behavior:** PR: MAR 3023. Analysis of the buying process, the psychological, social, and economic influences affecting consumer choice. **BA 3(3,0)**

- 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. **BA 3(3,0)**
- MAR 3823** **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. **BA 3(3,0)**
- MAR 4071** **Contemporary Marketing Issues:** PR: Senior standing, marketing major, C.I. Cultural, social, political, economic, and competitive developments and their effects upon marketing activities. **BA 3(3,0)**
- MAR 4156** **International Marketing:** PR: MAR 3023, GEB 4351, or C.I. Investigates strategy, policy and the variables in international marketing decisions. **BA 3(3,0)**
- 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. **BA 3(3,0)**
- MAR 4231** **Retailing Management:** PR: MAR 3023. Analysis of the field of retailing. Emphasis on planning for profit through management, inventory control, etc. **BA 3(3,0)**
- 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. **BA 3(3,0)**
- MAR 4803** **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. **BA 3(3,0)**
- MAR 4831** **Product Management:** PR: MAR 3023. Components of product management including analysis, strategy formulation and implementation are examined. **BA 3(3,0)**
- MAR 4941** **Internship:** PR: Permission of Dept. Chair. Provide qualified undergraduate marketing majors with educational experience not gained in class setting. **BA 3-6(3-6,0)**
- MAR 5055** **Marketing Concepts:** PR: Acceptance into the graduate program. Study of functions, institutions and basic marketing of goods in the U.S. economy. **BA 3(3,0)**
- 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 chair. **BA 3(3,0)**
- MAS 3105** **Matrices:** PR: MAC 3312 or C.I. Matrices, determinants, vector spaces in R^n , linear independence, basis, solutions of systems, range of linear transformations, eigenvectors, Jordan Form, matrix functions, quadratic forms. **AS 4(4,0)**
- MAS 3106** **Linear Algebra:** PR: MHF 2300 and MAS 3105 or C.I. Abstract vector spaces, linear transformations, isomorphisms, projections, innerproducts, the spectral theorem, Jordan Canonical Form. (Only offered spring semester). **AS 4(4,0)**
- 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. **AS 3(3,0)**
- MAS 4301** **Algebraic Structures:** PR: MHF 2300 or C.I. An introduction to groups, rings and fields. **AS 3(3,0)**
- MAS 5115** **Matrix Theory and Applications:** PR: MAS 3113, STA 4163 or 4322, or C.I. Basic theory of determinants, inverses, generalized inverses, eigenvalues and eigenvectors; partitioned matrices; diagonalization and decomposition theorems; least squares; and applications. **AS 3(3,0)**
- 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. **AS 5(3,4)**
- MCB 3203** **Pathogenic Microbiology:** PR: MCB 3013C or C.I. Microorganisms producing disease in man and other animals; means of transmission; protection against disease. **AS 3(3,0)**
- MCB 3203L** **Pathogenic Microbiology Lab:** CR: MCB 3203. Laboratory investigation of pathogenic microorganisms with emphasis on isolation and identification of pathogenic microorganisms. **AS 1(0,3)**

MCB 4114C	AS 4(3,3)
Microbial Systematics and Diagnosis: PR: MCB 3013C, MCB 3203. Microbial classification, rules of taxonomy, and nomenclature. Techniques for identifying non-pathogens and bacteria pathogenic to man.	
MCB 4404C	AS 4(3,3)
Microbial Metabolism: PR: MCB 3013C and BCH 4054. Interrelationship between cellular structure function and genetic traits in microorganisms. The interaction between microorganisms and their nutritional environment.	
MCB 4603C	AS 4(3,3)
Environmental Microbiology: PR: PCB 3043 and MCB 3013C. Interrelationships between the biological activities of microorganisms and their terrestrial and aquatic environments.	
MCB 5205	AS 3(3,0)
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	AS 3(2,3)
Virology: PR: MCB 3013C and BCH 4054. Nature of viruses and Rickettsiae, including their structure, propagation, isolation and identification.	
MET 3101	EN 3(3,0)
Fundamentals of Meteorology and Climatology: PR: MAC 1104 or C.I. Studies of the physical processes that determine the climate of a region. The methods of measurement and use of meteorological parameters.	
MGF 1203	AS 3(3,0)
Finite Mathematics: PR: Intermediate algebra or 2 years of high school algebra or C.I. Introduction to logical structure, sets, probability, arrays, games. This course is intended for students who are not planning to take further courses in mathematics.	
MHF 2300	AS 3(3,0)
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.	
MHF 3104	AS 3(3,0)
Boolean Algebra: PR: MAC 3312 or C.I. Axiomatic development of Boolean algebra. The algebras of sets, logic and circuits as Boolean algebras.	
MHF 4404	AS 3(3,0)
History of Mathematics: PR: MAC 3312 or C.I. A chronological study of the evolution of mathematical thought from primitive counting through modern ideas of the 20th century. Recommended for prospective teachers in mathematics.	
MIS 1031	US 2(2,1)
Basic Military Science: Organization of the Army and ROTC. Career opportunities, significance of military courtesy, discipline, customs, and traditions. Analysis of weapons, equipment and historical growth of the Army.	
MIS 1400	US 2(2,1)
Fundamentals of Leadership Development: Development of leadership abilities through practical exercises. Fundamentals of Land navigation will be discussed. Field training exercises will allow student practical application of leadership techniques.	
MIS 2120	US 2(2,1)
The Threat: 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.	
MIS 2300	US 2(2,1)
Small Unit Tactics: 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.	
MIS 3301	US 4(4,1)
The Small Unit Leader: 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.	
MIS 3410	US 4(4,1)
Leadership Responsibilities: A description of the role and responsibility of the small unit leader. Case studies in leadership and management. Principles of military instruction.	
MIS 4421	US 4(4,1)
Military Law: A study of military law; the Army's maintenance management system; and a study of the obligations and responsibilities of the newly commissioned officer.	
MIS 4430	US 4(4,1)
Advanced Military Science: Study of the decision-making process; staff organization, estimating process, and staff studies. Analysis of administration, personnel and Army supply system.	
MLS 3220C	HLTH 2(1,3)
Techniques in Clinical Microscopy: 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.	
MLS 3305	HLTH 4(2,6)
Hematology: PR: Admission to the professional phase of the MLS program or C.I. Diagnostic procedures and morphologic interpretation; correlation of this data to disease.	

- MLS 4334C** **HLTH 2(1,3)**
Hemostasis: 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.
- MLS 4405** **HLTH 4(2,6)**
Clinical Pathogenic Microbiology: PR or CR: MCB 3203 and admission to the professional phase of the MLS program. Isolation and pathogenic bacteria and serological methods; interpretation of abnormal results, with correlation to disease.
- MLS 4420C** **HLTH 1(1,2)**
Clinical Mycology: 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.
- MLS 4431C** **HLTH 2(1,3)**
Clinical Parasitology: PR: Admission to the professional phase of the MLS program or C.I. Instruction and laboratory practice in the examination and study of clinical material for the detection and identification of animal parasites.
- MLS 4511** **HLTH 5(3,4)**
Immunodiagnosics: PR: PCB 3233. Theory and application of clinical serologic and immunologic diagnostic testing stressing the utilization of monoclonal technology.
- MLS 4550** **HLTH 4(2,6)**
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.
- MLS 4625C** **HLTH 4(2,6)**
Advanced Clinical Chemistry I: PR: Admission to the professional phase of the MLS program or C.I. Theory and practice in clinical chemistry techniques; carbohydrates, protein, electrophoresis, enzymes.
- MLS 4630C** **HLTH 4(2,6)**
Advanced Clinical Chemistry II: PR: MLS 4625C. Autoanalyzer, flame photometry, blood gases, RIA.
- MLS 4830C** **HLTH 4(0,13)**
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** **HLTH 4(0,13)**
Clinical Practice II: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4830C.
- MLS 4832C** **HLTH 4(0,13)**
Clinical Practice III: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4831C.
- MLS 4833C** **HLTH 4(0,13)**
Clinical Practice IV: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4832C.
- MLS 4834C** **HLTH 4(0,13)**
Clinical Practice V: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4833C.
- MLS 4910** **HLTH 3(3,0)**
Fundamentals of Research for Health Science Professionals: Concepts of developing a research protocol based on current theories and practices within the clinical area including literature search, cost analysis and grant preparation.
- MLS 5509** **HLTH 3(3,0)**
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** **AS 3(3,0)**
Introduction to the Mass Media: A description of the various media, their roles, responsibilities, and functions.
- MMC 4200** **AS 3(3,0)**
Mass Communication Law: The legal rights and responsibilities of the mass media.
- MMC 4602** **AS 3(3,0)**
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** **AS 4(4,0)**
Opinion and the Mass Media: Role of the media in influencing public attitudes on both the domestic and international levels.
- MMC 4700** **AS 3(3,0)**
Mass Media and Popular Culture: An impact of mass media upon American culture past to present.
- MMC 4945** **AS 1-8(0,1-8)**
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** **HLTH 4(4,0)**
Introduction to Medical Records: PR: Acceptance into upper division limited access MRA program. Introduction to profession; POMR; release of information; record analysis.
- MRE 3110** **HLTH 5(5,0)**
Medical Record Organization and Management: PR: MRE 3000. Nomenclature/classification systems; health/vital statistics; computer abstracting; MRAs role in hospital/medical staff organization; accrediting/approving agencies; policy/procedure manuals; job descriptions; indexing.
- MRE 3433** **HLTH 4(4,0)**
Pathophysiology: PR: MRE 3000; HSC 4550. A study of the nature, causes and treatment of specific diseases.
- MRE 3800** **HLTH 2(0,4)**
Directed Practice I: PR: Acceptance into upper division limited access MRA program. Interdepartmental experience and introduction to medical record departments in selected health care facilities.
- MRE 3810** **HLTH 2(0,4)**
Directed Practice II: PR: MRE 3800, HSC 3640, HSC 3531. Quantitative and qualitative analysis; MPI; release of information; filing; admission/discharge processing performed in a health care facility.
- MRE 4202** **HLTH 5(3,4)**
Coding Procedures: PR: MRE 3432, HSC 3531, or C.I. Principles and mechanics of coding systems for health information retrieval, DRGs.
- MRE 4203** **HLTH 2(2,0)**
Coding Procedures II: PR: MRE 4202 or CI. Continuation of MRE 4202; HCPCS-CPT.
- MRE 4211** **HLTH 3(3,0)**
Health Data Processing: PR: MRE 4500; CGS 1060. Analysis and design of computerized systems for medical record data collection, retrieval, and interpretation. Hands-on experience.
- MRE 4304** **HLTH 2(2,0)**
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 4(3,2)**
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. Principles of Word Processing and Medical Transcription.
- MRE 4400** **HLTH 4(2,4)**
Health Care Delivery Systems: PR: MRE 3110. Medical record standards and procedures for long-term care; ambulatory care; home health care; HMOs and psychiatric facilities. Principles of consulting. Labs and field trips.
- MRE 4420** **HLTH 2(2,0)**
Health Legislation: PR: MRE 4500. Risk management, certificate of need; legislative update for utilization review and quality assurance; new health legislation.
- MRE 4500** **HLTH 4(4,0)**
Quality Assessment: PR: MRE 3110. Utilization review; principles and mechanics of medical audit and quality assurance; risk management.
- MRE 4830** **HLTH 2(0,4)**
Directed Practice III: PR: MRE 3110; MRE 4202; MRE 3810. Incomplete record control; coding; health/vital statistics; microfilm.
- MRE 4832** **HLTH 2(0,4)**
Directed Practice IV: PR: MRE 3110; MRE 4312; MRE 4500; MRE 4830. Indexing abstracting; audit; quality assurance; U.R.; transcription; budget; management of activities in DP I, II, III; computer applications. Assignment to hospital and other health care facilities.
- 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: ISM 5021. Administration of computer-based information systems; security; policy formulation; health data in decision-making, interpretation of health data.
- MRE 5219** **HLTH 3(3,0)**
Application of Computer Packages for Data Analysis: PR: MRE 5217. Application of packaged statistical programs in analysis of data from health sciences. Emphasis on use and interpretation of computer output.

MRE 5858	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 Geometrics: 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 1440	AS 1(0,2)
String Techniques: Class instruction in beginning string playing techniques.	
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 3450	AS 1(0,2)
Woodwind Techniques: Class instruction in beginning woodwind playing techniques. May be repeated for credit.	
MUE 3460	AS 1(0,2)
Brass Techniques: Class instruction in beginning brass playing techniques. May be repeated for credit.	
MUE 3470	AS 1(0,2)
Percussion Techniques: Class instruction in beginning percussion playing techniques.	
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 5611	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 3101	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 4390	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 19th century. Emphasis on stylistic development and formal analysis.	
MUL 2010	AS 3(2,1)
Enjoyment of Music: Only non-music majors. Designed to develop an understanding of musical principles and techniques for listening to music.	
MUL 3400	AS 2(1,1)
Piano Literature I: PR: Major in Music or C.I. Survey of stringed keyboard literature from the 16th century to the present with emphasis on technical, formal and performance problems.	
MUL 3401	AS 2(1,1)
Piano Literature II: PR: MUL 3400. Continuation of MUL 3400.	
MUL 3600	AS 1(1,0)
Song Literature I: PR: Major in Music or C.I. Survey of the development of the art song from the Baroque to the present with emphasis on technical, formal and performance problems.	
MUL 3601	AS 1(1,0)
Song Literature II: PR: MUL 3600. Continuation of MUL 3600.	
MUN 3110	AS 2(0,8)
Marching Band: PR: Admission by audition. Preparation for appearance at football games and special occasions. May be repeated for credit.	
MUN 3123	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(0,5)
Community Orchestra: PR: C.I. Open to all students. Audition for wind and percussion players required. Repertoire from symphonic literature. May be repeated for credit.	
MUN 3310	AS 1(0,3)
University Choir: Open to all students by audition. Study and performance of large ensemble music. Possible tours. May be repeated for credit.	
MUN 3340	AS 1(0,3)
Madrigal Singers: Open to all students by audition. Extra rehearsals and Madrigal Dinners required. Tours. May be repeated for credit.	
MUN 3341	AS 1(0,3)
Chamber Chorus: Open to all students by audition. Study and performance of music for small ensembles. May be repeated for credit.	
MUN 3380	AS 1(0,3)
Oratorio Choir: Open to all students, faculty, and members of the community for performance of large works. May be repeated for credit.	
MUN 3410	AS 1(0,2)
String Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.	
MUN 3420	AS 1(0,2)
Woodwind Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.	
MUN 3430	AS 1(0,2)
Brass Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.	
MUN 3440	AS 1(0,2)
Percussion Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.	
MUN 3450	AS 1(0,3)
Piano Ensemble: Open to Music Majors or C.I. Study and performance of music for small ensembles. May be repeated for credit.	
MUN 3710	AS 1(0,4)
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	AS 1(0,3)
Jazz/Pop Ensemble: PR: C.I. Open to all students. Study and performance	
MUO 3501	AS 3(0,3)
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	AS 0(0,2)
Music Forum: A series of special musical events required of music majors. Includes lectures and recitals by faculty, students, and guest artists.	
MUS 4401	AS 2(1,1)
Studio Teaching: PR: C.I. Management of the music studio; responsibilities and techniques of private instruction for the studio teacher; principles of psychology of music. May be repeated for credit.	

MUS 4905	AS 1-4(0-4)
Directed Experience: PR: C.I. and Junior Standing. Special topics of study and/or research as determined by student/faculty consultation. May be repeated for credit.	
MUT 1111	AS 2(2,1)
Music Theory IA: Open to all students. Writing, performance, analysis of and music of various stylistic periods.	
MUT 1112	AS 2(2,1)
Music Theory IB: PR: MUT 1111. Continuation of MUT 1111.	
MUT 1241	AS 1(0,2)
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 1111.	
MUT 1242	AS 1(0,2)
Ear Training and Sight Singing IB: PR: MUT 1241. Continuation of MUT 1241. Intended to be taken with MUT 1112.	
MUT 2116	AS 2(2,1)
Music Theory IIA: PR: MUT 1112. Continuation of MUT 1111-1112; writing, performance, and analysis of music of various stylistic periods.	
MUT 2117	AS 2(2,1)
Music Theory IIB: PR: MUT 2116. Continuation of MUT 2116.	
MUT 2246	AS 1(0,2)
Ear Training and Sight Singing IIA: PR: MUT 1242. Continuation of MUT 1242. Intended to be taken with MUT 2116.	
MUT 2247	AS 1(0,2)
Ear Training and Sight Singing IIB: PR: MUT 2246. Continuation of MUT 2246. Intended to be taken with MUT 2117.	
MUT 3248	AS 1(0,2)
Ear Training and Sight Singing III: PR: MUT 2247. Continuation of MUT 2247. Intended to be taken with MUT 3561.	
MUT 3311	AS 2(1,1)
Orchestration: PR: MUT 2117. Characteristics of orchestral instruments. Orchestration studies of selected works. Original transcriptions for small and large ensembles.	
MUT 3353	AS 1(0,2)
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 3561	AS 3(3,0)
Music Theory III: PR: MUT 2117. Continuation of MUT 2116-2117; writing, performance, and analysis of music of various stylistic periods.	
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)
Seminar in Music Arranging: PR: MUT 3311. Scoring for choral and instrumental ensembles.	
MUT 5325	AS 2(2,0)
Arranging and Composing Music: PR: Satisfactory placement tests in theory, sight-singing, and ear training. Arranging and composing music for instrumental and vocal ensembles. Some emphasis on compositional techniques of the 20th century.	
MVB 1211	AS 1(0,1)
Secondary Trumpet: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in trumpet. Intended for non-music majors. May be repeated for credit.	
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)
Secondary Trombone: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in trombone. Intended for non-music majors. May be repeated for credit.	
MVB 1214	AS 1(0,1)
Secondary Baritone: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in baritone. Intended for non-music majors. May be repeated for credit.	
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 1411	AS 2(1,1)
Trumpet I: PR: Major in music or consent of chair; audition. May be repeated for credit.	

