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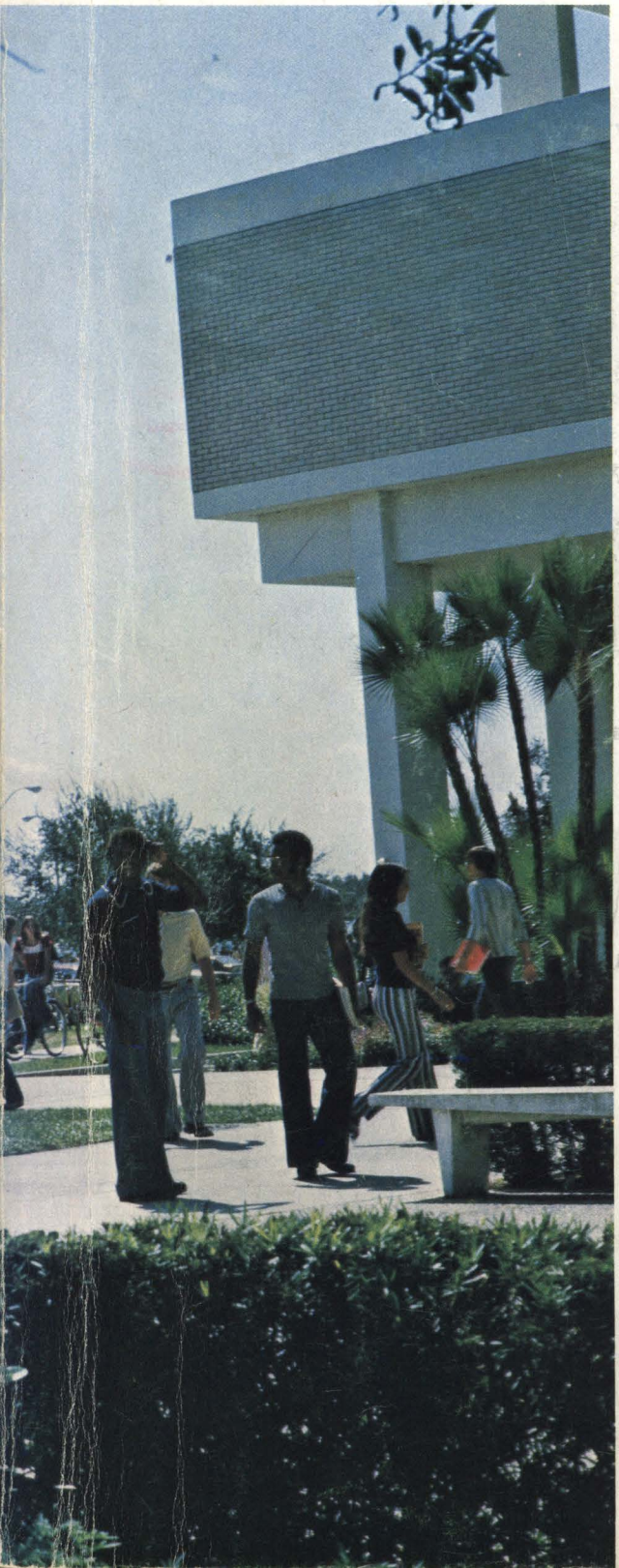
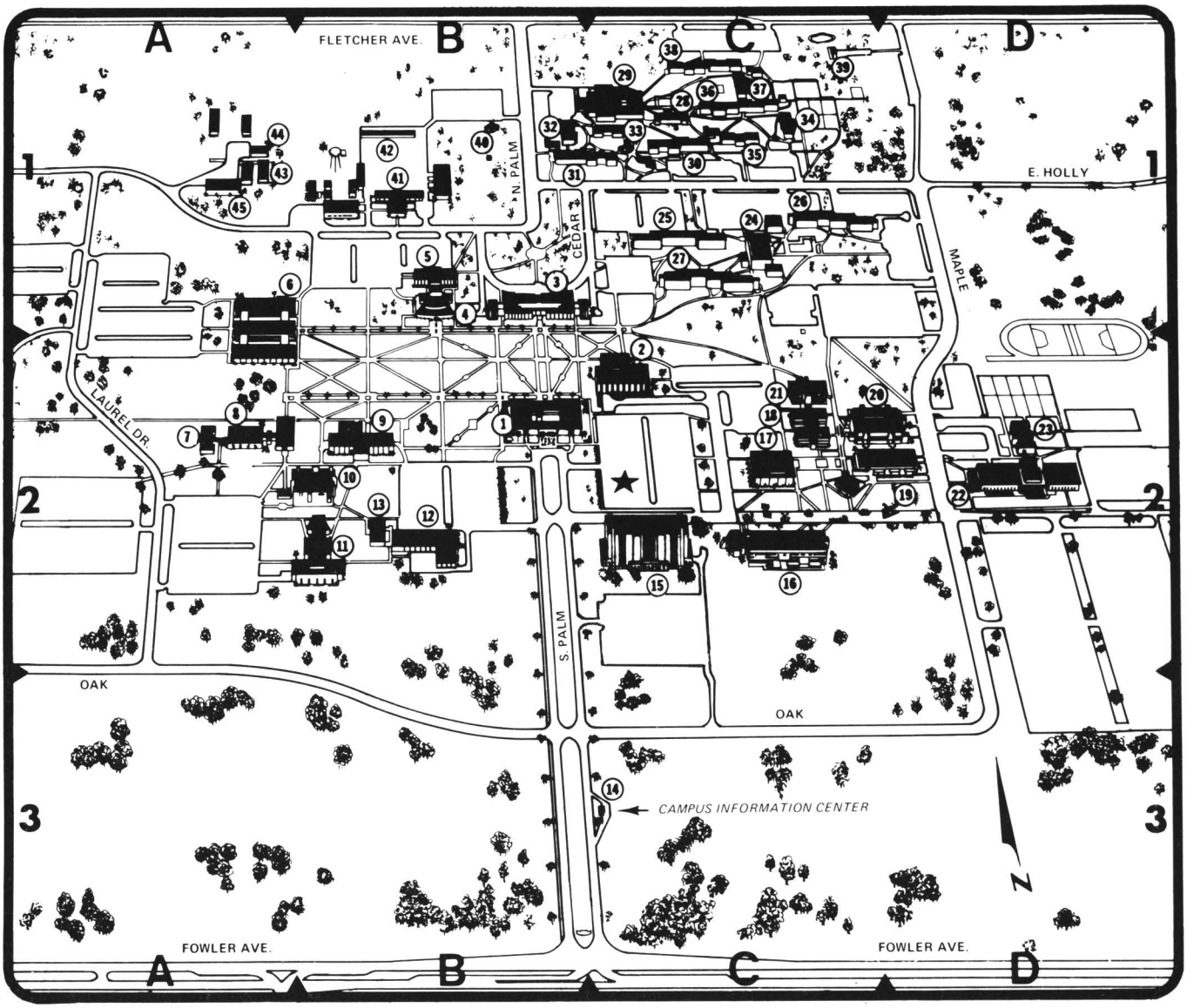
USF BULLETIN

June 1977

University of South Florida

1977-78 Accent on Learning





KEY TO TAMPA CAMPUS MAP

1	John & Grace Allen Administration Bldg.	B-2
2	Student Services Bldg.	C-2
3	University Center	B-1
4	University Theatre	B-1
5	Theatre Center	B-1
6	Fine Arts Bldg.	A-12
7	Life Science Annex	A-2
8	Life Science Building	A-2
9	Chemistry Building	B-2
10	Science Center	B-2
11	Engineering Building	B-2
12	Physics Building	B-2
13	Planetarium	B-2
14	Campus Information Center	C-3
15	Library	C-2
16	Arts & Letters Bldg	C-2
17	Education Building	C-2
18	Faculty Office Building	C-2
19	Business Admin. Bldg.	CD-2
20	Social Science Building	CD-2
21	Classroom Bldg. A	C-2
22	Gymnasium	D-2
23	Physical Education Bldg.	D-2
24	Argos Center	C-1
25	Alpha Hall	C-1
26	Beta Hall	C-1
27	Gamma Hall	C-1
28	Andros Office-Classroom Building	C-1
29	Andros Center	C-1
30	Delta Hall	C-1
31	Epsilon Hall	BC-1
32	Zeta Hall	B-1
33	Eta Hall	C-1
34	Theta Hall	C-1
35	Iota Hall	C-1
36	Kappa Hall	C-1
37	Lambda Hall	C-1
38	Mu Hall	C-1
39	University Police Hq.	C-1
40	USF Credit Union	B-1
41	Operations & Maintenance Administration Bldg.	B-1
42	Maintenance & Utility Building	B-1
43	Textbook Center	A-1
44	Engineering Research Building	A-1
45	Central Receiving Bldg.	A-1

★ VISITORS PARKING

See other maps inside back cover

ACCENT ON LEARNING

GENERAL CATALOG OF THE UNIVERSITY OF SOUTH FLORIDA

1977-78

Vol. 19, No. 10 **USF BULLETIN** June, 1977

Published monthly, except July, by the University of South Florida, 4202 Fowler Avenue, Tampa, Florida 33620. Second class postage paid at Tampa, Florida.

This public document was promulgated at an annual cost of $43,707, or $.546 per copy, including preparation, printing, and distribution, to provide comprehensive information on the University of South Florida. [70184]
(Section 283.27, Florida Statutes)

Programs, activities, and facilities of the University of South Florida are available to all on a non-discriminatory basis, without regard to race, color, creed, religion, sex, age, or national origin. The University is an affirmative action Equal Opportunity Employer.

The announcements, information, policies, rules, regulations, and procedures set forth in this bulletin are for information only and are subject to continual review and change without notice.

Visiting the University

Prospective students and other interested persons are invited to visit the University whenever possible. Most University offices receive visitors from 8:00 a.m. to 5:00 p.m. Monday through Friday.

Tour guides for visitors to the Tampa Campus may be arranged by calling 813: 974-2637 or by writing University Center, USF, Tampa, Fla. 33620. Regular tours are offered at 10 a.m. and 2 p.m., Monday-Friday, and at 1 p.m. Saturday and Sunday.

The Tampa Campus of the University is located on Fowler Avenue (State Route 582) approximately two miles east of Interstate 75 and Nebraska Avenue (U.S. Route 41) and seven miles north of Interstate 4.

The other campuses of the University are located in the places noted below and elsewhere in this publication.

Communicating with the University

Communications regarding the services and programs listed below should be directed by letter or by phone to the appropriate office on the Tampa, St. Petersburg, Fort Myers, or Sarasota campuses. *Mailing addresses and general telephone numbers for the campuses are given at the bottom of this page.* The offices listed below (on the Tampa Campus unless otherwise indicated) may be dialed direct at the telephone numbers shown.

Academic Advising (for freshmen)
Division of University Studies, SVC 255 — 974-2645

Academic Advising (for upperclassmen and graduate students)
Office of the Dean of the appropriate college

Applications and Admission
Office of Admissions, SVC 126 — 974-4020
College of Medicine:
Associate Dean for Admissions, MDC 1415 — 974-2229
New College:
Office of Admissions (Sarasota) — 355-7671

Athletics (Intercollegiate)
Director of Athletics, PED 214 — 974-2125

Bachelor of Independent Studies Program
External Degree Program, FAO 105 — 974-4058

Career Planning and Placement
Division of Cooperative Education and Placement, SVC 243 — 974-2171

College Level Examination Program (CLEP tests)
Office of Testing and Advanced Placement, FAO 201 — 974-2741

Community College Relations (transfer students)
Office of Community College Relations, SVC 123 — 974-2506

Continuing Education Courses and Conferences
Center for Continuing Education, FAO 105 — 974-2403

Cooperative Education Program
Division of Cooperative Education and Placement, SVC 243 — 974-2741

Deceased Students
Office of Student Affairs, ADM 151 — 974-2151

Financial Assistance (scholarships, loans, employment)
Office of Financial Aids, SVC 262 — 974-2621
Office of Student Employment, SVC 262 — 974-2297

Graduate Studies
Division of Graduate Studies, ADM 229 — 974-2846

Handicapped Student Program and Facilities
Office of Student Organizations, CTR 217 — 974-2615

Health Services (Student)
Health Center, CTR 411 — 974-2331

Housing: Campus Residence Halls
Office of Housing and Food Service, RAR 229 — 974-2761

Housing: Off-Campus
Student Government Office, CTR 156A — 974-2401

International Students
Office of Student Organizations, CTR 217 — 974-2615

Library Resources
Office of the Director of Libraries, LIB 207 — 974-2721

Mature Student Advising
Division of University Studies, SVC 255 — 974-4020

Minority Student Advising
Division of University Studies, SVC 255 — 974-4020

Orientation ("FOCUS")
Office of New Student Relations, SVC 122 — 974-2076

Pre-Admission Advising for Prospective Students
Office of New Student Relations, SVC 122 — 974-2076

Parking and Traffic Services
University Police Department, UPB — 974-2628

Records, Registration
Office of Records & Registration, SVC 136 — 974-4029

Speakers Service
Office of Information Services, ADM 264 — 974-2181

Student Affairs
Office of Student Affairs, ADM 151 — 974-2151

Transcripts (USF)
Office of Records & Registration, SVC 136 — 974-4080

Veterans Affairs
Office of Veterans Affairs, SVC 207 — 974-2291

UNIVERSITY OF SOUTH FLORIDA

Tampa Campus
4202 Fowler Avenue
Tampa, Florida 33620
Telephone: (813) 974-2011

St. Petersburg Campus
830 First Street South
St. Petersburg, Florida 33701
Telephone: (813) 898-7411

Fort Myers Campus
2266 Second Street
Fort Myers, Florida 33901
Telephone: (813) 334-3780

Sarasota Campus
5700 N. Tamiami Trail
Sarasota, Florida 33580
Telephone: (813) 355-7671

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ACADEMIC CALENDAR

Summer Quarter (IV), 1977

NOTE: *Dates apply to 10-week term. See quarterly University Class Schedule for appropriate deadlines in other than 10 week session.*

*April 1, *Friday*	Last day to apply for admission
May 16, *Monday*	Last day for USF Former Students Returning to make application for readmission
June 16-17, *Thursday, Friday*	Registration by appointment (tentative)
June 20, *Monday*	Classes begin
June 24, *Friday*	Last day to withdraw/drop & receive full refund of registration fees
June 24, *Friday*	Last day to add courses
June 24, *Friday*	Last day for late registration (see late registration fee). Also last day to register as a Special Student
July 1, *Friday*	Last day to register for Continuing Education courses
July 1, *Friday*	Last day for Continuing Education course refund
July 4, *Monday*	Independence Day Holiday
July 8, *Friday*	Last day to apply for degree to be earned at the end of Quarter IV
July 29, *Friday*	Last day to drop courses without academic penalty
July 29, *Friday*	Last day to withdraw without academic penalty
August 24, *Wednesday*	End of Summer Quarter (IV)

Fall Quarter (I), 1977

May 23-27 & August 1-5 *Monday-Friday*	Early registration for Quarter I (continuing and accepted Former Students Returning) (tentative)
*August 15, *Monday*	Last day to apply for admission
August 22, *Monday*	Last day for USF Former Students Returning to make application for readmission.
September 21-22, *Wed.-Thurs.*	Registration by appointment
September 26, *Monday*	Classes begin
September 30, *Friday*	Last day to withdraw/drop & receive full refund of registration fees
September 30, *Friday*	Last day to add courses
September 30, *Friday*	Last day for late registration (see late registration fee). Also last day to register as a Special Student
October 7, *Friday*	Last day to register for Continuing Education courses
October 7, *Friday*	Last day for Continuing Education course refund
October 14, *Friday*	Last day to apply for degree to be earned at the end of Quarter I
November 4, *Friday*	Last day to drop courses without academic penalty
November 4, *Friday*	Last day to withdraw without academic penalty
November 11, *Friday*	Veterans Day Holiday
November 24-25, *Thurs. & Fri.*	Thanksgiving Holiday
December 14, *Wednesday*	End of Fall Quarter (I)

Winter Quarter (II), 1978

*November 9, *Wednesday*	Last day to apply for admission
October 31-November 8	Early registration for Quarter II (continuing and accepted Former Students Returning) (tentative)
December 2, *Friday*	Last day for USF Former Students Returning to make application for readmission
January 3-4 *Tues.-Wed.*	Registration by appointment
January 5, *Thursday*	Classes begin
January 11, *Wednesday*	Last day to withdraw/drop & receive full refund of registration fees
January 11, *Wednesday*	Last day to add courses
January 11, *Wednesday*	Last day for late registration (see late registration fee). Also last day to register as Special Student
January 18, *Wednesday*	Last day to register for Continuing Education courses
January 18, *Wednesday*	Last day for Continuing Education course refund
January 25, *Wednesday*	Last day to apply for degree to be earned at the end of Quarter II
February 15, *Wednesday*	Last day to drop courses without academic penalty
February 15, *Wednesday*	Last day to withdraw without academic penalty
March 15, *Wednesday*	End of Winter Quarter (II)

* *Earlier deadlines may be required by some graduate programs, the College of Education, and the College of Nursing. See appropriate sections for further information.*

☐ Dates of first and last classes

○ Student holidays

1977

MAY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE

			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

JULY

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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST

S	M	T	W	T	F	S
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7	8	9	10	11	12	13
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21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER

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25	26	27	28	29	30	

OCTOBER

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30	31					

NOVEMBER

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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

DECEMBER

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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Spring Quarter (III), 1978

*February 13, *Monday*	Last day to apply for admission
February 1-7 or 8-14	Early registration for Quarter III (continuing and accepted Former Students Returning) (tentative)
February 23, *Thursday*	Last day for USF Former Students Returning to make application for readmission
March 23, *Thursday*	Registration by appointment
March 27, *Monday*	Classes begin
March 31, *Friday*	Last day to withdraw/drop & receive full refund of registration fees
March 31, *Friday*	Last day to add courses
March 31, *Friday*	Last day for late registration (see late registration fee). Also last day to register as a Special Student
April 7, *Friday*	Last day to register for Continuing Education courses
April 7, *Friday*	Last day for Continuing Education course refund
April 14, *Friday*	Last day to apply for degree to be earned at the end of Quarter III
May 5, *Friday*	Last day to drop courses without academic penalty
May 5, *Friday*	Last day to withdraw without academic penalty
May 22-26, *Monday-Friday*	Early registration for Quarter I, 1978 (continuing and accepted Former Students Returning) (tentative)
May 29, *Monday*	Memorial Day Holiday
June 7, *Wednesday*	End of Spring Quarter (III)
June 11, *Sunday*	Commencement Convocation

Summer Quarter (IV), 1978

NOTE: Dates apply to 10-week term. See quarterly Schedule of Classes for appropriate sessions.