MVB 1412	AS 2(1,1)
French Horn I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVB 1413	AS 2(1,1)
Trombone I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVB 1414	AS 2(1,1)
Baritone I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVB 1415	AS 2(1,1)
Tuba I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVB 2421	AS 2(1,1)
Trumpet II: PR: MVB 1411 and competence determined by faculty jury. Continuation of MVB 1411. May be repeated for credit.	
MVB 2422	AS 2(1,1)
French Horn II: PR: MVB 1412 and competence determined by faculty jury. Continuation of MVB 1412. May be repeated for credit.	
MVB 2423	AS 2(1,1)
Trombone II: PR: MVB 1413 and competence determined by faculty jury. Continuation of MVB 1413. May be repeated for credit.	
MVB 2424	AS 2(1,1)
Baritone II: PR: MVB 1414 and competence determined by faculty jury. Continuation of MVB 1414. May be repeated for credit.	
MVB 2425	AS 2(1,1)
Tuba II: PR: MVB 1415 and competence determined by faculty jury. Continuation of MVB 1415. May be repeated for credit.	
MVB 3431	AS 2(1,1)
Trumpet III: PR: MVB 2421 and competence determined by faculty jury. Continuation of MVB 2421. May be repeated for credit.	
MVB 3432	AS 2(1,1)
French Horn III: PR: MVB 2422 and competence determined by faculty jury. Continuation of MVB 2422. May be repeated for credit.	
MVB 3433	AS 2(1,1)
Trombone III: PR: MVB 2423 and competence determined by faculty jury. Continuation of MVB 2423. May be repeated for credit.	
MVB 3434	AS 2(1,1)
Baritone III: PR: MVB 2424 and competence determined by faculty jury. Continuation of MVB 2424. May be repeated for credit.	
MVB 3435	AS 2(1,1)
Tuba III: PR: MVB 2425 and competence determined by faculty jury. Continuation of MVB 2425. May be repeated for credit.	
MVB 4441	AS 2(1,1)
Trumpet IV: PR: MVB 3431 and competence determined by faculty jury. Continuation of MVB 3431. May be repeated for credit.	
MVB 4442	AS 2(1,1)
French Horn IV: PR: MVB 3432 and competence determined by faculty jury. Continuation of MVB 3432. May be repeated for credit.	
MVB 4443	AS 2(1,1)
Trombone IV: PR: MVB 3433 and competence determined by faculty jury. Continuation of MVB 3433. May be repeated for credit.	
MVB 4444	AS 2(1,1)
Baritone IV: PR: MVB 3434 and competence determined by faculty jury. Continuation of MVB 3434. May be repeated for credit.	
MVB 4445	AS 2(1,1)
Tuba IV: PR: MVB 3435 and competence determined by faculty jury. Continuation of MVB 3435. May be repeated for credit.	
MVB 5451	AS 2(1,0)
Trumpet V: PR: C.I.	
MVB 5452	AS 2(1,0)
French Horn V: PR: C.I.	
MVB 5453	AS 2(1,0)
Trombone V: PR: C.I.	
MVB 5454	AS 2(1,0)
Baritone V: PR: C.I.	
MVB 5455	AS 2(1,0)
Tuba V: PR: C.I.	
MVK 1111	AS 1(0,2)
Class Piano I: Class instruction for beginning piano students. Not open to music majors whose major performing medium is piano.	

MVK 1121	AS 1(0,2)
Class Piano II: PR: MVK 1111 or C.I. Continuation of MVK 1111. Not open to music majors whose major performing medium is piano.	
MVK 1131	AS 1(0,2)
Class Piano III: PR: MVK 1121 or C.I. Continuation of MVK 1121.	
MVK 1141	AS 1(0,2)
Class Piano IV: PR: MVK 1131 or C.I. Continuation of MVK 1131.	
MVK 1211	AS 1(0,1)
Secondary Piano: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in piano. Intended for non-music majors. May be repeated for credit.	
MVK 1213	AS 1(1,1)
Secondary Organ: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in organ. Intended for non-music majors. May be repeated for credit.	
MVK 1411	AS 2(1,1)
Piano I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.	
MVK 1413	AS 2(1,1)
Organ I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.	
MVK 2421	AS 2(1,1)
Piano II: PR: MVK 1411 and competence determined by faculty jury. Continuation of MVK 1411. May be repeated for credit.	
MVK 2423	AS 2(1,1)
Organ II: PR: MVK 1413 and competence determined by faculty jury. Continuation of MVK 1413. May be repeated for credit.	
MVK 3431	AS 2(1,1)
Piano III: PR: MVK 2421 and competence determined by faculty jury. Continuation of MVK 2421. May be repeated for credit.	
MVK 3433	AS 2(1,1)
Organ III: PR: MVK 2423 and competence determined by faculty jury. Continuation of MVK 2423. May be repeated for credit.	
MVK 4441	AS 2(1,1)
Piano IV: PR: MVK 3431 and competence determined by faculty jury. Continuation of MVK 3431. May be repeated for credit.	
MVK 4443	AS 2(1,1)
Organ IV: PR: MVK 3433 and competence determined by faculty jury. Continuation of MVK 3433. May be repeated for credit.	
MVK 4640	AS 1(1,0)
Piano Pedagogy I: PR: C.I. Methods, materials for teaching individuals and classes of children and adults beginning to intermediate levels; demonstration and observation of procedures. May be repeated for credit.	
MVK 4641	AS 1(1,0)
Piano Pedagogy II: PR: C.I. Continuation of MVK 4640. Emphasis on intermediate through advanced levels. May be repeated for credit.	
MVK 5451	AS 2(1,0)
Piano V: PR: C.I.	
MVK 5453	AS 2(1,0)
Organ V: PR: C.I.	
MVO 1214	AS 1(0,1)
Secondary Recorder: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in recorder. Intended for non-music majors. May be repeated for credit.	
MVO 3114	AS 3(2,1)
Recorder I: Open to non-music majors. Class instruction in beginning recorder playing.	
MVO 3124	AS 2(1,1)
Recorder II: 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	AS 1(1,0)
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	AS 1(0,1)
Secondary Percussion: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in percussion. Intended for non-music majors. May be repeated for credit.	
MVP 1411	AS 2(1,1)
Percussion I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVP 2421	AS 2(1,1)
Percussion II: PR: MVP 1411 and competence determined by faculty jury. Continuation of MVP 1411. May be repeated for credit.	
MVP 3431	AS 2(1,1)
Percussion III: PR: MVP 2421 and competence determined by faculty jury. Continuation of MVP 2421. May be repeated for credit.	

MVP 4441	AS 2(1,1)
Percussion IV: PR: MVP 3431 and competence determined by faculty jury. Continuation of MVP 3431. May be repeated for credit.	
MVP 5451	AS 2(1,0)
Percussion V: PR: C.I.	
MVS 1211	AS 1(0,1)
Secondary Violin: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in violin. Intended for non-music majors. May be repeated for credit.	
MVS 1212	AS 1(0,1)
Secondary Viola: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in viola. Intended for non-music majors. May be repeated for credit.	
MVS 1213	AS 1(0,1)
Secondary Cello: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in cello. Intended for non-music majors. May be repeated for credit.	
MVS 1214	AS 1(0,1)
Secondary Bass: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in bass. Intended for non-music majors. May be repeated for credit.	
MVS 1215	AS 1(1,1)
Secondary Harp: Instruction in beginning harp playing.	
MVS 1216	AS 1(0,1)
Secondary Guitar: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in guitar. Intended for non-music majors. May be repeated for credit.	
MVS 1411	AS 2(1,1)
Violin I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVS 1412	AS 2(1,1)
Viola I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVS 1413	AS 2(1,1)
Cello I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVS 1414	AS 2(1,1)
Bass I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVS 1415	AS 2(1,1)
Harp I: Major in music or consent of chair; audition. May be repeated for credit.	
MVS 1416	AS 2(1,1)
Guitar I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVS 1876	AS 1(0,1)
Class Guitar I: Open only to non-music majors. Class instruction in beginning guitar playing.	
MVS 2421	AS 2(1,1)
Violin II: PR: MVS 1411 and competence determined by faculty jury. Continuation of MVS 1411. May be repeated for credit.	
MVS 2422	AS 2(1,1)
Viola II: PR: MVS 1412 and competence determined by faculty jury. Continuation of MVS 1412. May be repeated for credit.	
MVS 2423	AS 2(1,1)
Cello II: PR: MVS 1413 and competence determined by faculty jury. Continuation of MVS 1413. May be repeated for credit.	
MVS 2424	AS 2(1,1)
Bass II: PR: MVS 1414 and competence determined by faculty jury. Continuation of MVS 1414. May be repeated for credit.	
MVS 2425	AS 2(1,1)
Harp II: PR: MVS 1415 and competence determined by faculty jury. Continuation of MVS 1415. May be repeated for credit.	
MVS 2426	AS 2(1,1)
Guitar II: PR: MVS 1416 and competence determined by faculty jury. Continuation of MVS 1416. May be repeated for credit.	
MVS 2826	AS 1(0,1)
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 3431	AS 2(1,1)
Violin III: PR: MVS 2421 and competence determined by faculty jury. Continuation of MVS 2421. May be repeated for credit.	
MVS 3432	AS 2(1,1)
Viola III: PR: MVS 2422 and competence determined by faculty jury. Continuation of MVS 2422. May be repeated for credit.	
MVS 3433	AS 2(1,1)
Cello III: PR: MVS 2423 and competence determined by faculty jury. Continuation of MVS 2423. May be repeated for credit.	
MVS 3434	AS 2(1,1)
Bass III: PR: MVS 2424 and competence determined by faculty jury. Continuation of MVS 2424. May be repeated for credit.	

MVS 3435	AS 2(1,1)
Harp III: PR: MVS 2425 and competence determined by faculty jury. Continuation of MVS 2425. May be repeated for credit.	
MVS 3436	AS 2(1,1)
Guitar III: PR: MVS 2426 and competence determined by faculty jury. Continuation of MVS 2426. May be repeated for credit.	
MVS 4441	AS 2(1,1)
Violin IV: PR: MVS 3431 and competence determined by faculty jury. Continuation of MVS 3431. May be repeated for credit.	
MVS 4442	AS 2(1,1)
Viola IV: PR: MVS 3432 and competence determined by faculty jury. Continuation of MVS 3432. May be repeated for credit.	
MVS 4443	AS 2(1,1)
Cello IV: PR: MVS 3433 and competence determined by faculty jury. Continuation of MVS 3433. May be repeated for credit.	
MVS 4444	AS 2(1,1)
Bass IV: PR: MVS 3434 and competence determined by faculty jury. Continuation of MVS 3434. May be repeated for credit.	
MVS 4445	AS 2(1,1)
Harp IV: PR: MVS 3435 and competence determined by faculty jury. Continuation of MVS 3435. May be repeated for credit.	
MVS 4446	AS 2(1,1)
Guitar IV: PR: MVS 3436 and competence determined by faculty jury. Continuation of MVS 3436. May be repeated for credit.	
MVS 5451	AS 2(1,0)
Violin V: PR: C.I.	
MVS 5452	AS 2(1,0)
Viola V: PR: C.I.	
MVS 5453	AS 2(1,0)
Cello V: PR: C.I.	
MVS 5454	AS 2(1,0)
Bass V: PR: C.I.	
MVS 5455	AS 2(1,0)
Harp V: PR: C.I.	
MVS 5456	AS 2(1,0)
Guitar V: PR: C.I.	
MVV 1111	AS 1(0,1)
Class Voice: Class instruction in beginning voice. May be repeated for credit.	
MVV 1211	AS 1(0,1)
Secondary Voice: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in voice. Intended for non-music majors. May be repeated for credit.	
MVV 1411	AS 2(1,1)
Voice I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVV 2421	AS 2(1,1)
Voice II: PR: MVV 1411 and competence determined by faculty jury. Continuation of MVV 1411. Major in music or consent of chair; audition. Private and class lessons. May be repeated for credit.	
MVV 3431	AS 2(1,1)
Voice III: PR: MVV 2421 and competence determined by faculty jury. Continuation of MVV 2421. May be repeated for credit.	
MVV 4441	AS 2(1,1)
Voice IV: PR: MVV 3431 and competence determined by faculty jury. Continuation of MVV 3431. May be repeated for credit.	
MVV 4640	AS 1(1,0)
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	AS 1(1,0)
Voice Pedagogy II: PR: C.I. Continuation of MVV 4640. Intermediate to advanced levels. May be repeated for credit.	
MVV 5451	AS 2(1,0)
Voice V: PR: C.I.	
MVV 1211	AS 1(0,1)
Secondary Flute: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in flute. Intended for non-music majors. May be repeated for credit.	
MVV 1212	AS 1(0,1)
Secondary Oboe: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in oboe. Intended for non-music majors. May be repeated for credit.	

MVW 1213	AS 1(0,1)
Secondary Clarinet: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in clarinet. Intended for non-music majors. May be repeated for credit.	
MVW 1214	AS 1(0,1)
Secondary Bassoon: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in bassoon. Intended for non-music majors. May be repeated for credit.	
MVW 1215	AS 1(0,1)
Secondary Saxophone: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in saxophone. Intended for non-music majors. May be repeated for credit.	
MVW 1411	AS 2(1,1)
Flute I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVW 1412	AS 2(1,1)
Oboe I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVW 1413	AS 2(1,1)
Clarinet I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVW 1414	AS 2(1,1)
Bassoon I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVW 1415	AS 2(1,1)
Saxophone I: PR: Major in music or consent of chair; audition. May be repeated for credit.	
MVW 2421	AS 2(1,1)
Flute II: PR: MVW 1411 and competence determined by faculty jury. Continuation of MVW 1411. May be repeated for credit.	
MVW 2422	AS 2(1,1)
Oboe II: PR: MVW 1412 and competence determined by faculty jury. Continuation of MVW 1412. May be repeated for credit.	
MVW 2423	AS 2(1,1)
Clarinet II: PR: MVW 1413 and competence determined by faculty jury. Continuation of MVW 1413. May be repeated for credit.	
MVW 2424	AS 2(1,1)
Bassoon II: PR: MVW 1414 and competence determined by faculty jury. Continuation of MVW 1414. May be repeated for credit.	
MVW 2425	AS 2(1,1)
Saxophone II: PR: MVW 1415 and competence determined by faculty jury. Continuation of MVW 1415. May be repeated for credit.	
MVW 3431	AS 2(1,1)
Flute III: PR: MVW 2421 and competence determined by faculty jury. Continuation of MVW 2421. May be repeated for credit.	
MVW 3432	AS 2(1,1)
Oboe III: PR: MVW 2422 and competence determined by faculty jury. Continuation of MVW 2422. May be repeated for credit.	
MVW 3433	AS 2(1,1)
Clarinet III: PR: MVW 2423 and competence determined by faculty jury. Continuation of MVW 2423. May be repeated for credit.	
MVW 3434	AS 2(1,1)
Bassoon III: PR: MVW 2424 and competence determined by faculty jury. Continuation of MVW 2424. May be repeated for credit.	
MVW 3435	AS 2(1,1)
Saxophone III: PR: MVW 2425 and competence determined by faculty jury. Continuation of MVW 2425. May be repeated for credit.	
MVW 4441	AS 2(1,1)
Flute IV: PR: MVW 3431 and competence determined by faculty jury. Continuation of MVW 3431. May be repeated for credit.	
MVW 4442	AS 2(1,1)
Oboe IV: PR: MVW 3432 and competence determined by faculty jury. Continuation of MVW 3432. May be repeated for credit.	
MVW 4443	AS 2(1,1)
Clarinet IV: PR: MVW 3433 and competence determined by faculty jury. Continuation of MVW 3433. May be repeated for credit.	
MVW 4444	AS 2(1,1)
Bassoon IV: PR: MVW 3434 and competence determined by faculty jury. Continuation of MVW 3434. May be repeated for credit.	
MVW 4445	AS 2(1,1)
Saxophone IV: PR: MVW 3435 and competence determined by faculty jury. Continuation of MVW 3435. May be repeated for credit.	
MVW 5451	AS 2(1,0)
Flute V: PR: C.I.	
MVW 5452	AS 2(1,0)
Oboe V: PR: C.I.	