*May 8, *Monday*	Last day to apply for admission
May 8-12, *Monday-Friday*	Early registration for Quarter IV (continuing and accepted Former Students Returning) (tentative)
May 15, *Monday*	Last day for USF Former Students Returning to make application for readmission
June 15, *Thursday*	Registration by appointment
June 19, *Monday*	Classes begin
June 23, *Friday*	Last day to withdraw/drop & receive full refund of registration fees
June 23, *Friday*	Last day to add courses
June 23, *Friday*	Last day for late registration (see late registration fee). Also last day to register as a Special Student
June 30, *Friday*	Last day to register for Continuing Education courses
June 30, *Friday*	Last day for Continuing Education course refund
July 4, *Tuesday*	Independence Day Holiday
July 7, *Friday*	Last day to apply for degree to be earned at the end of Quarter IV
July 28, *Friday*	Last day to drop courses without academic penalty
July 28, *Friday*	Last day to withdraw without academic penalty
August 25, *Friday*	End of Summer Quarter (IV)

** Earlier deadlines may be required by some graduate programs, the College of Education, and the College of Nursing. See appropriate sections for further information.*

COLLEGE OF MEDICINE

First Academic Session, 1977

July 1, *Friday*	Registration
July 2-4**, *Saturday-Monday*	*Independence Day Holidays
July 5-8, *Tuesday-Friday*	Clinical Orientation
July 11, *Monday*	Classes begin
Sept. 5, *Monday*	*Labor Day Holiday
Nov. 11, *Friday*	*Veterans Day Holiday
Nov. 24-25, *Thursday-Friday*	*Thanksgiving Day Holidays
Dec. 9, *Friday*	End of First Academic Session

Second Academic, Session, 1978

Jan. 3, *Tuesday*	Classes begin, Second Academic Session
May 12, *Friday*	End of Second Academic Session

Third Academic Session, 1978

May 22, *Monday*	Classes begin, Third Academic Session
May 30, *Tuesday*	*Memorial Day Holiday
July 4, *Tuesday*	*Independence Day Holiday
Sept. 4, *Monday*	*Labor Day Holiday
Sept. 15, *Friday*	End of Third Academic Session

**July 4—MED I only.

*These holidays may be waived for students serving in Clinical Clerkships at the discretion of the individual Chiefs of Service.

1978

S	M	T	W	T	F	S
JANUARY						
1	2	3	4	[5]	6	7
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15	16	17	18	19	20	21
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29	30	31				
FEBRUARY						
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26	27	28				
MARCH						
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26	[27]	28	29	30	31	
APRIL						
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23	24	25	26	27	28	29
30						
MAY						
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	(29)	30	31			
JUNE						
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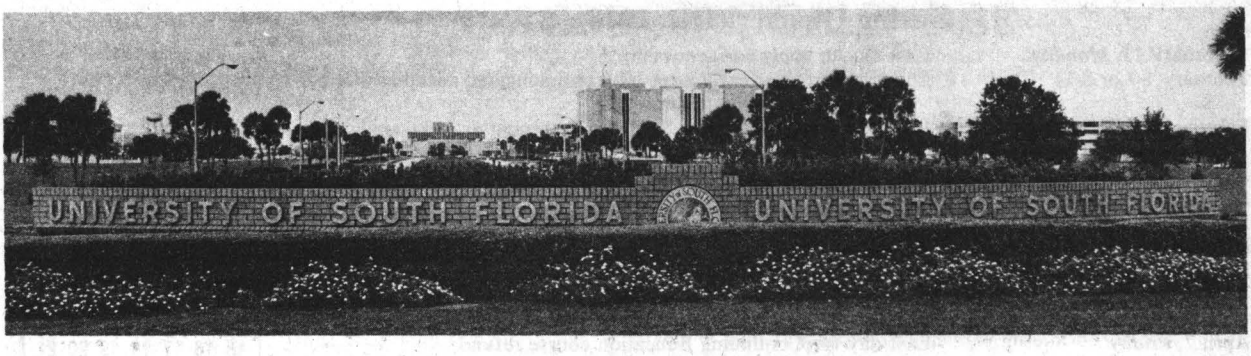
4	5	6	[7]	8	9	10
11	12	13	14	15	16	17
18	[19]	20	21	22	23	24
25	26	27	28	29	30	
JULY						
						1
2	3	(4)	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					
AUGUST						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	[25]	26
27	28	29	30	31		



USF — THE METROPOLITAN UNIVERSITY. . . A BREAK WITH TRADITION

The University of South Florida broke with tradition when it was founded almost two decades ago. USF was not located in a small, quiet town; USF was placed in one of Florida's—and the nation's—most dynamic metropolitan areas and assigned responsibility for providing higher educational services to people of all ages within its 15-county service area. USF was the first State university in Florida located *purposely* within convenient commuting distance of a large segment of the State's growing population. The University of South Florida broke with tradition because it came to the people. USF—the metropolitan university . . . an idea whose time had come.

USF AND YOU?

USF calls itself "Your University." And it is. In a real sense, you are the "U" in USF because the University was founded and located to meet *your* higher educational needs. How it seeks to do that—the activities, services and programs it offers—are briefly described in this publication. But, for you to *feel* that USF is *your* university, you must experience for yourself what it has to offer—what it is that makes it such a special place to so many people.

WHAT IS USF?

The University of South Florida is many things . . . many people and programs . . . a major force in the communities it serves.

USF is primarily people. Within its boundaries, it is a community of more than 25,000 teacher-scholars and students and staff. Its principal purpose is teaching—teaching grounded in research and related to the needs of its students and society.

USF is also places . . . spacious, palm-shaded campuses . . . with libraries containing a measurable portion of human knowledge . . . with laboratories where scientists and students seek and test old and new knowledge . . . with theatres and recreational facilities and residence halls and other facilities that make USF more than just another state university.

And USF is an important social and cultural service force flowing through the communities surrounding and supporting it . . . a major economic force on Florida's West Coast . . . and an intellectual and information center where people can find practical solutions to perplexing problems and share their experiences with others.

USF is all of this—and more. USF—the metropolitan university . . . an idea whose time has come . . . is a university with people who want to help *you* embody your own idea of what such an institution should be. After all, USF is what *you* make it and can be affected by you as much as you are affected by it. The faculty and staff are dedicated to ensuring that the University continues to be flexible enough to permit new ideas of itself to infuse new life into itself. That's why you are invited to consider USF.

WHEN DID IT ALL BEGIN?

Speaking of new ideas and new life . . . If you have visited the Tampa Campus, you probably have noticed that all of its buildings appear to be modern and new. Well, they are. But then, so is USF.

The University of South Florida was founded on December 18, 1956, but the first students did not arrive until almost four years later. When USF was opened to a charter class of 1,997 freshmen on September 26, 1960, it became *the first major State university in America planned and built entirely in this century.* Moreover, as Florida's first State university located purposely in a major metropolitan center, USF represented the first step in a broad and comprehensive expansion of the State University System.

The State University System, directed by the Florida Board of Regents, and administered by a Chancellor and staff of over 100 in Tallahassee, today consists of nine public universities. To-

gether with 28 public junior and community colleges and a number of vocational-technical centers located throughout the State, these universities comprise public higher education in Florida.

Regional campuses of USF were opened in St. Petersburg in 1965, Fort Myers in 1974, and Sarasota in 1975.

In its brief history, the University of South Florida has had only two presidents. The founder and chief architect of the new university was Dr. John Allen, an astronomer and educator, who served as USF's first president from 1956-1970. (Dr. Harris W. Dean served as Acting President from July 1970 to February 1971.) Dr. Cecil Mackey, economist and lawyer, became the University's second president on February 1, 1971, and served until August 31, 1976. (Wm. Reece Smith, prominent Tampa attorney, was named interim president September 1, 1976.)

Now in its twenty-first year of existence, the University has graduated more than 35,000 students—eighty percent of whom reside in Florida—and served over 200,000 persons in credit and non-credit courses. Enrollment in the fall of 1976 totaled more than 21,500 and projections indicate that USF will enroll more than 30,000 students on perhaps as many as five campuses by the end of this decade. The University's economic impact on the area is equally significant: now exceeding $137 million annually.

Because of its location and the composition of its student body, USF continues to be inextricably a part of and not apart from the modern metropolitan environment—and both affects and is affected by the communities surrounding and supporting it.

Accreditation

USF was fully accredited in 1965 by the Southern Association of Colleges and Schools, the official accrediting agency for educational institutions in the South. A self-study of the University's programs and purposes, periodically required for continued accreditation, was recently completed and provides a firm foundation for the future growth of the University. Accreditation was reaffirmed in December, 1973. But the University Community continues to reexamine its mission and goals and to ensure that it never loses sight of its only reason for existence: serving you.

USF: REGIONAL CAMPUSES ... PART OF THE MODERN METROPOLITAN ENVIRONMENT

Accessibility

University of South Florida campuses form a string of anchor points for a metropolitan area rapidly becoming a megalopolis along the West Coast of Florida. USF campuses are within reach of more than two million people—roughly a quarter of the State's population—in the 15-county area they serve.

The Tampa Campus of the University is located on a 1,694-acre tract ten miles northeast of downtown Tampa, a city of over a quarter of a million people. The campus is midway between U.S. 41 and 381 on State Highway 582 (Fowler Avenue), two miles east of I-75.

St. Petersburg Campus

The St. Petersburg Campus is located on Bayboro Harbor in downtown St. Petersburg, a city of more than 235,000 people. The campus serves some 620,000 people living in Pinellas County.

The Fort Myers Campus is located at the site of the Gwynne Institute Building in downtown Fort Myers and serves the people of Florida's lower West coast. Recently the Board of Regents accepted a 55-acre site adjacent to Edison Community College to accommodate the growth of USF's Fort Myers Campus.

The Sarasota Campus is located on what was formerly the 100-acre campus of the private New College and adjoins the State-owned Ringling Museums property. Located between the cities of Sarasota and Bradenton, the Sarasota Campus serves a population of approximately 315,000.

Mission

As the State's *first* metropolitan university, a prototype of the university of the future, the University of South Florida from its beginning has sought to apply the talents of its scholars and students to the peculiar ills besetting modern society. In this way, USF has sought to accomplish the special mission in the State University System set out for it in the *Comprehensive Development Plan (CODE) of the State University System of Florida (1969):* The creation and development of instructional, research and public service programs "oriented toward the solution of problems peculiar to the modern urban environment."

ACHIEVING THE UNIVERSITY'S MISSION: MEASURES OF SUCCESS

Students Served

Since opening its doors in September of 1960, the University of South Florida has been dedicated to accomplishing this special mission in the modern metropolitan environment. One measure of our success is reflected in the composition of our student body:

- More than 90 percent of our students are Floridians and over 80 percent of our graduates reside in the State.
- More than two-thirds of our students commute to class from their homes throughout the Tampa Bay area.
- Over one-third of our student body are part-time students, and 40 percent are employed from one to 40 hours per week.
- More than two-thirds of all USF students are 21 or older and almost one-third of our students are married.
- Almost 60 percent of USF's 35,000 graduates reside in the Greater Tampa Bay Area.
- The majority of upper division students are transfers from other institutions.

Programs Offered

A measure of success in accomplishing the University's mission —and one more significant than mere statistics—is the nature of our academic programs. Through them we have sought to serve an increasingly urban State and nation. These programs are in the Academic Affairs division of the University and, for the most part, are administered in one of our 10 colleges: Arts & Letters, Business Administration, Education, Engineering, Fine Arts, Medicine, Natural Sciences, Nursing, Social & Behavioral Sciences, and an honors-type college, New College of USF on the Sarasota Campus.

In this publication are discussed the major academic programs in the University. Through them we serve the people of Florida through the instruction of students, the advancement of knowledge, and community service.

Degrees are offered in over 100 academic areas by the University's colleges. Graduate degrees are offered in more than 80 of these areas.

The University's first Ph.D. program, in Biology with emphasis on Marine Biology, was established in 1968. Ph.D. programs in Chemistry and Education began in 1969, and programs in English, Mathematics and Psychology were authorized in 1971. The first Ph.D. (in Marine Biology) was awarded in June of 1971. A Ph.D. in Medical Sciences is also now available.

The University's teaching and research faculty, numbering more than 1,000, represents all major areas of higher learning, and nearly 60 percent hold doctoral degrees.

Academic Programs of USF Regional Campuses

The academic programs of the regional campuses are designed to serve students of junior, senior and graduate standing, and are offered at times chosen to meet the special needs of these students. Selected courses and programs are offered by the Colleges of Education, Engineering, Natural Sciences, Social and Behavioral Science, Business Administration and Nursing.

You may enroll on a full time basis on any one of the regional campuses, or elect to enroll on more than one USF campus simultaneously. Dual enrollment on multiple campuses may provide you with a schedule both academically flexible and personally convenient.

Resident faculty members and Student Affairs staff provide social, vocational and academic counseling to students enrolled on any of the regional campuses. Moreover, the resident faculty is supplemented by professors and staff commuting from other USF campuses to provide additional scope to the academic programs and university services.

The *St. Petersburg Campus* opened in September, 1965, and provides an opportunity for USF students who are residents of Pinellas County to complete all or a portion of course work leading to a degree without the necessity of leaving the county.

The *Fort Myers Campus of USF* opened in the fall of 1974, and, like the St. Petersburg Campus, is designed to meet the academic needs of local residents.

The Fort Myers Campus is located in the historic Gwynne Institute Building in the heart of downtown Fort Myers. While the Gwynne Institute Building is adequate for supporting the present academic programs of USF, it is clearly viewed as an interim facility, and plans have recently been completed for acquisition of a permanent site which will accommodate the predicted growth of the Fort Myers Campus.

The *Sarasota Campus* opened in the summer of 1975 and offers to students from Sarasota, Manatee, and neighboring coun-

ties the opportunity to take upper division coursework toward the Bachelor's degree and graduate coursework toward the Master's degree in selected areas, and also provides non-credit course offerings to meet the needs of the local communities.

The Sarasota Campus also is the home of New College of the University of South Florida. New College of USF is a liberal arts honors program, residential in nature, and appeals to students who look for the atmosphere of a small college with its accompanying individualized instruction. (For details of New College of USF, see page 115.)

Acquired by the State University System in 1975, the Sarasota Campus has 26 buildings including a student center, classrooms, a library with 100,000 volumes, science laboratories, and recreational facilities. Part of the campus was once the estate of circus magnate Charles E. Ringling. The campus is located on the shores of Sarasota Bay and is bisected by U.S. 41 which makes it easily accessible to commuting students and to the community.

While offering many of the characteristics of a small college, the regional campuses of USF have access to the resources of a major university and their development is expected to keep pace with the continuing growth of Florida's West Coast.

The St. Petersburg Campus, located at Bayboro Harbor adjacent to downtown St. Petersburg, is within easy walking distance to many of the cultural and recreational facilities of Florida's "Sunshine City." However, steps to expand the St. Petersburg Campus have already been taken, and it is anticipated that the downtown campus will be supplemented by an additional campus located in the northern section of Pinellas County.

In addition to providing academic programs from six of the university's colleges, the St. Petersurg Campus houses a marine science research and training center. The USF Department of Marine Science, with headquarters at the St. Petersburg campus, is an interdisciplinary venture involving faculty members from several departments in addition to ten full time faculty members at the St. Petersburg Campus who are concerned with planning, administration, research and teaching.

Probably no other marine science program has ever been established with such excellent facilities as those provided by the St. Petersburg Campus for teaching, research, and the docking and maintenance of oceanographic vessels. The location of the campus at the center of the edge of the great continental shelf of the Florida Gulf Coast and in the midst of the metropolitan area of the Sun Coast, is another of its unique advantages. It would seem destined to develop into one of the nation's leading oceanographic centers.

In addition, students on the St. Petersburg Campus may participate in the U.S. Army ROTC program. (See "Reserve Officer Training Corps," page 38.)

Students interested in attending any of the regional campuses are invited to visit the various campus facilities and discuss their interests with the faculty and staff.

Continuing Education

In addition to the academic programs offered on the Tampa and regional campuses, a number of courses and programs are operated by the University's Center for Continuing Education in 15 West Coast Florida counties. In this area, the Florida Board of Regents has designated the University of South Florida to be responsible for all higher education requirements beyond those supplied by the State Community and Junior College System.

Special Programs

A number of special programs offer USF students flexibility and relevance. They include the Off-Campus Term Program, Bachelor of Independent Studies (Adult Degree Program), Cooperative Education Program, and New College of USF. In addition, freshmen students may earn up to one full year of academic credit (45 hours) through the College Level Examination Program tests, high school students may apply for "early admission" or take college courses while still in high school, and *any* interested person may earn college credit via radio and WUSF-TV's televised course sequence —"Your Open University" (YOU). Each of these programs is described elsewhere in this publication. You are encouraged to explore their potential for helping you attain your educational goals.

FACILITIES AND ATMOSPHERE ON CAMPUS

The facilities of the University, now including more than 40 major buildings, are currently valued at more than $106 million. (See map, inside cover.) The buildings are of similar modern architectural design and all are completely air conditioned.

USF has a wide variety of recreational facilities, including three swimming pools, an excellent gym with weight training room, many tennis courts, a beautiful golf course, well-equipped University Center and others. Its academic and residential facilities are unexcelled in Florida—and all are air-conditioned and easily accessible from every corner of the well-kept campus, called by some "one of the prettiest in the nation." And parking spaces are always available somewhere on campus.

The atmosphere on campus is one of easy informality. Students—and faculty—dress casually and enjoy an unusually close relationship for a school so large. Some classes are even held outside to take advantage of the extraordinary climate (average annual temperature 72° F) of the area. And most buildings have open hallways, which blend colorful interiors with spacious exteriors, symbolically and architecturally suggesting the casual accessibility that has become a USF trademark.

ORGANIZED FOR EFFECTIVENESS

The University is organized into the four broad areas of academic affairs, student affairs, administrative affairs and finance & planning. The vice presidents who head these four units serve with the President as the principal policymaking officials of the University. In addition to the vice presidents, advice and assistance to the President in the determination of policy is given by a number of advisory bodies, including University committees and organizations representing the faculty, staff and student segments of the University Community. At USF, your views count; they are solicited and given serious consideration. The President is responsible through the Chancellor to the Florida Board of Regents for internal policy and the procedures of the University. More detailed information on these matters is available in the Special Collections Room, USF Library.