MVW 5453	AS 2(1,0)
Clarinet V: PR: C.I.	
MVW 5454	AS 2(1,0)
Bassoon V: PR: C.I.	
MVW 5455	AS 2(1,0)
Saxophone V: PR: C.I.	
NUR 3066	HLTH 3
Health Assessment: PR: PCB 3703C, ZOO 3733C or Florida RN License. Concepts of health assessment of clients.	
NUR 3119	HLTH 3
Introduction to Baccalaureate Nursing: Overview of baccalaureate nursing philosophy, objectives, conceptual framework, scope of practice, history, legal and ethical issues.	
NUR 3166	HLTH 3
Critical Inquiry: A study of approaches to problematic situations in nursing. Selected experiences in investigating, analyzing, and interpreting nursing research.	
NUR 3709	HLTH 6
Transitional Concepts in Nursing: PR: RN Status. Issues and theories to prepare for baccalaureate nursing.	
NUR 3748C	HLTH 6
Concepts Basic to Nursing Practice: PR: Admission to the nursing program and completion of prerequisites. Beginning principles and concepts of nursing theory and practice utilizing the nursing process in selected clinical settings.	
NUR 3749C	HLTH 6
Scientific Theories of Nursing I: PR: NUR 3748C and HSC 4550. Theory and practice related to individuals with acute health problems.	
NUR 3755C	HLTH 5
Scientific Theories of Nursing III: PR: NUR 3749C, 3795. CR: NUR 3796. Theories applicable to the nurse's role in care of the family from conception through delivery. Focus is on family system.	
NUR 3795	HLTH 6
Scientific Theories of Nursing II: PR: NUR 3748. CR: NUR 3749, 3166. Theory and practice related to individuals with long term and chronic health care problems.	
NUR 3796	HLTH 5
Scientific Theories of Nursing IV: PR: NUR 3749c, 3795. Theories applicable to the nurse's role in the care of children and their families.	
NUR 4196	HLTH 3
Crisis Intervention: Crisis theory and techniques; recognition and intervention in crisis events. Applicable to all areas of nursing and all helping professions.	
NUR 4297	HLTH 3
Introduction to Cardiovascular Nursing: Nursing management of cardiac disorders as they affect adaptation of individual and family.	
NUR 4756C	HLTH 6
Scientific Theories of Nursing V: PR: NUR 3755C, 3796. Theories and principles of psychiatric/mental health nursing. Clinical application in selected settings.	
NUR 4757C	HLTH 6
Scientific Theories of Nursing VII: PR: NUR 4756C, 4758C. CR: NUR 4941, 4196. Scientific Theories and principles of leadership and management of patient care. Application of the decision-making process in selected clinical experiences.	
NUR 4758C	HLTH 6
Scientific Theories of Nursing VI: PR: NUR 3755, 3796. Theories and principles of public health nursing. Clinical applications in selected settings.	
NUR 4797	HLTH 3
Professional Development and Issues: PR: NUR 4756C & NUR 4758C. CR: NUR 4757C. Diagnoses of professional development and issues relating to the baccalaureate graduate entering professional nursing practice.	
NUR 4905C	HLTH 1-10
Nursing Independent Study: PR: NUR 4756C. An opportunity for in-depth study in an area of special interest to the student.	
OCE 1012	EN 3(3,0)
Oceanography and Space: Fundamentals of oceanography and space with emphasis on the engineering aspects and uses.	
OST 3782	ED 3(2,1)
Office Technology: PR: C.I. Basic operation and function of technological media in modern business offices, including word processing equipment.	
OST 4335	ED 3(3,0)
Business Correspondence: Originating written business correspondence to include letters, memoranda, and business forms. (Typewriting skill recommended.)	
PAD 3003	AS 3(3,0)
Public Administration: An examination of the basic environment, culture, and organization of public administration in the United States.	

- PAD 4034** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
Public Personnel Administration: The history, operating components, structural characteristics and increasing impact of laws and related sanctions on personnel practices of public agencies.
- PAD 4720** **AS 3(3,0)**
Survey Research in Public Administration: Introduction to the concepts, design, methodology, computer applications, and data analysis in applied research in the public sector.
- PAD 4941** **AS 3-6(0,6)**
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** **AS 3(3,0)**
Ethics and Values in Public Administration: Issues of ethics in the public sector-basis for public concern, past practice, present patterns of response; individual/social aspects of ethical behavior.
- PAD 5336** **AS 3(3,0)**
Introduction to Urban Planning: Issues of urbanization, regional development, land use and comprehensive planning, environmental planning and social planning.
- PAD 5337** **AS 3(3,0)**
Urban Design: Planning techniques such as planned unit developments, capital improvements planning, and growth management, and planning methods including needs assessment and graphic design.
- PAD 5424** **AS 3(3,0)**
Labor Relations in the Public Sector: Current trends and developments in employment relations in the public sector, especially employee organization, negotiations, and the collective bargaining process.
- PAD 5806** **AS 3(3,0)**
Local Government Operations: Operational Functions of municipal and county governments and the role of the chief executive officer.
- PAD 5807** **AS 3(3,0)**
Administrative Practice in the Public Sector: The application of various theoretical concepts to the "real world" of public administration. Policy formulation and execution are examined through the case study mode.
- PCB 3023** **AS 3(3,0)**
Cell Physiology: PR: 8 hours in biological sciences and CHM 3210 or CHM 2205. Basic physiological processes, cellular organization, exchange of materials, conversion of energy, irritability and contractibility.
- 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)**
Principles of Ecology Laboratory: CR: PCB 3043. Field and laboratory investigations of natural ecosystems with emphasis on current methodology in ecology.
- 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)**
Aquatic Biology: PR: C.I. An introduction to the plant and animal components of freshwater environments.
- 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 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)
Advanced Ecology: PR: Ecology, statistics and 2 years of biological science. Population and community ecology with emphasis on growth, regulation, species interactions, succession, and community classification.
- PCB 5235** AS 3(3,0)
Immunopathology: PR: PCB 3233. In depth overview of diseases due to deficiencies or over-reactivity of the immune system.
- PCB 5235L** AS 2(0,4)
Immunopathology Laboratory: CR: PCB 5235. Use of modern immunological diagnostic laboratory procedures related to the immune system.
- 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.
- PCO 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.
- PEL 2021** ED 2(2,1)
Racket Sports: Study of performance and application of advanced skills, rules and etiquette of the sports of racketball and badminton. Physiological and social values accruing from this lifetime sport.
- PEL 2121** ED 2(2,1)
Beginning Golf: Performance and application of basic skills, rules and etiquette. Physiological and social values accruing from this lifetime sport.
- PEL 2122** ED 2(2,1)
Intermediate Golf: PR: PEL 2121 or equivalent competency. A study of performance and application of intermediate skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport.
- PEL 2320** ED 2(2,1)
Basic Volleyball and Softball: The analysis of offensive and defensive alignment, techniques and strategies.
- PEL 2341** ED 2(2,1)
Beginning Tennis: Performance and application of basic skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport.
- PEL 2342** ED 2(2,1)
Advanced Tennis: PR: PEL 2341 or equivalent competency. A study of performance and application of advanced skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport.
- PEL 2640** ED 2(2,1)
Basic Football and Basketball: The analysis of offensive and defensive alignment, techniques and strategies.
- PEM 2101** ED 2(2,1)
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.
- PEM 2104** ED 2(2,1)
Personal Fitness: Study of personal fitness concepts, with opportunities to develop individual optimal level of fitness and an improved lifestyle through high-level wellness.
- PEM 2131** ED 2(2,1)
Strength Resistance Training: Study of fitness and strength development through resistance exercise.
- PEM 2171** ED 2(2,1)
Aerobic Dancing: Appropriate rhythmical muscle toning movements that develop aerobic fitness; concepts taught include warm-up, flexibility, stretching, cool down and heart rate.
- PEM 2351** ED 2(2,1)
Cycling: Study of the techniques and physiological benefits of the lifetime sport of cycling. This course is activity oriented and requires access to any model bicycle.

PEN 1121	ED 2(2,1)
Elementary Swimming: For non-swimmers and beginning swimmers. Development and study of technique in the basic skills of water safety and swimming.	
PEN 2101	ED 2(2,1)
Aquatics: PR: PEN 2122 or equivalent competency. Development and study of techniques and principles of aquatic swimming activities -- safety, strokes, fitness, water polo, synchronized swimming, skin diving, springboard diving, canoeing, and family instruction methods.	
PEN 2113	ED 2(2,1)
Life Saving: Instruction, training and certification in basic life saving swimming skills.	
PEN 2122	ED 2(2,1)
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.	
PEO 3005	ED 3(2,1)
Advanced Sports Analysis: Advanced analysis of sports for the purpose of teaching and coaching.	
PEO 3011	ED 3(2,1)
Instructional Analysis in Team Sports: PR: Sophomore standing. Analysis of team sports for purposes of teaching and coaching. Includes techniques, conditioning, and strategy.	
PEO 3031	ED 3(2,1)
Instructional Sports Activities: Analysis of individual sports for purposes of teaching and coaching. Includes techniques, conditioning, and strategy.	
PEP 2201	ED 2(1,1)
Gymnastics: Analysis of gymnastics including techniques, conditioning and strategy.	
PEP 3204	ED 3(2,1)
Instructional Analysis of Gymnastics: Analysis of gymnastics including techniques of teaching at the elementary, middle and high school levels, conditioning and strategy.	
PEQ 2115	ED 2(2,1)
Water Safety Instruction: PR: PEN 2113 or equivalent competency. Methods of teaching water safety. Includes practical application and certification.	
PEQ 3101	ED 2(1,1)
Instructional Analysis in Aquatics: PR: Sophomore standing or C.I. Analysis of aquatic activities for purposes of teaching and coaching. Includes techniques, conditioning, and strategy.	
PET 3012	ED 1(1,0)
Physical Education Professional Development: (Unsatisfactory/Satisfactory grading). The development in the profession of physical education, and action participation in current activities.	
PET 3041	ED 2(1,1)
Games for the Elementary School Physical Education Program: The understanding, designing and teaching the low-organizational game-activities for the elementary school child.	
PET 3210	AS 3(3,0)
Sports Psychology: A review of principles of psychology related to the enhancement of satisfaction and performance in sports.	
PET 3453	ED 3(3,0)
Coaching and Officiating: Theory and methods of coaching and officiating techniques.	
PET 3461C	ED 2(1,1)
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 3463C	ED 2(1,1)
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 4035C	ED 3(2,1)
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	ED 2(2,1)
Anatomic and Mechanical Kinesiology: Anatomic and mechanical principles involved in producing skilled human movement; with applications.	
PET 4312	ED 3(2,1)
Biomechanics: Anatomic and mechanical principles involved in producing skilled human movement with applications.	
PET 4351	ED 3(2,1)
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	ED 3(2,1)
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. **ED 3(3,0)**
- PET 4601** **Motor Development: Habilitation and Remediation for Exceptional Students:** The comparative study of motor development in typical and atypical children, evaluative processes, methods of enrichment and prescriptive techniques. **ED 3(3,0)**
- PET 4603** **Introduction to Sports Medicine:** A comprehensive study of care of sports injuries including instruction in attitudes, health and conditioning in sports participants. **HLTH 3(3,0)**
- PET 4604** **Sports Medicine Field Application:** Demonstration and Application of the treatment for various sports injuries. **HLTH 3(3,0)**
- PET 4622C** **Human Injuries:** The recognition and rehabilitation of human injuries. **ED 3(2,1)**
- PET 4640** **Adapted Physical Education:** Principles and methods of adapting physical education activities and programs for atypical participants, mainstreaming rationale and methods analyzed. **ED 3(3,0)**
- PET 5355** **Exercise Physiology and Health:** In depth study of adaptations of cardiovascular and respiratory systems during varying degrees of exercise. **HLTH 3(3,0)**
- PGY 3401C** **Photography:** PR: ART 2201C. Consideration of basic technical and aesthetic factors in using still photography as a vehicle for visual expression. **AS 3(2,3)**
- PGY 3610** **Photojournalism I:** Introduction to visual communication. History, picture appreciation, layout and design, picture story development, basic camera operation and ethics. Camera required. **AS 3(3,0)**
- PGY 3620** **Photojournalism II:** PR: PGY 3610. Newspaper Photojournalism. Black and white shooting and processing. Newspaper assignments. 35mm SLR camera required. **AS 3(1,2)**
- PGY 3630** **Photojournalism III:** PR: PGY 3620. Color photojournalism. Color shooting and processing for commercial and editorial purposes with electronic Strobes in the studio and on location. **AS 3(2,1)**
- PGY 3640** **Photojournalism IV:** PR: PGY 3620. The Picture Story. Individual and group projects for extended documentary coverage. **AS 3(1,2)**
- PGY 3680** **Photojournalism V:** PR: PGY 3620. Photography Editing. Assignment selection, picture and copy editing, cropping, picture desk management, and ethics of photojournalism, and the new technological advances. **AS 3(3,0)**
- PGY 4420C** **Advanced Photography:** PR: PGY 3401C. May be repeated for credit. **AS 3(2,3)**
- PGY 4440C** **Special Problems in Photography:** PR: PGY 3401C or C.I. A series of directed photographic problems of a research nature. May be repeated for credit. **AS 3(2,3)**
- PGY 4580C** **Special Problems in Film Design:** A series of exercises in craft, techniques, and design for film production, including animation. **AS 4(3,2)**
- PHH 3100** **Ancient Philosophy:** PR: PHI 2010 or C.I. Foundations of Western philosophy in ancient Greek thinking about man and nature, including the pre-Socratics, Socrates, Plato, Aristotle. **AS 3(3,0)**
- PHH 3400** **Modern Philosophy:** PR: PHI 2010 or C.I. Challenges of science and religion to philosophy. Responses of faith, reason, relativism, and atheism. **AS 3(3,0)**
- PHH 3600** **Problems in Contemporary Philosophy:** Prominent issues and trends in 20th century philosophy, excluding Existentialism. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- 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. **AS 3(3,0)**
- PHI 2010H** **Honors Introduction to Philosophy:** Same as PHI 2010 with honors-level content. **AS 3(3,0)**
- PHI 3130** **Formal Logic I:** Analysis of logical form and of procedures used in deductive inference, of the kind underlying mathematical reasoning. **AS 3(3,0)**

- PHI 3131** **AS 3(3,0)**
Formal Logic II: PR: PHI 3130. Systematic study of propositional and first-order predicate logic; logistic systems and axiomatic methods; problems of metatheory, including consistency, completeness and decidability.
- PHI 3600** **AS 3(3,0)**
Ethics: An examination of the nature of moral problems, judgements and principles with an emphasis on recent formulations in ethical theory.
- PHI 3630** **AS 3(3,0)**
Practical Moral Dilemmas: Probes practical moral problems arising out of advancement and complexities in modern professional life. Considers one or more of the following: medicine, business, technology, law.
- PHI 3700** **AS 3(3,0)**
Philosophy of Religion: An examination of basic ideas, beliefs, attitudes and functions of religion, with emphasis upon questions of conceptual meaning and cognitive justification.
- PHI 3800** **AS 3(3,0)**
Aesthetics: An investigation into the nature of human artistic experience with special reference to questions of form, perception and style.
- PHI 3803** **AS 3(3,0)**
Philosophy and Creativity: A companion course to PHI 3800, Aesthetics. Examines the empirical and metaphysical claims made for creativity; attempts to account for intuition, genius and intelligence.
- PHI 4220** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
Philosophy of Science: An examination of the conceptual foundations and methodology of modern science.
- PHI 4770** **AS 3(3,0)**
Atheism: A study of the principal theoretical and practical objections to theism.
- PHM 3100** **AS 3(3,0)**
Freedom, Justice and Human Rights: Philosophical analysis and evaluation of selected issues arising from the interaction of the individual, society, and the state; particular attention to topics such as freedom, equality, justice, and rights.
- PHM 3350** **AS 3(3,0)**
Fundamentals of Marxism: A study of the basic principles of Marxism, formulated and developed by Marx, Engels and Lenin.
- PHP 3786** **AS 3(3,0)**
Existentialism: Study of existentialist analysis and criticisms of the human situations as found in the writings of such philosophers as Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus.
- PHP 4788** **AS 3(3,0)**
Contemporary Marxism: An examination of some major issues and perspectives in current Marxist philosophy and social theory.
- PHY 3014C** **AS 3(2,2)**
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 3048** **AS 3(3,0)**
Physics for Engineers and Scientists I: PR: MAC 3311, PHY 2053C or high school physics. Mechanics, properties of matter, fluids, thermodynamics.
- PHY 3048L** **AS 1(0,3)**
Physics Laboratory for Engineers and Scientists I: CR: PHY 3048. Laboratory experiments covering selected topics in physics related to PHY 3048.
- PHY 3048H** **AS 3(3,0)**
Honors Physics for Engineers and Scientists I: PR: MAC 3311, PHY 3053C or High School Physics, and selection in the Univ. Honors program. Same as PHY 3048 with honors-level content.
- PHY 3049** **AS 3(3,0)**
Physics for Engineers and Scientists II: PR: PHY 3048, MAC 3312. Optics, light, sound, electricity, magnetism, alternating current.
- PHY 3049L** **AS 1(0,3)**
Physics Laboratory for Engineers and Scientists II: CR: PHY 3049. Laboratory experiments covering selected topics in physics related to PHY 3049.
- PHY 3049H** **AS 3(3,0)**
Honors Physics for Engineers and Scientists II: PR: PHY 3048H, MAC 3312. Same as PHY 3049 with honors-level content.
- PHY 3053C** **AS 4(3,3)**
College Physics I: PR: MAC 1104 or MGF 1203. Kinematics, Newton's Law, circular motion, torque, center of gravity, work, energy, power, machines, waves, sound, heat, thermodynamics, latent heat, conduction, convection, radiation.