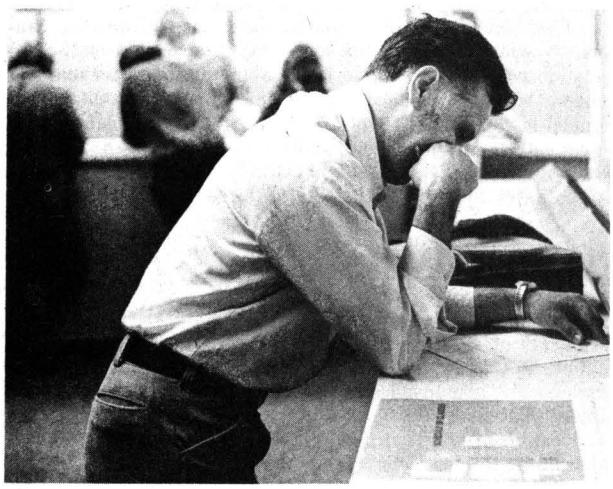
ADMISSIONS AND RELATED MATTERS

1. Admission to study at USF generally requires evidence of ability to handle academic work, capacity to think and plan creatively, and intense motivation. Students, regardless of age, who have these abilities and skills and are seriously interested in earning an education are the ones most likely to succeed in college.
2. More specifically, as a public university, USF admits students who meet the formal admission requirements of the University (noted below) and who can be expected to do successful academic work.
3. In considering students for admission, the University does not discriminate—indeed, has never discriminated—on the basis of race, sex, color, creed, religion, age, or national origin.
4. The University may refuse admission to a student whose record shows previous misconduct not in the best interest of citizens of the University community.
5. The Office of Admissions, part of the Division of University Studies, administers the application and admissions processes at USF.

Applying for Admission

As part of the State University System of Florida, USF utilizes the common application form required for admission as an undergraduate to any one of the nine state universities in Florida's system. If you are a student attending a Florida high school or a junior/community college you may obtain the form at your school guidance office. Otherwise, you may write to the Office of Admissions, University of South Florida, Tampa, Florida 33620, indicating whether you will be entering as a first-time-in-college freshman, an undergraduate transfer student or a graduate student. Application for admission to the College of Medicine should be requested directly from the Office of Student Affairs, College of Medicine, University of South Florida, Tampa, Florida 33620.

Applications for admission are accepted as early as 12 months before the anticipated enrollment date and must be submitted by the deadline stated herein (pages 4-5). Applicants are encouraged to apply early. *Each applicant is responsible for requesting that the necessary academic records and credentials are sent to the USF Office of Admissions directly from the appropriate institution or agency.* These documents could be: the high school records from high schools attended; college transcripts from colleges attended; G.E.D. test scores and high school equivalency diploma from appropriate high school or State Department of Education; USAFI scores from DANTES, 2318 S. Park Street, Madison, Wisconsin 53713; SAT scores from high school or Educational Testing Service, Princeton, New Jersey, etc.



If your credentials are not received in time to process your application prior to registration, you may still attend the University as a Special Student for that term (see page 13) and then update your application for consideration for a future term.

Each application must be accompanied by a $15.00 non-refundable fee unless you have previously enrolled at USF *as a degree seeking student.* You must enter your Social Security Number on the application form. Incomplete application forms will be returned.

If you are accepted for admission and do not enroll in the term for which you are admitted or if you have not been accepted because of a late application or missing credentials, you must notify the University in writing within 12 months if you wish the application changed to a future date of entry and specify the new enrollment date. If a request for change of entry date is not received, a new application and fee must be submitted.

Opportunities for Accelerated Progress Toward Undergraduate Degrees

The University of South Florida provides several options by which students may accelerate their progress toward completing the baccalaureate degree. These options recognize knowledge which has been acquired prior to or during attendance at USF and provide the opportunity to earn university credit prior to admission to USF. Options which may be used include the following:

1. Recognition of satisfactory performance on tests offered through the College Level Examination Program (see CLEP, page 38.)
2. Recognition of satisfactory performance in secondary school Advanced Placement Programs of the College Entrance Examination Board (see Advanced Placement Credit Program, page 38.)
3. Dual enrollment at USF prior to graduation from High School or a Community College (see Dual Enrollment, page 13, and USF-HCC Cross Enrollment, page 37.)
4. Early admission for high school seniors (see Freshman-Early Admission on page 11.)
5. Your Open University (Y.O.U.) Courses by TV. (See page 38.)

Credits may be earned through a combination of the above options. Students should contact their college adviser for further

information concerning the application of this credit toward their degree requirements.

However, internal devices utilized in the various departments for the sole purpose of determining a student's most appropriate area, level or section *placement* in a program of study (such as auditions, portfolio reviews and placement tests) are not to be construed as being examining mechanisms for exemption or waiver for the granting of credit.

Requirements for Admission

A high school diploma or its equivalent is ordinarily required for admission of beginning freshman students, as well as the following:

Freshman—Graduate of Accredited Florida Secondary School

1. Overall "C" average in high school work.
2. Satisfactory admission test scores which may be either 19 on the American College Testing program (ACT) or minimum total score of 800 on the Scholastic Aptitude Test (SAT) with at least 400 on the verbal portion.
3. Appropriate recommendation from the secondary school.

Freshman—Graduate of Out-of-State Secondary School

1. Overall "C" average in high school work.
2. Class ranking in the upper 40 percent of the class.
3. Satisfactory admission test scores which may be either 19 on the American College Testing program (ACT) or minimum total score of 800 on the Scholastic Aptitude Test (SAT) with at least 400 on the verbal portion.
4. Appropriate recommendation from the secondary school.

Freshman—Early Admission

USF provides an early admission program for highly capable and mature students to enter the University as regularly enrolled students prior to high school graduation. This program is designed to meet the educational needs of highly qualified students, to help them realize their full potential and to support the State's commitment to "time-shortened" degree programs. Along with the regular application form and $15.00 non-refundable application fee, such students must submit a letter outlining reasons for seeking early admission to USF and their future academic plans, as well as a recommendation for early admission from the applicant's high school guidance counselor or principal (a copy of the Early Admission Recommendation form is available from the high school or from the USF Office of Admissions).

Freshman—Florida Community College System

High school graduates planning to start their college education at a Florida community college should confer with the community college counselor and ask that their academic program be planned with the assistance of the Community College Counseling Manual which is available in all the counseling offices. This manual, prepared and distributed by the USF Office of Community College Relations, explicitly describes the undergraduate program requirements that should be followed to ensure maximum ease of transfer into the students' upper-level programs on a par with their native USF counterparts.

Undergraduate Transfer

Undergraduate transfer requirements are as follows:

1. Be in good standing and eligible to return to the last institution attended as a degree seeking student.
2. An overall 2.0 grade point average on a 4.0 system in all college level work attempted and at least a 2.0 at the last institution attended.
3. A satisfactory secondary school record and admission test scores must also be submitted for any student who has completed less than 36 quarter or 24 semester hours of work. If a student has completed more than 36 quarter or 24 semester hours of college work, the University requires only official transcripts of the student's prior college work. Evaluation and decision will be made on the basis of the student's performance at the college level.

Transfer students should also refer to: Section on Community College Relations, page 14.

Summer Enrollment Requirement

All students entering the university with less than 90 quarter hours of credit should refer to the section on Graduation Requirements—Baccalaureate Degree, page 33, for Summer Enrollment requirement.

Articulation Agreement Abstract

In the near future it is likely that more than half the students enrolled in the upper division of the state universities will have a community college origin.

As a result of this growth, an articulation agreement between state universities and public junior colleges in Florida was approved by the Board of Regents and the State Board of Education effective April 13, 1971.

At the core of any agreement between the community colleges and the State University System designated to establish an efficient orderly transfer process for community college students is the mutual acceptance of the nature and purpose of the Associate in Arts degree. This degree, which is the basic transfer degree of Florida junior colleges and the primary admission of transfer students to upper division study in a state university shall be awarded upon:

a. Completion of a minimum of 60 semester hours (90 quarter hours) of academic work exclusive of occupational courses and basic required physical education courses.
b. Completion of an approved general education program of not fewer than 36 semester hours (54 quarter hours);
c. Achievement of a grade point average of not less than 2.0 (C) in all courses attempted and in all courses taken at the junior college awarding the degree, provided that only the final grade received in courses repeated by the student shall be used in computing this average. The grade of D will be accepted for transfer (provided the overall grade average does not drop below the prescribed 2.0 level) and will count towards the baccalaureate in the same way as D grades obtained by students enrolled in the lower division of state universities, i.e., credits in courses transferred with D grades will count towards the credits required for the baccalaureate; however, it is at the discretion of the department or college of the university offering the major as to whether courses with D grades in the major may satisfy requirements in the major field.

Once a student has been certified by such an institution as having completed satisfactorily its prescribed general education program, no other public institution of higher learning in Florida to which he or she may be qualified to transfer will require any further lower division general education courses in his or her program.

If, for any reason, a student has not completed an approved general education program in a junior college prior to transfer to

a state university, the general education requirement shall become the responsibility of the university.