- PHY 3054C** **AS 4(3,3)**
College Physics II: PR: PHY 2053C or one year of high school physics. Fluids, Bernoulli, viscosity, kinetic theory, electricity, magnetism, induction, generators, motors, DC-AC circuits, instrumentation, semiconductors, geometrical and physical optics, X-rays, radioactivity, dosimetry.
- PHY 3101** **AS 3(3,0)**
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 3221** **AS 3(3,0)**
Mechanics I: PR: PHY 3049, CR: MAP 3302, or C.I. Analytical mechanics of particles and systems of particles. Newtonian gravitation and orbital mechanics. Constraints, rigid body dynamics. Noninertial reference frames.
- PHY 3323** **AS 3(3,0)**
Electricity and Magnetism I: PR: PHY 3049, MAP 3302. Electrostatics, magnetostatics, Lorentz force current electricity, Maxwell's equations.
- PHY 3464** **AS 3(3,0)**
Physical Basis of Music: PR: MUT 1112 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.
- PHY 3503** **AS 3(3,0)**
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** **AS 3(1,5)**
Physics Laboratory-Electronics: PR: PHY 3752C or C.I. State-of-art electronics, transducers, operational amplifiers, phase sensitive circuits, active filters.
- PHY 3752C** **AS 4(3,3)**
Physics of Scientific Instruments: PR: PHY 3049 or C.I. A lecture-laboratory course on application, operation and limitation of various scientific instruments. Meters, oscilloscopes, operational amplifiers, transducers, elements of digital circuitry.
- PHY 3802L** **AS 3(1,5)**
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 4222** **AS 3(3,0)**
Mechanics II: PR: PHY 3221. Continuous Media, Lagranges', Hamilton's & Euler Equations, Theory of Small Vibrations.
- PHY 4324** **AS 3(3,0)**
Electricity & Magnetism II: Dielectrics, Magnetic Materials, Electromagnetic Waves, Reflection, Complex impedance, Static solutions to Laplace's Equation, Radiation from an accelerated charge & antennae, Special Relativity.
- PHY 4424** **AS 3(3,0)**
Optics: PR: PHY 3101 and PHY 3320. Wave optics, absorption, stimulated emission, lasers, transforms, coherence, holography.
- PHY 4604** **AS 3(3,0)**
Wave Mechanics: PR: MAP 3302 and 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** **AS 3(1,5)**
Advanced Physics Laboratory: PR: PHY 3802L. Experiments in optics, electronics, nuclear and solid state physics. Emphasis on design, data, and scientific writing.
- PHY 4942C** **AS 3(2,3)**
Practicum in Physics: PR: C.I. Physics laboratories and demonstrations, and the study of recent research on the learning of physics.
- PHY 5015C** **AS 3(2,2)**
Physics for Teachers II: PR: C.I. "Hands-on" lecture-laboratory course. Dynamics, electricity, magnetism, optics, nuclear radiation.
- PHY 5081C** **AS 1(0.5,1.5)**
Physics of Astronomy for Teachers: P.R.: C.I. Laws of Motion, Law of Gravity Kepler's Laws, Two body orbits, Light & Spectroscopy. The doppler shift, blackbody radiation, Gas Laws & Stellar Evolution.
- PHY 5100** **AS 1(1,0)**
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** **AS 1(0.5,1.5)**
Newtonian Mechanics for Teachers: PR: C.I. A lab, lecture, demonstration course studying selected topics in classical mechanics.
- PHY 5240** **AS 3(3,0)**
Advanced Mechanics: PR: PHY 4220 or C.I. Elements of continuum mechanics. Generalized coordinates, virtual work, Lagrange's equations, Hamilton's equation. Inertia tensors, stress tensors. Eulerian description of rigid body motion. Theory of small vibrations.

- PHY 5300C** AS 1(0.5,1.5)
Electricity for Teachers: PR: C.I. Circuits, Multimeters, Oscilloscopes, Circuit elements.
- PHY 5302C** AS 1(0.5,1.5)
Electromagnetism for Teachers: PR: C.I. Gauss' Law, Biot-Savart law, Amperes Law, Faraday's Law, Lenz's law, Motors, Generators, AC Circuits and Maxwell's Equations.
- PHY 5346** AS 3(3,0)
Electrodynamics I: PR: PHY 3320, 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** AS 1(0.5,1.5)
Optics for Teachers: PR: C.I. Geometrical and physical optics, spectrometers and lasers.
- PHY 5446** AS 3(3,0)
Laser Principles: PR: PHY 3101, MAP 3302, PHY 4424. Classical introduction to the basic principles of laser gain media, properties of resonators and modes, description of specific laser systems.
- PHY 5500C** AS 1(0.5,1.5)
Thermal Physics for Teachers: PR: C.I. Engines, Heat Pumps, Kinetic Theory, Phase changes, Radiation, Weather.
- PHY 5524** AS 3(3,0)
Statistical Physics: PR: PHY 3503, STA 3032, PHY 4604 or C.I. A study of physical concepts and methods appropriate for the description of systems involving many particles. Ensemble theory, partition functions. Maxwell Boltzmann, Bose-Einstein, Fermi-Dirac statistics.
- PHY 5601** AS 1(1,0)
Quantum Physics for Teachers: PR: C.I. Hydrogen Atom, Diatomic Molecules, Heat Capacity Transition Rates.
- PHY 5606** AS 3(3,0)
Quantum Mechanics I: PR: PHY 4045 or C.I. Basic postulates of quantum mechanics, operators, eigenvalues, parity, potential wells, harmonic oscillator, time dependent and time independent Schrodinger equation, matrix formulation, time independent perturbation theory.
- PHZ 3151** AS 4(3,2)
Computer Methods in Physics: PR: PHY 3048 and COP 1200 or C.I. Nonanalytical problems in physics and astronomy solved by approximation with computer assistance.
- PHZ 3271** AS 3(3,0)
Geophysics: PR: 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.
- 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.
- PHY 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 5304** AS 3(3,0)
Nuclear Physics: PR: PHY 4604. Nuclear forces, structure, models, reactions, radioactivity, fission, fusion, strange particles.
- PHZ 5405** AS 3(3,0)
Solid State Physics: PR: PHY 4604, PHY 3101. Crystal lattice cell structure, phonons, free electron model, band theory of solids, Fermi surface, solid state applications.
- PHZ 5505** AS 3(3,0)
Plasma Physics: PR: PHY 4220, PHY 3320, or C.I. Introduction to theory and experimental basis of both weakly and highly ionized plasmas. Instabilities, plasma waves, nonlinear effects, controlled thermonuclear fusion.
- PHZ 5600** AS 1(1,0)
Special Relativity for Teachers: PR: C.I. Length Contraction, Time dilation, Simultaneity, Conservation of Mass-Energy, Conservation of Momentum, Compton Scattering.
- PHZ 5800C** AS 1(0.5,1.5)
Wave Motion for Teachers: PR: C.I. Water Waves, Waves on Strings, Sound and Vibrations.
- PLA 3013** AS 3(3,0)
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.
- PLA 3105** AS 3(3,0)
Legal Research: PR: PLA 3013 or C.I. A study of the various research tools used in legal investigation and the methods used to conduct legal research.
- PLA 3155** AS 3(3,0)
Legal Writing: PR: PLA 3105. A study of legal writing format and technique and the preparation of memoranda and other legal documents, using research skills learned in PLA 3105.
- PLA 3203** AS 3(3,0)
Civil Practice and Procedure: PR: PLA 3013 or C.I. The student becomes familiar with the Florida civil procedure before trial and acquires the ability to prepare basic pleadings.

- PLA 3273** **AS 3(3,0)**
The Law of Torts: PR: PLA 3013 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.
- PLA 3308** **AS 3(3,0)**
Criminal Procedure: PR: PLA 3013 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.
- PLA 3504** **AS 3(3,0)**
Property and Real Estate Law: PR: PLA 3013. Study of the law of real and personal property; real estate transactions and conveyances; closing procedures and title problems.
- PLA 4003** **AS 1(1,0)**
Careers in Legal Studies: PR: Major in Legal Studies or C.I. Applications of Legal Studies. Students will explore options in legal studies, professional development, and ethics.
- PLA 4263** **AS 3(3,0)**
Evidence: PR: PLA 3013 and 3203 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.
- PLA 4408** **AS 3(3,0)**
The Law of Contracts: Study of the basic law of contracts as developed in Anglo-American law and as changed by modern statutes, including the Uniform Commercial Code. Florida contract law will be emphasized.
- PLA 4433** **AS 3(3,0)**
Florida Partnerships and Corporations: Statutory requirements of Florida partnerships and corporations; creation and dissolution of business organizations, responsibilities of officers and basic rights of stockholders.
- PLA 4483** **AS 3(3,0)**
Administrative Law: PR: PLA 3013 or PAD 3003. The law regarding governmental agencies with emphasis on the administrative process, Administrative Procedure Acts and special problems of state administrative law.
- PLA 4584** **AS 3(3,0)**
Land Use and Environmental Law: PR: PLA 3013, 3504. 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.
- PLA 4585** **AS 3(3,0)**
Landlord and Tenant Law: PR: PLA 3013, LEA 3504. Study of the basic law regarding landlord and tenant relationship, both commercial and residential as it applies to the practitioner.
- PLA 4603** **AS 3(3,0)**
Estates and Trusts: PR: PLA 3013, 3504. A study of wills and trusts, and applicable legal principles of administration of estates through the processes of the Probate Court.
- PLA 4623** **AS 3(3,0)**
Estate Administration: PR: PLA 4603. Study of the laws and procedures applicable to administration of estates.
- PLA 4763** **AS 3(3,0)**
Law Office Practices: PR: PLA 3013. Organization, operation and management of law office. Interviewing techniques and practical application of work that is done in a law office.
- PLA 4803** **AS 3(3,0)**
Domestic Relations Law: PR: PLA 3013, 3504. Role of the legal assistant in all phases of family and juvenile law. Fundamental procedures and principles applied by the courts to family problems.
- PLA 4813** **AS 3(3,0)**
Juvenile Law and Procedure: PR: PLA 3013 or C.I. Examines both the substantive and procedural law for juvenile delinquency and dependency. Emphasis on Florida law and comparison with other jurisdictions.
- PLA 5456** **AS 3(1,2)**
Consumer Rights and the Law: PR: C.I. The development of the modern law of consumer rights and remedies available to today's consumer.
- PLA 5937** **AS 3(1,2)**
Seminar in Contemporary Legal Problems: PR: C.I. Analysis of current trends in legislation and court decisions and their significance to American society.
- POS 2041** **AS 3(3,0)**
American National Government: A study of the dynamics of American national government, including its structure, organization, powers, and procedures.
- POS 2041H** **AS 3(3,0)**
Honors American National Government. Same as POS 2041 with honors-level content.
- POS 3122** **AS 3(3,0)**
State Government and Public Policy: A comparative study of American state governments, political processes, and public policies, with emphasis on Florida.
- 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** **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. **AS 3(3,0)**
- POS 3235** **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. **AS 3(3,0)**
- POS 3253** **Contemporary Revolution and Political Violence:** Theories and cases of revolutionary change and political violence in the contemporary world. **AS 3(3,0)**
- POS 3273** **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. **AS 3(3,0)**
- POS 3413** **The American Presidency:** PR: POS 2041 or C.I. Examination of historical and contemporary role of the presidency, including presidential selection process and the office's evolution in status, powers, administrative responsibilities, leadership, and decision-making. **AS 3(3,0)**
- POS 3424** **Congress & the Legislative Process:** PR: POS 2041 or C.I. Examination of the Congress as an institution undergoing dynamic change; emphasis upon recruitment of legislators, institutional and informal rules, the committee system, legislative procedures. **AS 3(3,0)**
- POS 3443** **Political Parties & Processes:** PR: POS 2041 or C.I. In depth study of the American political party system in the context of changing American politics; topics include: development, organization, reforms, legislative and executive roles. **AS 3(3,0)**
- POS 3703** **Scope and Methods of Political Science:** Introduction to the scope and methodology of political analysis. Extensive examination of the discipline, research design and methodology. **AS 3(3,0)**
- POS 4142** **Metropolitan Politics:** Analysis of political patterns, processes, and issues in American communities. Intergovernmental relations and structural and political arrangements in the existing and emerging metropolitan areas. **AS 3(3,0)**
- POS 4206** **Political Psychology:** The psychological analysis of political behavior with emphasis on the individual rather than the political system; includes political attitudes and communication, leadership, and personality influences on politics. **AS 3(3,0)**
- POS 4246** **Political Socialization:** PR: POS 2041 or C.I. Analysis of recruitment and socialization processes. Identification of the agents and processes of political socialization in national and cross-cultural contexts. **AS 3(3,0)**
- POS 4252** **Politics of the Future:** Exploration of possible political processes of the future by examining both visions of the future and specific problem areas such as ecological and technological challenges. **AS 3(3,0)**
- POS 4265** **Power and Policy in the U.S.:** PR: POS 2041 or C.I. Examination of the bases of political power in the U.S. In-depth study of socio-economic political linkages in the policy-making process. **AS 3(3,0)**
- POS 4284** **Judicial Process & Policies:** Study of the formal and informal judicial process. Legal culture, bureaucratic model, judicial recruitment and outputs, comparative judicial behavior. **AS 3(3,0)**
- POS 4412** **Presidential Campaigning:** PR: C.I. Introduces the process of candidate selection, convention behavior, actual campaign process and the transition of power. **AS 3(3,0)**
- POS 4445** **Comparative Political Parties:** The study of political party systems and processes. The course may include U.S., Canada and other political systems. **AS 3(3,0)**
- POS 4603** **American Constitutional Law:** PR: POS 2041 or C.I. Development of American federalism and national power, commerce clause and nationalization of the economy. **AS 3(3,0)**
- POS 4604** **American Constitutional Law II:** PR: POS 2041 or C.I. Development of civil liberties and civil rights in the American federal system. **AS 3(3,0)**
- POS 4622** **Politics and Civil Rights:** Examination of development and issues of civil rights in the second reconstruction. Course emphasis process and analysis of policy. **AS 3(3,0)**
- POS 4941** **Political Science Internship:** PR: C.I. Internship working with the national, state, county or municipal government. Assignments with selected civic organization, elected or appointed official. **AS 3-9(0,3-9)**
- POS 5127** **Issues in State Public Policy:** PR: C.I. Analysis of policy issues occurring in the American states with attention given to a single state and comparative studies. **AS 3(3,0)**

- POS 5157** **Issues in Urban Public Policy:** PR: C.I. Study of characteristic policy issues which arise in urban political systems, and of various public responses to those issues. **AS 3(3,0)**
- POS 5746** **Quantitative Methods in Political Research:** PR: C.I. Methods of model building and research design, including conceptualization and measurement of political variables; techniques of data collection and quantitative analysis; and computer usage. **AS 3(3,0)**
- POT 3204** **American Political Thought:** From its sources to the 20th century, including liberalism, puritanism, the Federalist, the rise of industrialism, resulting social movements, modern variations. **AS 3(3,0)**
- POT 3302** **Modern Political Ideologies:** A study of modern ideologies since the French Revolution including liberalism, conservatism, capitalism, nationalism, Fascism and anarchism. **AS 3(3,0)**
- POT 4003** **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. **AS 3(3,0)**
- POT 4045** **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. **AS 3(3,0)**
- POT 4054** **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). **AS 3(3,0)**
- POT 4314** **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. **AS 3(3,0)**
- PPE 3003** **Personality Theory:** PR: PSY 2013. A survey of theory and research on the development of personality characteristics. **AS 3(3,0)**
- PSB 3002** **Physiological Psychology:** PR: PSY 2013. A survey of the physiological basis of behavior emphasizing the relationship between the nervous system and behavior. Lecture and demonstration/lab. **AS 4(4,0)**
- PSB 3442** **Drugs and Behavior:** PR: PSY 2013. Effects of certain drugs upon the nervous system, behavior, and society. Causes of drug abuse and impact on mental health. **AS 3(3,0)**
- PSB 4013C** **Introduction to Neuropsychology:** PR: PSB 3002. Study of brain function with particular emphasis on human behavior. Lecture-Lab. **AS 4(2,2)**
- PSB 4103C** **Biofeedback Applications:** PSY 2013, PSB 3002 and C.I. Introduction to theory, instrumentation, research and clinical application of biofeedback. Training in use of biofeedback equipment. Lec.-Lab. **AS 3(2,2)**
- PSB 5005** **Physiological Psychology:** PR: PSB 3002 or C.I. An advanced survey of the physiological basis of behavior emphasizing the relationship between the nervous system and behavior. **AS 3(3,0)**
- PSC 1512** **Physical Science:** PR: MAC 1104 or MGF 1203. Fundamental laws of mechanics, heat, waves, electricity, magnetism; chemical processes and equations, properties of gases, liquids, solids, solutions. Mathematical analysis and logic applied to conclusions, inferences. **AS 3(3,0)**
- PSC 1512L** **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. **AS 1(0,2)**
- PSY 2013** **General Psychology:** An introductory survey of the basic principles, theories, and methods of contemporary psychology. **AS 3(3,0)**
- PSY 2013H** **Honors General Psychology:** Same as PSY 2013 with honors-level content. **AS 3(3,0)**
- PSY 2023** **Careers in Psychology:** PR: PSY 2013. An examination of various career opportunities in Psychology including educational entry requirements, and related professional issues. **AS 1(1,0)**
- PSY 3204** **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. **AS 4(3,2)**
- PSY 3214** **Research Methods in Psychology:** PR: PSY 2013 and STA 2014 or STA 3023. Investigation of experimental designs and research methods utilized in Psychology. Analysis and preparation of experimental designs in Psychology. **AS 4(3,2)**

PSY 3302	AS 3(3,0)
Psychological Measurement: PR: PSY 2013 and STA 2014 or 3023. A study of the theory underlying psychological tests and measurements procedures including: reliability, validity, and item analysis.	
PSY 3623	AS 3(3,0)
Applied Testing: PR: PSY 3302: A critical review of the substantive and psychometric properties of selected psychological tests; procedures for the construction of psychological instruments.	
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 4215	AS 4(2,3)
Advanced Research Methods in Psychology: PR: STA 2014, PSY 3214, PSY 3204. Design, analysis and interpretation of complex research projects in psychology.	
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 4510	AS 3(3,0)
Space Policy: An examination of the politics and policymaking involved with the US space program in the context of domestic demands and other international space programs.	
PUP 4602	AS 3(3,0)
Politics of Health: PR: C.I. Analysis of public health policies. Primary focus upon political processes, policy makers, interest group interventions including consumers, and policy outcomes. Comparative health policies.	
PUP 5057	AS 3(3,0)
Issues in National Public Policy: PR: C.I. Study of the establishment and evaluation of selected national issues and priorities, means of implementation, and impacts of government programs.	
PUP 5058	AS 3(3,0)
Issues in International Public Policy: PR: C.I. Analysis of domestic and foreign inputs influencing foreign policy formulation and execution, with extended analysis devoted to executive structures and decision-making behavior.	
PUR 3100	AS 3(2,1)
Writing for Public Relations: PR: Grammar Proficiency Examination, and Typing Test. Development of skills in writing for public relations.	
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 or C.I. Planning and execution of public relations campaigns for profit and non-profit organizations.	
RAT 3001	HLTH 3(3,0)
Introduction to Radiation Oncology: PR: Acceptance to Program. An overview of radiation therapy treatment procedures and patient care considerations.	

- RAT 3241** **HLTH 3(3,0)**
Clinical Radiobiology: Application of the principles and theories of radiobiology to the clinical practice of radiation therapy
- RAT 3242** **HLTH 2(2,0)**
Oncologic Pathology: PR: Acceptance to Program. Study of neoplastic diseases including causative factors, characteristics, histologic grading, staging and treatment.
- RAT 3614** **HLTH 2(2,0)**
Radiation Therapy Physics I: PR: Acceptance to Program. Study of radiation production, properties, interactions, measurement and protection.
- RAT 4027** **HLTH 3(3,0)**
Radiation Oncology I: Methods of radiation therapy treatment of malignant conditions of the skin, oral cavity, pharynx, sinuses, thyroid, digestive and respiratory systems.
- RAT 4028** **HLTH 3(3,0)**
Radiation Oncology II: Methods of treatment of malignant conditions of the nervous system, eye, reproductive system, urinary system, connective tissue and lympho-reticular system.
- RAT 4618C** **HLTH 4(3,3)**
Radiation Therapy Physics II: PR: RAT 3614. Study of radiation protection techniques, design considerations, modes and characteristics of decay, handling of radionuclides and clinical dosimetry.
- RAT 4619C** **HLTH 4(3,3)**
Radiation Therapy Physics III: PR RAT 3614. Study of treatment planning principles and techniques including multiple beam therapy, rotation therapy, arc therapy and irregular field techniques.
- RED 3012** **ED 3(3,0)**
Basic Foundations of Reading: PR: Junior Standing or C.I. Introduction to reading: principles, procedures, and current practices. Study of specific techniques and materials for word attack and comprehension.
- RED 4519** **ED 3(3,1)**
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** **ED 3(3,0)**
Developmental Reading: Principles, procedures, organization, and current practices in the elementary reading program. Materials and methods of instruction.
- RED 5514** **ED 3(3,1)**
Classroom Diagnosis and Development of Reading Proficiencies: PR: RED 5147 or equivalent. Classroom diagnosis and corrective teaching in reading; instructional materials. Case Study required.
- REE 3043** **BA 3(3,0)**
Fundamentals of Real Estate: PR: Junior Standing. Emphasis placed upon the application of basic tools of economics, finance and marketing to solve private and public sector real estate problems.
- REE 4103** **BA 3(3,0)**
Real Estate Appraisal & Valuation: PR: FIN 3403. Focus on the fundamentals of Real Estate valuation utilizing tools of financial and economic analysis.
- REE 4204** **BA 3(3,0)**
Real Estate Finance: PR: FIN 3403. Focus on the fundamentals of real estate finance utilizing tools of financial and economic analysis.
- REE 4303** **BA 3(3,0)**
Real Estate Investment Analysis: PR: FIN 3403. Focus on real estate decision making in the private sector utilizing tools of financial and economic analysis.
- REL 2300** **AS 3(3,0)**
World Religions: Basic features and historical background on Confucianism, Taoism, Hinduism, Buddhism, Judaism, Christianity and Islam.
- REL 3203** **AS 3(3,0)**
The Hebrew and Christian Heritage: The Old and New Testaments as religious documents; their socio-political context in the Ancient Near East.
- REL 3333** **AS 3(3,0)**
Hinduism: A study of Hindu religious ideas and scriptures; the Vedas, the Upanishads, the Bhagavad Gita, and later works.
- REL 3350** **AS 3(3,0)**
Religions of China and Japan: A study of basic concepts of Shinto, Taoism, Confucianism, Buddhism, and Zen.
- REL 3363** **AS 3(3,0)**
Islam: An inquiry into the foundations and development of Islamic thought from earliest times to modern in various parts of the world.
- REL 3432** **AS 3(3,0)**
The Prophets: Ancient and Modern: Ancient prophets (e.g. Moses, Buddha, Jesus, Mohammed) as originators of new faiths, the role of men like Ghandi and Mao as prophets in the modern world.
- REL 3506** **AS 3(3,0)**
Studies in Christianity: An inquiry into the foundations and development of Christian thought in various parts of the world.

- REL 3600** **AS 3(3,0)**
Studies in Judaism: An inquiry into the foundations and development of Jewish thought in various parts of the world.
- REL 4193** **AS 3(3,0)**
Mysticism: The models and aims of the mystic, both Eastern and Western, as seen in art, music, and literature.
- REL 4391** **AS 3(3,0)**
World Myths and Their Meaning: A comparative study of myths from various cultures; common themes and their archetypal meaning.
- REL 4420** **AS 3(3,0)**
Modern Theology: Explores the revolution in religious thought prompted by Kierkegaard, Tillich, Barth, Niebuhr, and Bonhoeffer, and the secular trends suggested by Nietzsche, Altizer, Cox, and Hamilton.
- RET 3026C** **HLTH 4(3,3)**
Introduction to Respiratory Therapy: PR: Admission to the professional upper division Respiratory Therapy Program. Fundamental respiratory principles and practices will be studied. Introduction to the profession and basic methods are covered. Lecture and lab.
- RET 3264C** **HLTH 3(2,3)**
Mechanical Ventilation: PR: RET 3026C. Function and use of mechanical ventilators, patient evaluation methods. All forms of ventilatory support will be studied. Lecture - Laboratory.
- RET 3483** **HLTH 1(1,1)**
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.
- RET 3714C** **HLTH 4(3,3)**
Pediatric Respiratory care: PR: C.I. The study of childhood respiratory diseases, congenital problems infections, metabolic disorders, and AIDS.
- RET 3874** **HLTH 5(1,16)**
Clinical Practice I: PR: C.I. Basic equipment and patient care. IPPB Therapy. Cleaning sterilization and maintenance procedures. Suction techniques.
- RET 3875** **HLTH 8(1,24)**
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.
- RET 4034** **HLTH 2(2,0)**
Problems in Patient Management: PR: RET 3483. Problem oriented approach to the treatment of chronic and acute respiratory disorders. Computer based clinical simulation are utilized.
- RET 4040** **HLTH 2(2,0)**
Respiratory Therapy Education Systems: PR: EVT 3371. Survey of the formal education of the respiratory therapist.
- RET 4244** **HLTH 3(3,0)**
Life Support Systems: PR: RET 3026C. Lecture-laboratory, measures supporting critically ill patients; intubation, airway maintenance, arterial and venous lines, post-operative care. Cardiac output determination, electrocardiography, intra-aortic balloon pumping covered.
- RET 4284** **HLTH 3(3,0)**
Cardiopulmonary Diagnostics I: PR: RET 4244C. Non-invasive cardiac diagnostics including echocardiography, nuclear cardiology and stress testing.
- RET 4285** **HLTH 3(3,0)**
Cardiopulmonary Diagnostics II: PR: RET 4244C and RET 4284C. Invasive cardiac diagnostic and therapeutic measures including cardiac catheterization, PTCA, streptokinase use and heart surgery.
- RET 4414C** **HLTH 4(3,3)**
Pulmonary Function Studies: PR: RET 3026C. Detailed procedures and tests to provide information for diagnosis of pulmonary disease. Lecture-laboratory.
- RET 4503** **HLTH 4(4,0)**
Chest Medicine: PR: APB 3263C. Disease states treated medically in conjunction with one or more modalities of respiratory therapy.
- RET 4715** **HLTH 4(4,0)**
Neonatal Medicine. PR: RET 3714C or C.I. Fetal development, prenatal physiology, gas transport in the fetus and newborn. Congenital anomalies, infections, diseases of the newborn. Resuscitation of the neonate.
- RET 4876** **HLTH 8(1,24)**
Clinical Practice III: PR: RET 3875. Care of patients with more complex diseases. Pulmonary function studies. Pediatric and neonatal critical care. Echo and cardiac catheterization. Emergency and trauma.
- RET 4933** **HLTH 2(2,0)**
Medical Research Seminar: PR: STA 3023. Introduction to research and research methods used in medicine. Use of statistical and computer tools in problem solving.
- RET 4934** **HLTH 2(2,0)**
Selected Topics in Respiratory Therapy: PR: C.I. Current topics of adult critical care, as they apply to the advanced study of respiratory therapy.

- RET 5910** **Research Methods in Cardiopulmonary Physiology:** Introduction to methods used in scientific and medical research in cardiopulmonary physiology. Literature review, experimentation, and data analysis. **HLTH 3(3,0)**
- RMI 3011** **Principles of Risk and Insurance:** PR: STA 2014 or STA 3023, Junior standing or C.I. Emphasis is on insurance as a risk handling device, with attention given to risk assumption, risk avoidance and loss prevention also. **BA 3(3,0)**
- RTE 1002** **Introduction to Radiologic Sciences:** Study of medical imaging and radiation therapy principles and procedures. For prospective and beginning majors in Radiologic Sciences. **HLTH 3(3,0)**
- RTE 3050** **Transitional Concepts in Radiologic Sciences:** PR: RT Status. Principles and Procedures to prepare for baccalaureate radiologic sciences. **HLTH 6(6,0)**
- RTE 3123C** **Introduction to Patient Care:** PR: Acceptance to the Program. Provide the student with fundamentals of patient care methods related to radiography. **HLTH 2(1.5,1.5)**
- RTE 3341** **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. **HLTH 3(2,3)**
- RTE 3365** **Radiation Monitoring Instrumentation:** A study of the principle of operation and application of radiation detection and measuring devices used in external beam and radioisotopes counting techniques. **HLTH 4(3,3)**
- RTE 3387C** **Medical Physics:** PR: RTE 3684C or C.I. Study of radiation production, characteristics, detection and measurement and protection including barrier thickness calculation and shielding. **HLTH 3(3,0)**
- RTE 3388** **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. **HLTH 2(1,3)**
- RTE 3412C** **Principles of Radiographic Exposure I:** An introduction to the technical variables influencing radiographic and fluoroscopic image quality including equipment considerations, prime exposure factors, image receptors and accessory exposure devices. **HLTH 3(2.5,1.5)**
- RTE 3457C** **Principles of Radiographic Exposure II:** PR: RTE 3412C or C.I. Study of exposure and photographic processing variables influencing radiographic image quality. **HLTH 3(2.5,1.5)**
- RTE 3528C** **Radiographic Procedures I:** PR: Admission to the program. Provides fundamental knowledge of radiographic positioning, equipment manipulation and quality evaluation of radiographic studies of the chest, abdomen, routine contrast studies and the upper extremity. **HLTH 3(2,3)**
- RTE 3549C** **Radiographic Procedures II:** PR: RTE 3528C or C.I. Continuation of radiographic positioning, equipment manipulation, and quality evaluation of radiographic studies of the shoulder, bony thorax, lower extremity, vertebral column, cranium and facial bones. **HLTH 3(2,2)**
- RTE 3564** **Special Radiographic Procedures:** PR: RTE 3549C or C.I. An introduction to Special Imaging Techniques in Radiology including vascular and nonvascular procedures. **HLTH 2(2,0)**
- RTE 3684C** **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. **HLTH 2(2,0)**
- RTE 3806** **Clinical Education I:** PR: RTE 3123C or C.I. Supervised clinical practice in radiographic procedures, radiation protection, patient care, equipment. **HLTH 4(0,16)**
- RTE 3816** **Clinical Education II:** PR: RTE 3806 or C.I. Supervised clinical practice in performing radiographic or radiation therapy procedures with emphasis on competency evaluation of clinical practices. **HLTH 4(0,16)**
- RTE 3826** **Clinical Education III:** PR: RTE 3816 or C.I. Supervised clinical practice in radiographic or radiation therapy procedures, with emphasis on competency evaluation of clinical practices. **HLTH 5(0,24)**
- 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. **HLTH 3(0,9)**
- RTE 4156** **Pathophysiology:** PR: C.I. The study of radiologic science in the diagnosis and treatment of disease. **HLTH 2(2,0)**

- RTE 4207** **HLTH 3(3,0)**
Methods in Radiology Management: Concepts of Radiology department management, including principles, personnel management, evaluation and improvement techniques, budgeting, financial considerations and legal aspects, and JCAH quality assurance specifications.
- RTE 4209** **HLTH 2(0,8)**
Radiological Administrative Practice: A directed practice in the management of a Radiology department with application of theory and methodology.
- RTE 4256L** **HLTH 2(0,8)**
Directed Study in Clinical Education: PR: EVT 3371 or EDG 4321 or C.I. Directed activity in classroom instruction in radiologic technology.
- RTE 4362** **HLTH 1(1,0)**
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 4566** **HLTH 3(3,0)**
Advanced Imaging Modalities: PR: RTE 3564 and CGS 1060 or C.I. A study of the physical principles and applications of Computer Tomography, Digital Imaging, Ultrasound, Magnetic Resonance Imaging and other specialized modalities.
- RTE 4569** **HLTH 3(3,0)**
Quality Assurance: PR: RTE 3387C or C.I. Quality control evaluation of radiographic, fluoroscopic and tomographic imaging systems. Implementation procedures, equipment selection criteria and processing quality control are also addressed.
- RTE 4720** **HLTH 3(3,0)**
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 4843** **HLTH 6(0,24)**
Clinical Education V: PR: RTE 4876 or C.I. Advanced clinical practice in diagnostic radiography, radiation therapy, nuclear medicine, special procedures, and other diagnostic imaging.
- RTE 4876** **HLTH 6(0,24)**
Clinical Education IV: PR: C.I. Supervised clinical practice; emphasis on competency evaluation of routine radiographic examinations or radiation therapy procedures.
- RTE 4940** **HLTH 6(2,38)**
Clinical Externship in Specialized Imaging: PR: ARRT Eligibility. Provide the necessary clinical skills to produce diagnostic images using methods incorporated with computerized scanning and angiographic studies.
- RTV 3000** **AS 3(3,0)**
Foundations of Broadcasting: Nature of the media, the mechanics of operation, history, economics, programming, and internal and external control.
- RTV 3200** **AS 4(1,3)**
Broadcast Techniques: PR: RTV 3000. Introduction to audio production and multi-camera video production. Instruction in audio mixers, microphones, and tape recorders and TV studio production equipment (cameras, switchers, etc.)
- RTV 3210** **AS 4(1,3)**
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 3231** **AS 4(1,3)**
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 3260** **AS 4(1,3)**
Electronic Field Production/Video Editing: PR: RTV 3000. Introduction to non-studio video instruction including Electronic Field Production and Electronic News Gathering. Utilization of portable video equipment and control track video tape editing equipment.
- RTV 3300** **AS 4(1,3)**
Broadcast Newswriting: PR: Grammar Proficiency Examination and Departmental Typing Exam. The study and practice of writing news for radio and television.
- RTV 3301** **AS 4(1,3)**
Advanced Broadcast Newswriting: PR: RTV 3300. The writing of indepth news items including documentaries, features, and investigative materials.
- RTV 3501** **AS 4(1,3)**
Broadcast Copywriting: PR: Grammar Proficiency Examination and Departmental Typing Exam. Preparation of written commercial copy for radio and television and public service.
- RTV 3942** **AS 1(0,3)**
Television Practicum: PR: RTV 3200 and C.I. Primarily an activity course. Student will serve in some position of responsibility for UCF Weekly News or other TV activity. Can be repeated.
- RTV 4206** **AS 4(1,3)**
Television Directing: PR: RTV 3200 and RTV 3260. Preparation and direction of programs with emphasis on dramatic values of composition.