A.A. Degree Graduates from Florida Community Colleges and SUS Institutions

1. Admission of these students will be governed by the Articulation Agreement between the State Universities and the public junior/community colleges of Florida.
2. Within curricular space and fiscal limitations, admission as a junior to the upper division of this institution will be granted to any graduate of a State approved Florida community/junior college or SUS institution who has completed the University parallel program and received the A.A. Degree.
3. Applications from students who have attended another college after receipt of an A.A. Degree will be processed as a regular undergraduate transfer.

Evaluation of Transfer of Credit

1. The receipt and evaluation of transfer credit is the responsibility of the University Registrar. The Office of the Registrar will evaluate the acceptability of transfer of total credits to the university. Effective Fall Quarter (I), 1976, all courses from a Florida Community College/University, bearing the same State Common Course prefix and number, will be automatically transferred, in order that transfer students will not be required to repeat these courses. Excluded are graduate courses, studio courses in art, internships, practicums, performing arts courses—dance, acting, vocal, and instrumental music. It is the responsibility of the college of your major to determine the number of credits transferred to the university that will be applicable to meeting degree requirements. *Transfer students should be prepared with a personal copy of their transcript of all past course work* to discuss advisement and placement with the appropriate academic adviser and should contact the college of their major soon after registration so that an official evaluation may be completed.
2. A transfer student from an accredited junior/community college may satisfy the General Distribution Requirements of the University by completing (before transfer) the general education program prescribed by that institution. Transcripts must certify that the general education requirements have been completed and, if appropriate, include graduation data.
3. Once students have earned a total of 90 quarter hours of credit from one or more institutions, they may not transfer to USF any additional credit hours earned at lower level institutions. Under special circumstances, students may petition through the Academic Regulations Committee for acceptance of subsequent lower level transfer work above the 90 hours.
4. Credit will not be awarded for GED tests.
5. Service school courses will be evaluated with reference to the recommendation of the American Council of Education when official credentials have been presented. Such recommendation, however, is not binding upon the University.
6. A maximum of twelve quarter hours of credit for ROTC and military science courses will be awarded. Specific applicability towards a degree will vary with each college. Student must confer with his college adviser to determine the acceptability for his major. This is effective beginning Quarter I (Fall), 1975. ROTC and military science taken prior to Fall, 1975 are not acceptable for transfer credit.
7. A maximum of 45 quarter hours of extension, correspondence, military service education and College Level Examination Program (general examinations) credits can be applied toward a degree.

Transient

A transient student is one who is permitted to enroll at the University for *one quarter only* before returning to his/her parent institution. The University requires a completed application, the $15.00 non-refundable application fee, and a statement from the parent institution, indicating that the applicant is in good standing.

Undergraduate Interinstitutional Transient Registration

USF participates in this State University System program to enable students to take advantage of special resources and programs available on another SUS campus but not available at their own institutions. An interinstitutional transient student must be recommended by his/her academic dean who will initiate a visiting arrangement with the appropriate dean at the host institution. By concurrence and mutual agreement of the appropriate academic authorities in both institutions, the student will receive a waiver of admission requirements and application fee of the host institution.

Handicapped Students

Because of three inherent factors, 1) a mild climate, 2) a relatively flat terrain, and 3) modern architecture, as well as extensive modifications to make the Tampa campus accessible, the University of South Florida has accepted increasing numbers of persons with significant physical handicaps as students in recent years. Persons with handicaps may apply to USF with the normal application forms, and will receive additional information about the University upon request.

International Students

The university is concerned for the welfare and academic success of the International Student. In keeping with this concern, the university feels it is necessary that both the student and the adviser have a realistic understanding of the student's academic ability and competence in English in the key areas of listening, reading, writing and comprehension.

Therefore, the university requires the submission of the Test of English as a Foreign Language (TOEFL) score of 550. In addition, colleges may require other testing programs prior to the student's first enrollment.

International students requesting an application will be sent preliminary information forms. Upon receipt of these forms, the Admissions Office will review the information provided and determine if the student meets the minimum requirements for admission to USF in his/her major field.

If minimum requirements are not met for admission, the applicant will be so advised by the Admissions Office and the application process terminated. If the student does meet the minimum admission requirements, the Admissions Office will forward a formal application with additional instructions and information. A complete admission application should be received by USF at least 6 months prior to the desired entering date, together with the non-refundable $15.00 application fee. Submission of a formal application does not automatically guarantee admission. Priority in admissions will be given to applicants whose credentials indicate the greatest likelihood of success in the program requested.

For all international students the following items are required as a part of the formal application:

1. Completed application.
2. A $15.00 non-refundable fee submitted with the application.
3. A letter of recommendation from the last institution attended.
4. A certificate of financial ability. All international applicants must furnish proof of financial resources sufficient

to cover travel to and from the United States, tuition, fees, room and board, and other expenses for the full academic year.

5. Applicants whose native language is not English are required to submit scores from the Test of English as a Foreign Language (TOEFL). A minimum score of 550 will be required for all colleges and programs. Applicants are responsible for making arrangements with the Office of Educational Testing Service to take that examination and to have their scores sent directly from the Educational Testing Service to the Office of Admissions. Entering freshmen should also submit scores from the Scholastic Aptitude Test (SAT) or the American College Test (ACT).
6. International applicants must request all schools attended to submit directly to the Office of Admissions, University of South Florida, transcripts of all work attempted. Transcripts in a language other than English must be accompanied by a certified English translation signed and sealed by the U.S. Consul or other authorized government official. Applicants must submit certificates, diplomas and transcripts showing subjects and grades from the first year of secondary work to the time of application. Documents submitted will not be returned to the applicant or forwarded to another institution.

Student Organizations (CTR 217) provides assistance in academic advising, personal and social counseling, events of individual and group interests, and aids the student(s) in meeting the requirements of the University, the Department of Immigration and Naturalization Services, and other agencies. It broadens the awareness of the different areas of the University which may benefit and further the intellectual, social and moral development of the student.

Dual Enrollment—High School

Dual enrollment in USF classes is open to academically qualified students currently enrolled in high school who are recommended by their guidance counselor or principal. (An applicant should secure the Dual Enrollment Recommendation form from the Office of New Student Relations.) High School students seeking dual enrollment status are preadvised by and obtain the Special Student Registration form from the Office of Advising, Division of University Studies. Dual enrollees register as special students and are admitted to USF classes on a space available basis during the first week of every quarter. Up to 20 quarter hours of college credits earned through dual enrollment may be applied toward the student's USF undergraduate degree when he is regularly enrolled after high school graduation.

Special Student—Non-degree

To serve the academic needs of people in its service area, the University has established the special student classification for non-degree seeking students.

Special Students do not make formal application to the University. Enrollment is by means of a Non-Degree Special Student Enrollment Form available in the Office of Records and Registration and college advising offices.

Special Students may enroll only during the first five days of each quarter (see Academic Calendar for dates). Course prerequisites must be met and enrollment is on a space available basis. No more than 18 hours of credit earned in this status may be applied toward a graduate degree and no more than 20 hours of credit may be applied toward an undergraduate degree. Students taking above 18 graduate hours in the Special Student status must obtain approval from the appropriate graduate office and/or Graduate Council to have those hours counted toward their degree requirements. The Non-Degree Special Student Enrollment Form must be completed for each term of enrollment. Former USF students are eligible only if they have completed and earned a degree in the degree program for which they were previously enrolled. If the degree was completed at another institution, the student must have an official transcript from the institution on file in the Registrar's Office before registration will be allowed. Former non-degree seeking students are eligible only if they wish to remain in the non-degree status.

Graduate Students

Graduate Students should refer to the section on "Division of Graduate Studies," page 43.

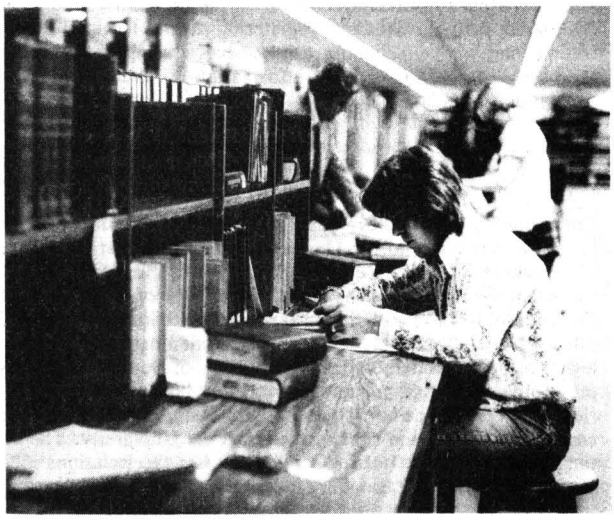
Readmissions (Former Students Returning)

A "Former Student Returning" (FSR) is any student who has not been in attendance at the University during either of the two quarters immediately preceding the quarter that enrollment is desired. Such students should secure a "Former Student Returning Application" from the Office of Records and Registration. Former Students Returning must apply prior to the deadline listed in this catalog. Those applying after the deadline will be allowed to register (if readmissable) during the late registration period and will be required to pay a $25.00 late registration fee. (See Academic Calendar for dates.)