RTV 4270	3(2,1)
Radio Production and Programming: PR: RTV 3200 or C.I. The study and production of current radio formats and their effects on today's radio listener.	
RTV 4402	AS 3(3,0)
Broadcast Criticism: PR: RTV 3000 for RTV majors. Evaluation and criticism of past and present radio and television programs, policies, and critics. Concentration on the problem of criteria development.	
RTV 4403	AS 3(3,0)
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	AS 3(3,0)
International Broadcasting: Comparative analysis of national broadcast systems. World broadcasting as a social, political and economic force.	
RTV 4600	AS 4(3,1)
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	AS 3(3,0)
Regulation of Broadcasting: PR: RTV 3000. Federal, state, local and self-regulatory agencies and practices which govern electronic media.	
RTV 4800	AS 3(3,0)
Broadcast Management: PR: RTV 4700. Consideration of broadcast management problems in station operations at the local, regional, and national levels.	
RUS 1120	AS 4(4,1)
Elementary Russian Language and Civilization I: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.	
RUS 1121	AS 4(4,1)
Elementary Russian Language and Civilization II: PR: RUS 1120 or equivalent. Continuation of RUS 1120.	
RUS 2210	AS 4(4,0)
Intensive Russian Conversation: PR: One year of Russian or equivalent. Practical use of the language leading toward fluency and correctness in speaking.	
RUS 2230	AS 4(4,1)
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	AS 4(4,1)
Intermediate Russian Language and Civilization II: PR: RUS 2230 or equivalent. Continuation of RUS 2230 with emphasis on Russian civilization.	
RUS 3240	AS 3(3,0)
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	AS 3(3,0)
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.	
RUS 4411	AS 3(3,0)
Advanced Russian Conversation: PR: RUS 3240. An advanced conversation course on directed topics from various domains of public life and disciplines.	
RUS 4421	AS 3(3,0)
Advanced Russian Composition: PR: RUS 3420. An in-depth study of stylistic and grammatical mechanisms of Russian literary styles.	
RUW 3100	AS 3(3,0)
Survey of Russian Literature I: PR: RUS 2231. A survey course of the major Russian writers and poets from Pushkin to Turgeniev.	
RUW 3101	AS 3(3,0)
Survey of Russian Literature II: PR: RUS 2231. A survey course of the major Russian writers and poets from Dostoyevsky to the present.	
RUW 3370	AS 3(3,0)
The Russian Short Story: PR: RUS 2231. Masterpieces of the Russian short story from Pushkin to Bulgakov.	
RUW 4330	AS 3(3,0)
Russian Poetry: PR: RUS 2231. A survey of Russian poetry from Zhukovsky to the present.	
RUW 4480	AS 3(3,0)
Contemporary Soviet Literature: PR: RUS 2231. A study of the major trends in Soviet literature from Sologub to Akshenov.	
RUW 4481	AS 3(3,0)
Soviet Underground and Emigré Literature: PR: RUS 2231 A study of Soviet underground and dissident literature from Zamyatin to the present.	

SCE 3310	ED 4(4,0)
Teaching Science in Elementary School: PR: Junior standing or C.I. Selected concepts; organizing for instruction; techniques; evaluation procedures.	
SCE 3330	ED 4(3,2)
Science Instructional Analysis: PR: EDG 4321 or C.I. Course objectives for a school curriculum and methods and materials.	
SCE 5238	ED 3(2,1)
Inquiry in the Sciences: PR: Graduate standing or science certification. Teaching science by inquiry in the secondary school and development of inquiry lessons.	
SED 3335	ED 3(2,2)
Speech Instruction Analysis: PR: EDG 4321 or C.I. Study of instructional programs in speech; objectives, materials, techniques, organization for instruction, evaluation procedures, current research.	
SLS 2311	AS 1(1,0)
Overview of Selected Medical Careers: Introduction to medical careers in medicine, dentistry, veterinary medicine, osteopathic medicine, optometry, chiropractic medicine, podiatry, and pharmacy.	
SOP 3004	AS 3(3,0)
Social Psychology: PR: PSY 2013. Effects of social situations and social variables on the behavior of individuals.	
SOP 3724	AS 3(3,0)
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	AS 3(3,0)
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	AS 3(3,0)
Sexual Behavior: PR: PSY 2013. Physiological, social, and clinical aspects of human sexuality.	
SOW 3104	AS 3(3,0)
Assessing Human Development: Skill development in assessing "person-in-environment" throughout the life cycle. Study of the interaction of bio-psychosocial, cultural, and systemic influences on human functioning.	
SOW 3110	AS 3(3,0)
Assessing Individual Behavior: The development of social work skills in assessing individuals functioning at various life stages from major theoretical perspectives.	
SOW 3191	AS 3(3,0)
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	AS 3(2,1)
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	AS 3(3,0)
Social Welfare Policies and Issues: PR: SOW 3203 or equivalent. Development of skills needed to critically analyze social welfare goals, structures and practices. Proposes improvements in societal resource systems.	
SOW 3300	AS 3(2,1)
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	AS 3(1,2)
Interpersonal Skills in Social Work Practice: Study and practice of interviewing, group leadership, written communication, and oral presentations, in consensual as well as conflictual contexts of social work.	
SOW 3403	AS 3(3,0)
Social Work Research: Study of quantitative and qualitative methods of building knowledge for social work and the ethical use of research in professional practice.	
SOW 4341	AS 3(1,2)
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	AS 3(1,2)
Macro-Level Roles and Interventions in Social Work: PR: SOW 3300, SOW 3352. Study and simulated practice of roles and tasks in systemic problem solving to obtain and improve social welfare resources within organizations and communities.	
SOW 4381	AS 3(1,2)
Agency Management: Basic administrative practice including planning, staffing, delegating, managing and developing personnel, monitoring services, budgeting and fund raising.	

- SOW 4431** **AS 3(2,1)**
Evaluating Social Work Practice and Service Programs: PR: SOW 3403, SOW 3000. The study of systematic data collection and of measurement of change in individuals, families, groups, programs, and communities.
- SOW 4510** **AS 9(0,9)**
Field Education: PR: Completion of required courses in major: CR: SOW 4522, SOW 4620. Supervised learning experiences in agencies which relate social work practice to theory, involving 420 clock hours in the field.
- SOW 4522** **AS 3(2,1)**
Field Education Seminar: PR: Completion of required courses in major: CR: SOW 4510, SOW 4620. Weekly seminar to examine the field experience and to relate theory with practice situations.
- SOW 4602** **AS 3(3,0)**
Social Work in Health Settings: Study of social work roles, interventions, and issues related to helping patients in health settings.
- SOW 4620** **AS 3(2,1)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
Children's Services: Study of societal responses to children's needs. Development of skills for preventing family breakdown, placing children in alternative care, and reuniting children with their families.
- SPA 3000** **HLTH 3(3,0)**
Detection and Prevention of Speech and Hearing Problems: An elective course for non-majors. Live and videotaped demonstrations of speech and hearing cases. Specific suggestions for prevention.
- SPA 3002** **HLTH 3(3,0)**
Introduction to Communicative Disorders: Etiology, symptoms, and methods of diagnosing and treating communicative disorders. For beginning and prospective majors in communicative disorders.
- SPA 3050** **HLTH 3(0,6)**
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** **HLTH 3(3,0)**
Physiological Bases of Speech and Hearing: PR: SPA 3002. An introduction to the anatomical, physiological, and physical elements underlying the communication process.
- SPA 3112** **HLTH 3(3,0)**
Basic Phonetics: Physiological descriptions and visual notation of speech patterns and regional dialects.
- SPA 3112L** **HLTH 1(0,2)**
Basic Phonetics Laboratory: Students will have practical experiences in transcription of normal and deviant speech.
- SPA 3333** **HLTH 3(3,0)**
Introduction to Signed English and Culture of the Deaf. Vocabulary and grammar through introductory level. Conceptual basis of ASL discussed.
- SPA 3500** **HLTH 3(3,0)**
Clinical Methods in Communicative Disorders: PR: SPA 3002. An analysis of techniques and methods of planning and executing therapeutic programs for communicatively handicapped individuals.
- SPA 3550L** **HLTH 1(0,2)**
Clinical Methods in Communicative Disorders Laboratory: Students will have practical experience in analysis of live and videotaped diagnosis and therapy sessions.
- SPA 4011** **HLTH 3(3,0)**
Fundamentals of Speech and Hearing Science: Lectures and demonstrations in basic acoustics and speech acoustics.
- SPA 4032** **HLTH 3(3,0)**
Audiology I: Introduction to physics of sound, anatomy of hearing mechanism, pure tone audiometry, hearing aids, problems of the hearing handicapped. Clinical skills development will be required.
- SPA 4201** **HLTH 3(3,0)**
Communicative Disorders: Articulation: PR: SPA 3002, 3112. Survey of articulation disorders and their management.
- SPA 4201L** **HLTH 1(0,2)**
Communicative Disorders: Articulation Laboratory: Students will have practical experience in diagnosis and treatment in articulation disorders.
- SPA 4210** **HLTH 4(3,1)**
Communicative Disorders: Voice: PR: SPA 3101, 3550. Survey of voice disorders and their management. Observations required.

SPA 4222	HLTH 3(3,0)
Nonorganic Speech Disorders: PR: SPA 3550, 4201. Survey of nonorganic aspects of stuttering and voice disorders and their management.	
SPA 4222L	HLTH 1(0,2)
Nonorganic Speech Disorders Laboratory: Students will have practical experience in diagnosis and treatment in nonorganic speech disorders.	
SPA 4251	HLTH 3(3,0)
Organic Speech Disorders: PR: SPA 3101, 4032, 4201. Survey of organically based communication disorders and their management. Observations required.	
SPA 4251L	HLTH 1(0,2)
Organic Speech Disorders Laboratory: Students will have practical experience in observations of organic speech disorders.	
SPA 4310	HLTH 3(3,0)
Audiology II: PR: SPA 4032. An overview of medical aspects of hearing loss, electrophysiological audiometry and other differential diagnostic testing.	
SPA 4321	HLTH 4(4,0)
Aural Habilitation-Rehabilitation: PR: SPA 4011, 4201. Principles and procedures in the utilization of residual hearing, auditory training, speech reading and the use of hearing aids.	
SPA 4380	HLTH 3(3,0)
Introduction to American Sign Language: Development of ASL vocabulary and grammar. Deaf culture, literature, research examined.	
SPA 4381	HLTH 3(3,0)
Intermediate American Sign Language: Expansion of ASL vocabulary with increase development of knowledge concerning deaf culture.	
SPA 4382	HLTH 4(3,1)
Intermediate American Sign Language: Conversation, Emphasis on refining fluency receptively and expressively. Practicum with the deaf community.	
SPA 4402	HLTH 3(3,0)
Communicative Disorders: Language: PR: SPA 3550, LIN 3710. Survey of language disorders and their management. Observations required.	
SPA 4402L	HLTH 1(0,2)
Communicative Disorders: Language Laboratory: Students will have practical experience in diagnosis and treatment in language disorders.	
SPA 4412	HLTH 3(3,0)
Augmentative Communications Systems: PR: LIN 3710, SPA 4032. Students will learn the rudiments of nonverbal communication systems, for example, Bliss, Rebus, Manual Signing, Language Boards, and finger spelling.	
SPA 4941	HLTH 1(1,1)
Practicum in Communicative Disorders.	
SPA 5005	HLTH 3(3,0)
Survey of Communicative Disorders: A survey of speech, language, and hearing disorders for rehabilitative personnel and other interested professionals.	
SPA 5120	HLTH 4(4,3)
Physiological Acoustics: PR: SPA 4032; Graduate status or C.I. Lectures, readings and experiments pertaining to the subjective reception of sound.	
SPA 5225	HLTH 3(3,0)
Fluency Disorders: PR: Graduate status or C.I. Identification and evaluation of disorders of rhythm. Emphasis will be on methods of intervention in disorders of fluency.	
SPA 5225L	HLTH 1(0,2)
Fluency Disorders Laboratory: PR: Graduate status or C.I. Practical application of clinical skills in fluency disorders.	
SPA 5307	HLTH 3(3,0)
Differential Diagnosis of Auditory Disorders: PR: SPA 4032; Graduate status or C.I. Clinical techniques in pure tone speech, acoustic impedance and electrophysiological response audiometry.	
SPA 5327	HLTH 4(4,0)
Aural Habilitation/Rehabilitation: PR: Graduate Status or C.I. Principles and procedures involved in speech and language acquisition management, utilization of residual hearing, speech reading and the use of hearing aids.	
SPA 5553	HLTH 3(3,0)
Differential Diagnostic in Speech and Language: PR: SPA 6204, 6403, 6211, 5805. Administration and interpretation of evaluation techniques, including standardized tests, will be presented. Emphasis on techniques allowing for differential diagnosis of speech and language disorders.	
SPA 5553L	HLTH 1(0,4)
Differential Diagnosis in Speech and Language Laboratory: PR: SPA 6204, 6403, 6211, 5805. Assignment to diagnostic teams to apply the diagnostic techniques presented in SPA 5553. Experiences include test administration, interviewing, writing diagnostic reports, oral presentations.	
SPA 5554	HLTH 3(3,0)
Therapeutic Communication: PR: Graduate status or C.I. Practical interviewing and counseling in the area of communicative disorders.	

- SPA 5600** **Administration and Management of Communicative Disorders Programs:** PR: SPA 3002. Methods and techniques for organization and administration of speech-language and hearing disorders in public school, hospital, rehabilitation center and private practice facilities. **HLTH 3(3,0)**
- SPA 5805** **Research in Communicative Disorders:** PR: STA 4163, graduate status or C.I. Introduces the student to empirical research in the area of communicative disorders. Emphasis is on hypothesis testing, methodology, analysis and interpretation of results. **HLTH 3(3,0)**
- SPC 1600** **Fundamentals of Oral Communication:** Use of the body and voice; participation in various speaking situations; planning, organizing, and delivering public speeches. **AS 3(1,2)**
- SPC 1600H** **Honors Fundamentals of Oral Communication:** PR: University Honors Program. Same as SPC 1600 with honors-level content. **AS 3(3,0)**
- SPC 3301** **Interpersonal Communication:** Nature of the communication process; variables affecting the process and the individuals involved. Analysis of communication models, interactant behavior, situational cues, verbal and non-verbal messages. **AS 3(1,2)**
- SPC 3410** **Parliamentary Procedures:** Principles and rules governing participation and leadership in the conduct of formal business meetings. **AS 2(2,0)**
- SPC 3425** **Group Interaction and Decision Making:** A study of small group processes. Attention is given to problem solving, leadership emergence, conformity behavior, and group member role responsibilities. **AS 3(2,1)**
- SPC 3445** **Leadership Through Oral Communication:** A theoretical and practical investigation of leadership in oral communication situations, principles of parliamentary law, and approaches to problem solving. **AS 3(3,0)**
- SPC 3511** **Argumentation and Debate:** PR: SPC 1600 or C.I. Study and practice in the preparation and delivery of argumentative speeches emphasizing argument, evidence and organization. **AS 3(1,2)**
- SPC 3601** **Advanced Public Speaking:** PR: SPC 1600 or C.I. Advanced training in selecting and organizing materials for various types of speeches. Practice in thinking and speaking before audiences. **AS 3(3,0)**
- SPC 4330** **Nonverbal Communication:** Review of current behavioral research in such areas as proxemics, kinesics, physical characteristics, tactile communication and paralanguage. Lectures are supplemented by frequent nonverbal exercises. **AS 3(3,0)**
- SPC 4350** **Studies in Listening:** Analysis of current trends, professional literature, and resource materials bearing upon the teaching of listening. Practice in listening; preparing listening experiences; oral and written reports. **AS 3(3,0)**
- SPC 4440** **Group Dynamics:** A study of human behavior in group situations. **AS 3(3,0)**
- SPC 4540** **Attitudes and Communication:** PR: Grammar proficiency examination. A survey of the immediate and direct ways in which persuasive communications and social groups come to influence attitudes. **AS 3(3,0)**
- SPC 4633** **Rhetoric of Social and Political Action:** PR: Junior standing. A critical investigation of social and political speaking within contemporary American society including agitative rhetoric of political dissent. **AS 3(3,0)**
- SPC 5200** **Evolution of Communication Theory: General Survey:** Major communication trends from classical era to the present. Comparison of Aristotelian and non-Aristotelian rhetorics. Contributions of principal figures will be discussed. **AS 3(3,0)**
- SPN 1120** **Elementary Spanish Language and Civilization I:** Designed to initiate the student to the major language skills: listening, speaking, reading, and writing. **AS 4(4,1)**
- SPN 1121** **Elementary Spanish Language and Civilization II:** PR: SPN 1120 or equivalent. Continuation of SPN 1120. **AS 4(4,1)**
- SPN 1170** **Elementary Spanish Study Abroad:** Elementary Spanish language and civilization taught in the native environment. **AS 8(16,10)**
- SPN 2140** **Business Spanish I:** Spanish language and culture for beginning Spanish language students from a business professional perspective. Emphasis on communicative skills in a professional setting. (Does not fulfill University foreign language requirement.) **AS 3(3,0)**
- SPN 2141** **Business Spanish II:** Spanish language and culture for beginning Spanish language students who have already begun Spanish language studies. Does not fulfill foreign language requirement.) **AS 3(3,0)**