1. Former undergraduate students who have completed their baccalaureate degree, transient students, and special students who wish to enter graduate study for the first time as degree seekers must file a "Graduate Application" prior to the deadline listed in this catalog. Students in the above categories should not be considered Former Students Returning.
2. An application fee is required for all students who have enrolled only for Continuing Education (off campus) courses and for those who re-enrolled only as Special Students.
3. All former USF students who have completed their baccalaureate degree and wish to return to the University to begin another undergraduate major or degree must file an "Undergraduate Application" with the Office of Admissions; no fee is required. A student may not work on a second undergraduate major or degree if he/she has been accepted into a graduate program.

Former Students Returning should consult the quarterly University Class Schedule for any deadline and procedural changes. To be eligible for readmission, a student must meet the following requirements:

1. Be in good standing and eligible to return to the University of South Florida.



2. If attended another institution since last attending USF:
   a. Be in good standing and eligible to return to the last institution attended as a degree-seeking student.
   b. Have achieved a grade point average of at least 2.0 on a 4.0 system on all college level academic courses attempted at institution(s) previously attended and also at the last institution attended.

Students who have attended another institution(s) in the interim should request that official transcripts of all work attempted at other institutions be sent to the Office of Records and Registration, Attention: Evaluation Clerk.

Evening Courses

The admission requirements and achievement levels in the day and evening courses are the same. Any student accepted to the University may enroll in any courses offered in the evening which are appropriate to his/her program.

Academic Advising for Admitted Undergraduate Students

The University seeks to provide all students with sufficient guidance and advice to select programs and courses best suited to their personal abilities, educational interests, and career objectives. To achieve this goal, an academic advising office is maintained in each of the eight colleges offering baccalaureate degrees and in the Division of University Studies.

Any student entering the University with fewer than 90 quarter hours and upper level transfer students without an academic major are initially assigned to the Division of University Studies for academic advising. These students may declare a major (in most instances) by completing a form in the appropriate college advising office. Because of the highly structured nature of some programs, it is important that students check the college section of the catalog for advising or admission requirements (e.g., see College of Fine Arts and College of Engineering). Students who do not wish to declare a major are advised by the Division of University Studies. A student must declare a major *no later than* the end of the junior year (135 quarter hours).

Students transferring to the University with 90 quarter hours or more with a major are assigned to the college of that major for advising. It is necessary, however, that all students check in with their colleges upon arrival on campus. This can be accomplished during the Orientation Program. The purpose of the initial contact is to assign an academic adviser and to provide the college with routine information which assists the college in collecting and maintaining the necessary records to assure the student's proper progress toward educational goals.

In a few cases, only a limited number of students can be admitted to a particular major. Students planning to enter such programs should be aware of this situation and should be prepared with alternative plans of action.

All students are encouraged to establish an advising relationship with a college or the Division of University Studies and periodically visit their advisers to keep abreast of any policy, procedural, or curriculum changes which may affect them. In fact, some colleges *require* adviser approval of student programs each quarter.

To assure continuity, high quality, and commonality in advising (to the extent possible with widely varying programs) the coordinator of advising of each college and the Division of University Studies, and representatives from the related offices of the Registrar, New Student Relations, and Community College Relations, meet periodically as the University's Council on Academic Advising. This Council is concerned with assuring timely availability of accurate information on University courses, programs, procedures and regulations to prospective, new and continuing students.

While the University provides advising services to assist students with academic planning, *the responsibility for seeing that all graduation requirements are met rests with the student.*

Course Registration for Admitted Students

Course registration is conducted in person by appointment during both the Early and Regular registration periods each quarter. Appointment times and registration instructions are published in the quarterly University Class Schedule. Students are encouraged to register early to allow time for schedule adjustments by the colleges.

Changes of class registration for students who register during Early Registration can be made during the Early or Regular Drop/Add periods. Students registering during Regular Registration may make schedule adjustments during the Regular Drop/Add period. (Deadline information is available in the Academic Calendar.)

Any regular University student wishing to enroll simultaneously in evening classes must register and pay fees in the manner prescribed for regular students attending campus daytime classes.

Students who do not register for classes by the close of the Regular Registration period may register during Late Registration, the first week of classes. A $25.00 late registration fee is charged for this privilege. (See the section on fees for additional information and the quarterly University Class Schedule for dates.) *Fees must be paid for all courses registered for at the end of the Regular Drop/Add period* (see Academic Calendar for dates).

Office of Community College Relations

Community/junior college and other undergraduate students planning to transfer to the University should contact the Office of Community College Relations (both before and after transfer) for needed assistance. The primary concern of the Office of Community College Relations is to assist community/junior and other college transfer students (and staff members of those colleges) to better understand the University of South Florida; its philosophy; its programs; and its procedural operations. This office, conversely, has a responsibility for the interpretation of the community/junior and other colleges to the University. The ultimate goal of the Office of Community College Relations is to ensure equity for the transfer student. One significant contribution toward this goal is the annual delivery of the updated Community College Counseling Manuals to every Florida community/junior college—and to other institutions by request.

Community College Relations works closely with Florida community/junior college students and staff, as well as with such USF offices as Admissions, Student Affairs, Records and Registration, and the various colleges and departments, while serving a coordinating function within the University by working with all areas concerned, in minimizing problems of transfer students coming to the University.

The University of South Florida subscribes fully to all of the provisions of the Statewide Articulation Agreement. It is strong-

ly recommended that students transferring from community/junior colleges to the University of South Florida complete their Associate in Arts degree—or, in certain prior-approved areas, the Associate in Science degree. Special details for students who do not plan to complete the associate degree requirements are available from the Office of Admissions.

It is recognized that enrolling in college is difficult for the freshman—in some respects, it is more difficult for the transfer student. The freshman student experiences only one transition, usually—that from high school to college. The college transfer student, on the other hand, unlike the freshman, must relearn some of the information regarding institutional regulations, grade point computations, financial aid, institutional organization, etc. The Office of Community College Relations stands ready to lend any possible assistance in this important, additional period of transition.

Office of Testing and Advanced Placement

The Office of Testing and Advanced Placement serves three principal functions:

1. *Admissions and Academic Testing:* Tests required for admission to colleges, graduate and professional schools as well as many other special tests are administered by this office. Examples are the SAT, ACT, GRE, Medical College and Law School Admission tests.
2. *Test Development and Scoring Services.* Analysis and advisory services are provided to aid in construction and validation of tests used in classes and instruments such as surveys and questionnaires for research purposes. Test scoring and analysis by machine (IBM 1230) are available to all faculty and authorized personnel.
3. *Credit-By-Examination* (see page 33): The College-Level Examination Program (CLEP) is administered through this office as are other examination programs designed to provide alternative means for students to achieve credit.

The Committee on Testing and Advanced Placement recommends standards and procedures for conduct of the credit-by-examination program.

Continuing Education

The University of South Florida offers both credit and noncredit educational programs to serve the in-service and continuing education needs of a geographical area which encompasses Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Lee, Manatee, Pasco, Pinellas, Polk, and Sarasota Counties.

Both degree and non-degree seekers may participate in the University's Continuing Education credit program. Students desiring to obtain a degree must, however, apply for admission to the University as a degree seeking student (see Requirements for Admission) at an early date so that courses taken may be considered for inclusion in a program of studies (see appropriate college programs).

To assure quality of instruction, the Continuing Education credit courses, for the most part, are taught by the regular faculty of the University. When this is not possible, outstanding instructional personnel are recruited from neighboring accredited institutions. In addition, the University System Extension Library makes available for each Continuing Education course the latest in reference materials.

The academic calendar for courses scheduled off-campus is essentially the same as for the University's on-campus credit program. Classes are generally scheduled once a week.

Although some Continuing Education credit courses are generated by the University itself, most originate through requests which are initiated by individuals or interested groups. Requests for Continuing Education courses in the field of Education should be submitted to County Extension Coordinators designated by the county superintendents of schools. Requests for Continuing Education courses in all other areas should be transmitted by individuals, groups, companies, agencies, etc., directly to the Center for Continuing Education, University of South Florida, Tampa, Florida 33620.

Enrollment in Continuing Education Courses

Enrollment in a Continuing Education off-campus credit course is accomplished by mail only. Enrollment forms may be obtained at a Continuing Education office, from the local County Extension Coordinator in county school board offices, or from the course instructor at the first class session.

1. The enrollment form and payment of fees must be postmarked no later than the deadline announced in the University Class Schedule.
2. On-campus students enrolling in a Continuing Education course must use the enrollment by mail procedure.
3. Fees for Continuing Education courses are assessed the same as fees for classified and unclassified students. Consult the Fees Section on page 17 for detailed information.
4. Enrollment forms for students whose fees are to be paid by school boards or state or federal grants must be forwarded in accordance with registration deadlines. Payment of fees or appropriate purchase orders must be enclosed with enrollment forms.
5. It is the responsibility of the individual student to ascertain that he or she has met the course prerequisites as published in this *Bulletin.*

Mature Student Admission: Education for Adults

Recognizing that education is a life-long process relevant to the needs of students over 25 years of age, the University of South Florida has developed programs and courses designed specifically for mature students. The University seeks to promote a better understanding of life in a changing world by means of instruction offered in a variety of ways—with and without academic credit. Programs are available for adults who wish to begin a college program, for those who are seeking to complete their interrupted college education, and for those who have earned a community college degree and now wish to earn the bachelor's degree. In addition, a wide variety of courses is offered in both the daytime and evening for those who wish to update a degree earned in the past or for those who are seeking to enrich their intellectual and cultural life.