- SPN 2230** **Intermediate Spanish Language and Civilization I:** PR: SPN 1121 or equivalent. Designed to continue development of language skills at the intermediate level. **AS 4(4,1)**
- SPN 2231** **Intermediate Spanish Language and Civilization II:** PR: SPN 2230 or equivalent. Continuation of SPN 2230 with emphasis on Spanish civilization. **AS 4(4,1)**
- SPN 2240** **Intensive Spanish Conversation:** PR: One year of Spanish or equivalent. Practical use of the language leading toward fluency and correctness in speaking at the intermediate level. **AS 4(4,0)**
- SPN 2270** **Intermediate Spanish Study Abroad:** PR: Elementary Spanish. Designed to continue development of language skills at the intermediate level taught in the native environment. **AS 8(16,10)**
- SPN 3142** **Business Spanish III:** Continuation of Business Spanish II. (Does not fulfill University foreign language requirement.) **AS 3(3,0)**
- SPN 3143** **Business Spanish IV:** Continuation of Business Spanish III. (Does not fulfill University foreign language requirement.) **AS 3(3,0)**
- SPN 3241** **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. **AS 3(3,0)**
- SPN 3420** **Spanish Composition:** PR: SPN 2231 or equivalent. Development of skills in composition. This course may be repeated for credit. When repeated, credit will apply to general electives only. **AS 3(3,0)**
- SPN 4410** **Advanced Spanish Conversation:** PR: SPN 3241. Advanced conversation on directed topics from various disciplines: Literature, art, psychology, philosophy, music, business and the sciences. **AS 3(3,0)**
- SPN 4420** **Advanced Spanish Composition:** PR: SPN 3420. Readings and written imitations of modern literary styles in the form of themes, sketches, poems and original stories. **AS 3(3,0)**
- SPN 4450** **Stylistics:** PR: SPN 3420 or equivalent. An intense study of textural criticism. An examination of the relationship between language and literature, explications and linguistic analysis of literary texts. **AS 3(3,0)**
- SPN 4510** **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. **AS 3(3,0)**
- SPN 4520** **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. **AS 3(3,0)**
- SPN 4800** **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. **AS 3(3,0)**
- SPW 3100** **Survey of Spanish Literature I:** PR: SPN 2231 or equivalent. Main literary currents and works from the Middle Ages through the Eighteenth Century. **AS 3(3,0)**
- SPW 3101** **Survey of Spanish Literature II:** PR: SPN 2231 or equivalent. Main literary currents and works of the Nineteenth Century to the present. **AS 3(3,0)**
- SPW 3130** **Survey of Latin-American Literature I:** PR: SPN 2231 or equivalent. Main literary currents and works from the colonial period to the Nineteenth Century Romanticism. **AS 3(3,0)**
- SPW 3131** **Survey of Latin-American Literature II:** PR: SPN 2231 or equivalent. Main literary currents and works of the Nineteenth Century from the Realism to the present. **AS 3(3,0)**
- SPW 3370** **Spanish Short Story:** PR: SPN 2231 or equivalent. A study of representative 19th and 20th Century Spanish short stories and their authors. **AS 3(3,0)**
- SPW 4310** **Golden Age Drama:** PR: SPW 3100. A study of the drama of the Golden Age with special emphasis on Lope, Tirso, Alarcon, and Calderon. The controversies of the Spanish theatre and its influence abroad. **AS 3(3,0)**
- SPW 4460** **Nineteenth Century Spanish Literature:** PR: SPW 3101. A study of the representative authors and works in Spanish Romanticism, Realism and Naturalism. **AS 3(3,0)**
- SPW 4480** **Twentieth Century Spanish Literature:** PR: SPW 3101. A study of the representative authors and works in drama and the novel. **AS 3(3,0)**

SPW 4600	AS 3(3,0)
Cervantes I: PR: SPW 3100. Don Quixote (Part I).	
SPW 4601	AS 3(3,0)
Cervantes II: PR: SPW 3100. Don Quixote (Part II).	
SPW 4720	AS 3(3,0)
The Generation of 1898: PR: SPW 3101. A study of the generation's main authors and their works.	
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.	
SSE 4334	ED 3(3,0)
Advanced Inquiry in the Social Studies: PR: Basic Teacher Certificate or C.I. Teaching by inquiry in the new social studies with a development of inquiry episodes.	
STA 2014	AS 3(3,0)
Principles of Statistics: Introduction to statistical concepts in modern society. Basic principles, frequency distributions, measures of location and dispersion, probability, statistical inference.	
STA 3023	AS 3(3,0)
Statistical Methods I: PR: MAC 1104 or MGF 1203. First methods course introducing probability and statistical inference including estimation, hypothesis testing, binomial and normal distributions, sample size.	
STA 3023H	AS 3(3,0)
Honors Statistical Methods I: PR: Honors Program Student; Calculus desired but not necessary. Same as STA 3023 with honors-level content.	
STA 3032	EN 3(3,0)
Probability and Statistics for Engineers: PR: MAC 3312 and Computer programming. Axioms of probability; combinatorial and geometrical probability; probability distributions; measures of location and dispersion; sampling and sampling distributions; estimation and tests of hypotheses; engineering applications.	
STA 4095	AS 1(1,0)
Statistical Problem Solving: PR: STA 4164. Course presents approaches to solving a wide variety of statistics problems. Emphasizes assumptions, parametric and nonparametric approaches to problems in all areas of statistics.	
STA 4102	AS 3(3,0)
Computer Processing of Statistical Data: PR: STA 4163 and knowledge of a programming language. Use of packages such as SAS, BMD, SPSS for data validation, description and analysis of data, regression and analysis of variance and covariance.	
STA 4163	AS 3(3,0)
Statistical Methods II: PR: STA 3023 or STA 3032. Methods of analyzing data, statistical models, estimation, tests of hypotheses, regression and correlation, an introduction to analysis of variance, chi-square, and nonparametric methods.	
STA 4164	AS 3(3,0)
Statistical Methods III: PR: STA 4163. A continuation of STA 4163 including further study of regression, analysis of variance and covariance and multiple comparisons.	
STA 4173	AS 3(3,0)
Biostatistical Methods: CR: STA 4163. Introduction to the application of statistical principles and methods to problems in medical, biological and health sciences.	
STA 4222	AS 3(3,0)
Sample Survey Methods: PR: STA 3023 or STA 3032. Constructing and analyzing survey designs. Sampling and non-sampling errors. Simple random, stratified, systematic, and multiphase sampling. Methods of estimation.	
STA 4321	AS 3(3,0)
Statistical Theory I: PR: STA 3023 or STA 3032; CR: MAC 3313. Probability axioms, discrete and continuous sample spaces, conditional probability, independence, one-dimensional random variables, moment generating functions, transformations, jointly distributed random variables.	
STA 4322	AS 3(3,0)
Statistical Theory II: PR: STA 4321. Conditional distributions, sums of random variables, Chebyshev's inequality, central limit theorem, method of moments, maximum likelihood, confidence intervals, hypothesis testing, transformations of two random variables.	
STA 4502	AS 3(3,0)
Nonparametric Statistical Methods: PR: STA 3023 or STA 3032. Distribution-free tests on location and dispersion, goodness of fit tests, tests of independence, measures of association, nonparametric analysis of variance.	

- STA 4664** **AS 3(3,0)**
Statistical Quality Control: PR: STA 3023 or STA 3032. Statistical concepts and methods applied to the control of quality of manufactured products.
- STA 5156** **EN 3(3,0)**
Probability and Statistics for Engineers: PR: STA 3032 or equivalent. Theory and applications of discrete and continuous random variables, hypothesis tests, confidence intervals, regression analysis and correlation.
- STA 5205** **AS 3(3,0)**
Experimental Design and Response Surface Methodology: PR: STA 4164 or STA 5206. Construction and analysis of designs for experimental investigations. Concepts of blocking, randomization, and replication. Confounding in factorial experiments, incomplete block designs. Response surface methodology.
- STA 5206** **AS 3(3,0)**
Statistical Analysis: PR: STA 3023; not open to students who have completed STA 4164. Data analysis; statistical models; estimation; tests of hypotheses; analysis of variance, covariance and multiple comparisons; regression and nonparametric methods.
- STA 5505** **AS 3(3,0)**
Categorical Data Methods: PR: STA 4163 or STA 5206. Considers discrete probability distributions, contingency tables, measures of association and advanced methods including loglinear modeling, logistic regression, McNemar's Test, Mantel-Haenszel test.
- STA 5825** **AS 3(3,0)**
Stochastic Processes and Applied Probability Theory: PR: STA 4321. Conditional probability and conditional expectations, sequences of random variables, branching processes, random walks, Markov chains, recurrent events, renewal theory, queueing theory and simple stochastic processes.
- SUR 3101C** **EN 3(2,3)**
Surveying: PR: MAC 3311 and Junior standing. Theory and field practice in surveying measurements, and the reduction and adjustment of field data.
- SYA 3110** **AS 3(3,0)**
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** **AS 3(3,0)**
Modern Sociological Thought: PR SYG 2000. A study of major European and American contributors to modern sociology since World War II.
- SYA 3300** **AS 4(3,2)**
Research Methods: PR: SYG 2000 and STA 2014. Emphasis on types of sociological data collections, sampling techniques, grant proposal development, critical evaluation of social research, and relationship between theory and social research.
- SYA 3301** **AS 3(2,1)**
Social Research: PR: SYG 2000. Study of scientific method, problem formulation, data collection and interpretation, reporting and criticism.
- SYA 3400** **AS 4(3,1)**
Research Methods and Statistics: PR: SYG 2000 and one other sociology course.
- SYA 4350** **AS 4(2,2)**
Social Research Practicum: PR: SYA 4450 and C.I. Application of advanced research designs and data analysis techniques to assigned projects, with an emphasis on data management.
- SYA 4450** **AS 4(3,2)**
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** **AS 3(2,2)**
Applied Sociology: PR: SYG 2000 and SYO 3000. Examination of the utilization of sociological principles in the treatment of practical human problems and organization.
- SYD 3410** **AS 3(3,0)**
Urban Sociology: PR: SYG 2000. Historical roots of urbanization. Analysis and impact of community change on social organizations in modern industrial societies.
- SYD 3700** **AS 3(3,0)**
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** **AS 3(3,0)**
Sex Roles in Modern Society: The traditional and changing roles of women and men viewed in a sociological perspective.
- SYD 4020** **AS 3(3,0)**
Population: Concerned with the study of human population, its distribution, composition and change.
- SYD 4680** **AS 3(3,0)**
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** **AS 3(3,0)**
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** **AS 3(3,0)**
Social Problems: Analysis of major social problems such as mental disorders, sexual deviance, racial discrimination, poverty, community disorganization, and violence.
- SYO 3000** **AS 3(3,0)**
Modern Sociology: PR: SYG 2000. An in-depth exploration of contemporary sociology. Introduction to conceptual analysis and methodological techniques, presentation and utilization of sociological literature on major social institutions.
- SYO 3360** **AS 3(3,0)**
Social Organization and Human Relations: Analysis of business, government and industrial organizations. Topics include organizational theory, social systems, social structure, effects of technology, motivation, leadership, decision making, and human relations.
- SYO 3410** **AS 3(3,0)**
Sociology of Mental Illness: A sociological examination of mental illness as a social problem; legal aspects of mental illness, and the mental health professions.
- SYO 3530** **AS 3(3,0)**
Social Stratification: PR: SYG 2000. Study of class, status and power, cultural variations in stratification systems; patterns of mobility and change.
- SYO 4100** **AS 3(3,0)**
The Family: PR: SYG 2000. The family viewed functionally as a distinct social and cultural complex in the contemporary United States. Topics include: mate selection, marriage, adjustment, parenthood, post marriage.
- SYO 4250** **AS 3(3,0)**
Sociology of Education: PR: SYG 2000. This course examines the sociological dimensions of the educational institutions including the impact of the social structure on learning and the role of education in social change.
- SYO 4300** **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 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)**
Social Change: PR: SOC 2000. Concerned with the context and essential sources of social development and change.
- 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 3540** **AS 3(3,0)**
Sociology and Law The relationship between law and society, including the functions of law and its organization, social and economic consequences, jury selection, and moder trends.
- SYP 3551** **AS 3(3,0)**
Sociology of Alcoholism: Introduction to the nature of alcoholism and review of its impact on society.
- SYP 3602** **AS 3(3,0)**
Sociology of Popular Music: This course examines the role of popular music in the process of social change and in reflecting American culture. Consideration given to the nature of the popular music business.
- SYP 3650** **AS 3(3,0)**
Sociology and Sport: Utilization of sociological concepts and theories to investigate sport as a social institution. Includes subjects of racism, sexism, drug abuse, violence, and current issues of sport.
- SYP 4000** **AS 3(3,0)**
Sociological Social Psychology: PR: SYG 2000. Study of human socialization processes as well as organizational influences and interpersonal behavior on attitude formation and change, self-concept, decision-making and vice versa.
- 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 3103 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)
Theatre Survey: PR: None. An overview of the theatre arts.		
THE 2071		AS 3(2,2)
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: PR: None. Development of theatre art from the earliest times through the seventeenth century.		
THE 3113		AS 3(3,0)
Theatre History II: PR: None. Development of theatre art from the seventeenth century to the twentieth century.		
THE 3251		AS 3(2,2)
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: PR: TPA 2211. 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 3370		AS 3(3,0)
Modern Drama: Drama from Ibsen to Theatre of the Absurd, with reference to developing production styles and dramatic movements.		
THE 3925		AS 2(0,10)
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		AS 3(3,0)
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		AS 3(2,2)
Film Production: PR: C.I. Professional 16mm film production, scripting, production, sound, and editing of theatre department ensemble films. May be repeated twice.		
THE 4760C		AS 3(3,0)
Theatre for the Schools: PR: None. Designed to aid the student in teaching theatre. Philosophy, methodology, objectives, planning, evaluative techniques, and production procedures relative to performance.		
THE 4800		AS 3(2,2)
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 2204		AS 3(2,2)
Technical Theatre Production II: PR: None. A continuation of TPA 2210 (Service on crew as required).		
TPA 2210		AS 3(2,2)
Technical Theatre Production I: PR: None. History, theory, and practice of technical theatre production. Service or crew as required.		
TPA 3060		AS 3(2,2)
Scene Design I: PR: THE 1020, TPA 2210 or C.I. Study of and practice of scene design; perspective drawing, fundamentals of design, and techniques of scene painting.		
TPA 3081		AS 3(3,0)
Scene Painting: PR: TPA 3060 or C.I. Study of the art and craft of painting for the theatre. Research into period designs and execution of examples of a variety of styles.		
TPA 3220		AS 3(2,2)
Stage Lighting: PR: THE 1020 and TPA 2210 or C.I. Study of stage lighting techniques, practices, and equipment. (Service on light crew as required).		
TPA 3221		AS 3(2,2)
Lighting Design: PR: TPA 3220. Continuation of Stage Lighting with emphasis on theory, style and individual lighting design projects.		

TPA 3230	AS 3(2,2)
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	AS 3(2,2)
Make-up Technique: Analysis and design of stage make-up.	
TPA 3400	AS 3(3,0)
Theatre Management: Study of the development, organization, management, funding, and promotion of Theatre programs.	
TPA 4061	AS 3(2,2)
Advanced Design: PR: TPA 3060, 3221 or THE 3260. Continuation of design series with emphasis on planning and executing scenery, lighting and/or costume designs.	
TPP 2110	AS 3(2,2)
Acting I: Emphasis on movement, motivation, voice, characterizational techniques, makeup, and other basic requirements for acting.	
TPP 2700	AS 3(2,2)
Stage Diction: The role of the voice in the art of acting through practice in vocal characterization.	
TPP 3111	AS 3(2,2)
Acting II: PR: TPP 2110 or C.I. Continuation of TPP 2110. May be repeated for credit.	
TPP 3130	AS 3(2,2)
Classical Mime: PR: TPP 2110 or C.I. Introduction to the art of mime with an emphasis on mask work and illusion.	
TPP 3310	AS 3(2,2)
Directing I: PR: TPP 2110 or C.I. Fundamental principles of theatrical directing. Each student to direct short scenes and one-act play for laboratory presentation and critique.	
TPP 4150	AS 3(2,2)
Scene Study and Character Development: PR: C.I. The study, development and training of performance skills with an emphasis on scene study and character development.	
TPP 4220	AS 3(2,2)
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	AS 3(2,2)
Acting III: PR: C.I. Entry by audition. Advanced study of the problems and techniques of auditioning, creating and developing subtext, and acting in specialized forms.	
TPP 4311	AS 3(2,2)
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	EN 3(3,0)
Transportation Engineering: PR: EGN 3613 and STA 3032. Investigation of all forms of transport-highway, rail, water, air. Systems approach to planning, design, construction, operation, and administration of transportation networks.	
TTE 4601	EN 2(1,2)
Urban Systems Design. PR: TTE 4004. Project course on design of transportation and urban systems using engineering design methodologies.	
TTE 5205	EN 3(3,0)
Traffic Engineering: PR: STA 3032. Study of operator and vehicle characteristics, and design for street capacity, signals, signs and markings.	
TTE 5805	EN 3(3,0)
Geometric Designs of Transportation Systems: PR: TTE 4004. Study of geometric and construction design elements in the engineering of transportation systems.	
TTE 5835	EN 3(3,0)
Pavement Design: PR: CEG 4101C. Pavement types, wheel loads, stresses in pavement components, design factors such as traffic configurations, environmental economic.	
URP 4026	AS 4(4,0)
Community Planning and Development: Contemporary planning concepts, roles of the planning practitioner, and the influence of the political, economic, and social environments on public and quasi-public agencies.	
VIC 3000	AS 3(3,0)
Visual Communication: A study of the visual system of man, and the influences of the visual media on modern society.	
ZOO 1020	AS 2(2,0)
Biology of Man: An introduction to man as a member of the animal kingdom; his taxonomy, anatomy, growth, reproduction, development, heredity, evolution, behavior, diseases, and population growth.	
ZOO 2010C	AS 4(2,4)
General Zoology: PR: High school biology or C.I. Introduction to zoology; structure, function and representative groups; current concepts in zoological sciences.	
ZOO 3303C	AS 4(2,6)
Vertebrate Zoology: PR: 6 hours of zoology or C.I. Evolution and classification followed by an introduction to vertebrate ecology, natural history and behavior.	

- ZOO 3713C** **AS 5(3,6)**
Comparative Vertebrate Anatomy: PR: ZOO 2010C. The vertebrate animals; relationship of organs and systems; and their phylogenetic significance.
- ZOO 3733C** **AS 4(3,3)**
Human Anatomy: PR: BSC 2010C or equivalent. Structure of the human body. Not open to students in ZOO 3713C or equivalent.
- ZOO 4203C** **AS 4(3,3)**
Invertebrate Zoology: PR: 8 hours of biology or C.I. Taxonomy, anatomy and ecology of the invertebrate animals.
- ZOO 4603C** **AS 5(3,4)**
Embryology/Development: PR: 8 hours of biology or C.I. Concepts of developmental processes. Emphasis on embryology of vertebrates.
- ZOO 4753C** **AS 5(4,4)**
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** **AS 4(2,6)**
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** **AS 4(2,6)**
Ichthyology: PR: ZOO 3303C or C.I. Introduction to the biology of the fishes, their classification, evolution and life histories.
- ZOO 5463C** **AS 4(2,6)**
Herpetology: PR: 6 hours of zoology or C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution and life histories.
- ZOO 5475C** **AS 4(2,6)**
Ornithology: PR: 6 hours of zoology or C.I. Introduction to the biology of birds, their classification, evolution and life histories.
- ZOO 5483C** **AS 4(2,6)**
Mammalogy: PR: 6 hours of zoology or C.I. Introduction to the biology of mammals, their classification, evolution and life histories.
- ZOO 5745C** **AS 4(3,2)**
Essentials of Neuroanatomy: PR: Human/Comparative Anatomy, or Human/Animal Physiology or C.I. Fundamental concepts of both morphological and functional organization of the nervous system. Primary emphasis on human structure.
- ZOO 5815** **AS 3(3,0)**
Zoogeography: PR: 8 hours of zoology or C.I. Principles and concepts concerning regional patterns of animal distributions of the world, both past and present.

FACULTY

The date indicates the first year of employment at the University of Central Florida.

- ABBOTT, DAVID W.**, *Professor of Psychology*
(1968), B.A., M.S., Ph.D. (University of Massachusetts)
- ABEL, EILEEN M.**, *Assistant Professor of Social Work*
(1978), A.B., M.S.W. (University of Maryland)
- ABRAMOWITZ, BENJAMIN L.**, *Visiting Instructor of Management*
(1983), B.A., M.B.A. (The George Washington University)
- ACIERNO, LOUIS J.**, *Professor of Cardiopulmonary Sciences*
(1981), B.S., M.D. (Georgetown University)
- ADAMS, LASCELLES**, *Visiting Instructor of Computer Science*
(1985), B.S., M.B.A., M.S. (University of Central Florida)
- ADICKS, RICHARD R.**, *Professor of English*
(1968), B.A.E., M.A., Ph.D. (Tulane University)
- ALLEN, WILLIAM D.**, *Professor of Sociology*
(1969), B.S., M.S.W., Ph.D. (Ohio State University)
- ALSAKA, Y. A.**, *Assistant Professor of Engineering*
(1986), B.S., M.S., Ph.D. (University of Florida)
- ALTMAN, STEVEN**, *President of the University and Professor of Management*
(1989), B.A., M.B.A., D.B.A. (University of Southern California)
- 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)
- ANDERSON, SUSAN**, *Assistant Professor of Communication*
(1988), B.A., M.A., Ed.D., (University of Central Florida)
- 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)
- ARISTQUETA, MARIA P.**, *Instructor of Public Service Administration*
(1988), B.S.W., M.P.A., (University of South Florida)
- ARMSTRONG, JAMES F.**, *Assistant Professor of Military Science*
(1985), B.S. (Indiana State University)
- ARMSTRONG, JOHN H.**, *Assistant Dean of College of Education and Associate Professor of Education*
(1970), B.S., M.S., Ed.D. (Oklahoma State University)
- ARMSTRONG, LEE H.**, *Assistant Dean of College of Arts and Sciences and Associate Professor of Mathematics*
(1968), B.A., M.S., Ph.D. (Florida State University)
- ARNOLD, ROBERT L.**, *Director of Instructional Resources and Professor of Communication*
(1968), B.A., M.A., Ph.D. (Ohio University)
- ASHLEY, ROBERT A.**, *Instructor of Hospitality Management*
(1984), B.S., M.S. (Florida International University)
- ATKINSON, STANLEY M.**, *Associate Professor of Finance*
(1981), B.B.A., M.B.A., D.B.A. (Mississippi State University)
- ASTRO, RICHARD**, *Provost and Vice President of Academic Affairs and Professor of English*
(1986), B.A., M.A., Ph.D., (University of Washington)
- AVERY, CLARENCE G.**, *Professor of Accounting*
(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)

- BAILY, REBECCA A.**, *Assistant Professor of Education*
(1988), B.S., M.A., Ph.D. (Florida State University)
- BAKER, GRAEME L.**, *Professor of Chemistry*
(1968), B.S., M.S., Ph.D. (Montana State University)
- BALADO, CARL**, *Assistant Professor of Education*
(1987), B.A., M.S., M.Ed., Ed.D. (Florida Atlantic University)
- BANDY, DALTON D.**, *Professor of Accounting*
(1985), B.S., M.B.A., Ph.D. (The University of Texas at Austin), C.P.A.
- BARNES, BETH**, *Associate Professor of English*
(1975), B.A., M.A., Ph.D. (University of North Carolina at Chapel Hill)
- BARR, CAROL J.**, *Assistant Professor of Medical Record Administration*
(1986), B.S., M.A. (University of Central Florida)
- BARR, MURRAY P.**, *Assistant Professor of Mathematics*
(1968), B.S., M.S. (Adelphi University)
- BARSCHE, KARL-HEINRICH**, *Associate Professor of Foreign Languages*
(1977), B.A., M.A., Ph.D. (University of Colorado)
- BASS, MICHAEL**, *Vice President of Research and Professor of Engineering Science*
(1987) B.S., M.S., Ph.D. (University of Michigan)
- BASSIOUNI, MOSTAFA**, *Assistant Professor of Computer Science*
(1981), B.S., M.S., Ph.D. (Pennsylvania State University)
- BAUER, CHRISTIAN S., JR.**, *Chair, 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.**, *Director, Florida Sinkhole Research Institute*
(1983), B.S., M.S., Ph.D. (Rice University), P. Geol. (Georgia)
- BECK, JAMES K.**, *Acting Chair, Mechanical Engineering and Aerospace Sciences and 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)
- BECKER, STEPHEN**, *Distinguished Lecturer in English*
(1986), B.A. (Harvard College)
- BELKERDID, MADJID A.**, *Associate 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*
(1981), B.A., M.A., Ed.S., Ph.D. (University of Florida)
- BENSON, CYNTHIA**, *Visiting Instructor of Political Science*
(1985), B.S., M.A. (Ohio University)
- BERGNER, 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, PETER B.**, *Assistant Professor of Military Science*
(1986), B.S., M.Ed. (University of Florida)
- BERRY, WALDRON**, *Associate Professor of Management*
(1970), B.S., A.M., 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*
(1985), B.A., M.A., M.S.Ed., Ph.D. (State University of New York at Buffalo)
- 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)
- BLEDSON, CAROL C.**, *Instructor in Communication*
(1970), B.S., M.A. (University of Oklahoma)
- BLEDSON, 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*
(1968), B.S., M.S., Ph.D. (Virginia Polytechnic Institute), P.E. (Florida)
- BLUME, DELORYS M.**, *Associate Professor of Education*
(1972), B.S., M.A., Ed.S., Ed.D. (University of Florida)
- BOGUMIL, WALTER A., JR.**, *Associate Professor of Management*
(1972), B.S., M.B.A., Ph.D. (University of Georgia)
- BOJACK, JOCELYN C.**, *Visiting Instructor of Marketing*
(1988), B.B.A., M.B.A. (Delta State University)
- BOLEMON, JAY S.**, *Associate Professor of Physics*
(1968), B.S., Ph.D. (University of South Carolina)
- BOLLET, ROBERT M.**, *Assistant Professor of Education*
(1973), B.S., M.S., Ed.D. (Ball State University)
- BOLTE, JOHN R.**, *Vice President, Administration and Finance and Professor of Physics*
(1968), B.A., M.A., M.S., Ph.D. (State University of Iowa)
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- BOSTON, RALPH C.**, *Director of Community College Relations*
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- BOYTE, JUDITH P.**, *Director, Office of Academic Support and Information
Services*
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- BOZEMAN, WILLIAM C.**, *Professor of Education*
(1985), B.A., M.Ed., Ph.D. (University of Wisconsin)
- BRADLEY, A. VAL**, *Visiting Distinguished Lecturer of Management*
(1987), B.A., (Bucknell University)
- BRAIN, PRISCILLA V.**, *Instructor in English*
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- BRAUN, BRADLEY M.**, *Assistant Professor of Economics*
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(1983), B.S., J.D. (University of Florida)
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June, 1970	John W. Young, Doctor of Applied Science
March, 1973	Louis C. Murray, Doctor of Public Service
August, 1974	Fred Elmo Clayton, Doctor of Professional Engineering
August, 1978	Richard F. Livingston, Doctor of Business Administration
June, 1979	Albert F. Hegenberger, Doctor of Engineering Science Lee R. Scherer, Doctor of Engineering Science
December, 1979	Joseph D. Duffey, Doctor of Humane Letters
August, 1980	Thelma Vivian Jackson Dudley, Doctor of Humanities Howard Phillips (Posthumous), Doctor of Public Service
December, 1981	Gene Burns, Master of Letters
April, 1982	Andrew Duda, Jr., Doctor of Agricultural Service Ferdinand Duda, Doctor of Agricultural Service John Duda, Doctor of Agricultural Service Robert J. Whalen, Doctor of Engineering Science
July, 1982	Mary Jo Stroud Davis, Doctor of Public Service William E. Davis, Doctor of Public Service
December, 1982	Joseph A. Boyd, Doctor of Engineering Science
July, 1983	J. W. Hubler, Doctor of Engineering Science Charles Wadsworth, Doctor of Public Service
December, 1984	Allan E. Gotlieb, Doctor of Laws
June, 1985	George J. Becker, Jr., Doctor of Public Service Jerry Collins, Doctor of Public Service D. Robert Graham, Doctor of Public Service Walter O. Lowrie, Doctor of Engineering Science William C. Schwartz, Doctor of Engineering Science
March, 1986	Isaac Bashevis Singer, Doctor of Letters
October, 1988	Elie Wiesel, Doctor of Letters
December, 1988	Sven Caspersen, Doctor of Engineering Science John D. Holloway, Doctor of Public Service Wolfgang-Detlef Petri, Doctor of Commercial Science

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- BIRD, MARY**, *Faculty Associate, Educational Foundations*
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- BOLVES, ELLEN**, *Faculty Associate, Educational Services*
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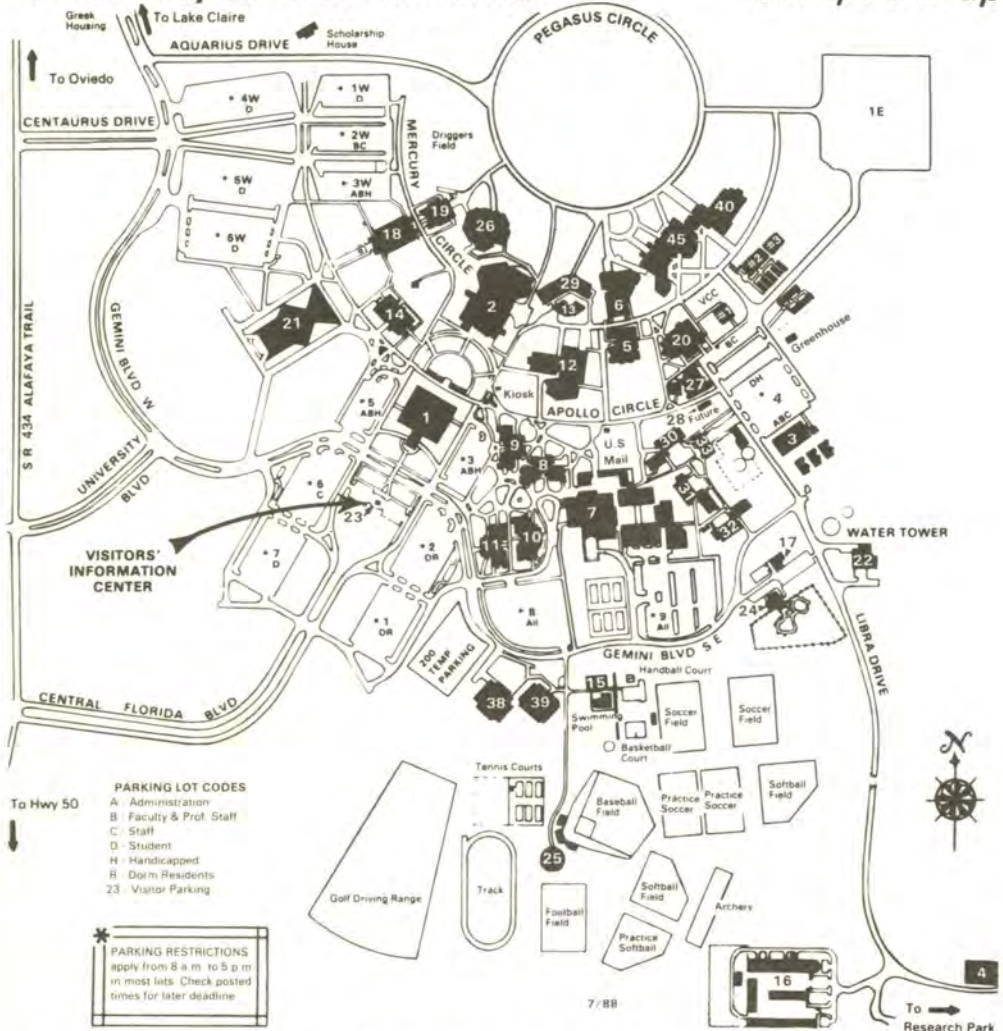
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University of Central Florida

Campus Map



MAP NO. BUILDING NAME

- 1 Administration
- 38, 39 Athletics/Tickets
Wayne Densch Sports Center
- 20 Biological Sciences
- 45 Business Admin. (CEBA II)
- 22 Central Receiving/Print Shop
- 5 Chemistry
- 33 Commons
- 13 Computer Center I
- 29 Computer Center II
- 24 Creative School for Children
Dormitories:
- 30 Brevard Hall
- 9 Lake Hall

MAP NO. BUILDING NAME

- 31 Orange Hall
- 10 Osceola Hall
- 11 Polk Hall
- 32 Seminole Hall
- 8 Volusia Hall
- 21 Education Complex & Gym
- 40 Engineering (CEBA I)
- 28 Future (Newspaper)
- 12 Health/Physics
- 7 Housing Office
- 18 Humanities & Fine Arts
- 2 Library
- 14 (Howard) Phillips Hall
- 25 Physical Education Support

MAP NO. BUILDING NAME

- 16 Physical Plant Complex
- 17 Police Department
- #1 #2 #3 Portable Classrooms
- 15 Recreational Services
- 19 Rehearsal Hall
- 6 University Theatre
- 4 Sewage Treatment
- 7 Student Center
- 27 Student Health Center
- 26 Student Services
- 3 Utility Plant/HVAC
- 7 Veterans' Affairs
- 23 Visitors Information Cent

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