Students who are above traditional college age (18-24) often have unique educational considerations that require special services. One of these services is academic advising in the Division of University Studies. There is also a pre-admission adviser for mature students in the Division of University Studies. (See page 26.)

FINANCIAL INFORMATION

Financial information pertaining to registration fees and other charges, services, and benefits are consolidated in this section for easy reference. All fees are subject to change without prior notice.

Resident Status—Florida and Non-Florida

Board of Regents regulation 7.6, Florida Student Definition, reads as follows:

For the purpose of assessing registration fees, students shall be classified as Florida or non-Florida. A Florida student is a person who shall have resided and had his domicile in the State of Florida for at least twelve (12) months immediately preceding the first day of classes of the current term.

In applying this policy "student" shall mean a person admitted to the institution. If such person is a minor, it shall mean parents, parent, or legal guardian or his or her person.

The word "minor" shall mean a person who has not attained the age of 18 and whose disabilities of minority have not been removed by reason of marriage or by a court of competent jurisdiction.

The word "domicile" for fee-paying purposes shall denote a person's true, fixed, and permanent home and place of habitation. It is the place where he intends to remain, and to which he expects to return when he leaves without intending to establish a new domicile elsewhere.

The word "parent" shall mean a minor's father; or mother; or if one parent has custody of his person, the parent having custody; or if there is a guardian or legal custodian of his person, then such guardian or legal custodian.

In all applications for admission by students as citizens of Florida, the applicant, or if a minor, his parents or legal guardian shall make and file with such application a written statement under oath that such applicant is a bonafide citizen, resident, and domiciliary of the State of Florida entitled as such to admission upon the terms and conditions prescribed for citizens, residents, and domiciliaries of the State.

A non-Florida student is a person not meeting the requirements of Section A above. A non-Florida student (or if a minor, his parent or parents) after having been a resident and domiciliary of Florida for twelve (12) months may apply for and be granted reclassification prior to the first day of classes of any subsequent term; provided, however, that those students who are non-resident aliens or who are in the United States on a non-immigration visa will not be entitled to reclassification. However, for fee-paying purposes, Cuban nationals and Vietnamese refugees will be considered as resident aliens. Such application shall comply with the provisions above. In addition, the application for reclassification must be accompanied by a certified copy of a declaration of intention to establish domicile filed with the clerk of the Circuit Court as provided by Section 222.17 Florida Statutes.

Unless the contrary appears to the satisfaction of the registering authority of the institution at which a student is registering it shall be presumed that:

The spouse of any person who is classified or is eligible for classification as in-state student is likewise entitled to classification as an in-state student.

A minor whose parent is a member of the armed forces and stationed in this State pursuant to military orders is entitled to classification as an in-state student. The student, while in continuous attendance, shall not lose his residence when his parent is thereafter transferred on military orders. A member of the armed forces of the United States stationed in this State on military orders shall be entitled to classification as an in-state student while on active duy in this State pursuant to such orders.

No person over the age of 18 years shall be deemed to have gained residence while attending any educational institution in this State as a full-time student, as such status is defined by the Board of Regents, in the absence of a clear demonstration that he has established domicile in the State.

Any person who remains in this State when his parent, having theretofore been domiciled in this State, removes from this State, shall be entitled to classification as a Florida student so long as his attendance at a school or schools in this State shall be deemed "continuous" if the person claiming continuous attendance has been enrolled at a school or schools in this State as a full-time student, as such term is defined by the Board of Regents, for a normal academic year in each calendar year, or the appropriate portion or portions of such years, thereof, since the beginning of the period for which continuous attendance is claimed. Such persons need not attend summer sessions or other such intersession beyond the normal academic year in order to render his attendance "continuous."

Appeal from a determination denying Florida status to any student may be initiated by the filing of an action in court in the judicial district in which the institution is located.

Any student granted status as a Florida student which status is based on a sworn statement which is false shall, upon a determination of such falsity, be subject to such disciplinary sanctions as may be imposed by the president of the university, which sanctions may include permanent expulsion from the State University System or any lesser penalty.

Special Categories: The following categories shall be treated as Florida residents for tuition purposes:

Military personnel of the United States of America on active duty and stationed in Florida, including dependent members of their immediate families.

Veterans of the United States of America retired with twenty (20) or more years of active military service, including dependent members of their immediate families, who are in Florida at the time of retirement, or who move to Florida within one year following retirement and intend to make Florida their permanent home.

Full-time elementary, secondary, and junior college faculty members under current teaching contracts in the State of Florida. (This is construed to exclude the spouses of such faculty members.)

Full-time faculty and career employees of the University System and members of their immediate families.(This is construed to exclude the spouses of students.)

If during attendance at the University the residency status changes, the student must obtain a "Request for Residency Change" form at the Office of the Registrar, complete and re-

turn with the required documents to the Residency Clerk in the Office of Records and Registration.

Deadline—**The above forms and documents must be submitted no later than the fifth day of classes for the term requested if reclassification is to be considered.**

The Director of Admissions is responsible for and will make the residency determination for all new first time entering students and for former students returning at a new level by means of a new application.

Decisions may be appealed as designated in University rules to the Vice President of Student Affairs.

Fees

The following fee schedule applies to all University of South Florida students with the exception of those in the Bachelor of Independent Studies, External Degree Program. For information on the BIS Program fees, see page 37.

All fees are subject to change by action of the State Legislature, without prior notice. The University will make every effort to advertise any such changes if they occur.

1. **Initial Application Fee**
   (Each application—not refundable) $15.00

2. **Registration and Tuition Fee**
   Students who pre-register may receive a bill through the mail. However, the University is not obligated to send out such a bill. The student is responsible for paying fees in full by the appropriate due date stated in the particular quarter's "Schedule of Classes." Failure to do so will result in the student being assessed the $25.00 late payment fee.

   A. *Fee Structure*
   Fees are assessed by course level—not student classification.

Course level	*Fees, per Resident*	*Credit Hour Non-Resident**
Undergraduate		
Lower level (001-299)	$15.00	$38.00
Upper level (300-499)	16.50	51.50
Graduate (500 and over)	22.00	62.00
Thesis and Dissertation	24.00	64.00

   NOTE: 1. There is no ceiling (maximum) on the amount which a student may be assessed for a single quarter.
   2. In addition to the above, each student who enrolls for five or more credit hours on the Tampa Campus or Sarasota Campus must pay a $10.00 Student Health Fee for the quarter. A student enrolling for four or less credit hours may voluntarily pay the health fee by the end of the first week of classes.
   3. Effective Quarter IV (Summer), 1977, the *undergraduate* fees shown above will be reduced by $6.00 per credit hour for courses taken during Quarter IV.
   4. Students who *only* register for developmental courses or a co-op assignment must pay a minimum of one (1) hour at the level of the course or co-op assignment.
   5. Registration fee payments should be mailed to:

      Division of Finance and Accounting
      University of South Florida
      4202 Fowler Avenue
      Tampa, Florida 33620

   B. *Off-Campus Courses*
   Students taking off-campus (Continuing Education) courses will be assessed the same fees as stated in "A" above except for the Health Fee. Continuing Education courses are designated by the "700 series" section number. The "Schedule of Classes," which is printed each quarter, can be used as a reference for updated information.

3. **College of Medicine Registration Fees**
   A Florida student enrolled in the M.D. program in the College of Medicine will pay a fee of $1,756.00 per year in installments of $439.00 each to be paid in July, October, January and April. A non-Florida student enrolled in the M.D. program in the College of Medicine shall pay a fee of $4,028.00 per year in installments of $1,007.00 each to be paid in July, October, January, and April.

4. **Late Registration Fee**
   All students who initiate (i.e., those students who have not enrolled for any courses during Early or Regular Registration) their registration during the late registration period will be automatically assessed a $25.00 late registration fee. This is separate from the late payment fee.

5. **Late Payment Fee**
   All registration fees and all courses which were added during the Drop/Add period must be paid in full by the payment deadline date specified in the "Schedule of Classes" printed each quarter. A $25.00 late payment fee will be assessed against all students who do not pay their fees in full by the specified date. The University can only charge a maximum of $25.00 in total late fees for a single quarter.

6. **Cancellation for Non-Payment of Fees**
   Students not on an authorized deferred payment of fees and who have not paid their registration fees in full by a specified day (per "Schedule of Classes") may have their registration for that quarter cancelled. This means specifically that a student will receive no credit for any courses taken during that quarter. Students who are allowed to register in error may have their registration cancelled. Any fees paid by that student will be refunded to the student or credited against other charges due the University.

7. **Reinstatement Fee**
   There will be a reinstatement period from the beginning of the sixth week of class through the end of the seventh week of class. Any student wishing to be reinstated must apply in writing during that period. All fees plus a $25.00 Late Payment Fee and a $25.00 Reinstatement Fee must be paid immediately if the reinstatement is granted. *There will be no reinstatement after the seventh week of class for any errors other than administrative errors (errors caused primarily by the University).*

8. **Intern Certificate of Participation**
   Students who present Intern Certificates for payment of their registration fees will have to pay a $2.85 per hour charge for all credit hours taken during the quarter. By paying this $2.85 per credit hour credit hour charge and presenting an Intern Certificate, a student will be allowed

*See "Resident Status"

to register for an unlimited number of credit hours during a single quarter. These students will not be charged a student health fee. Students presenting Intern Certificates dated prior to July 19, 1974, may take up to 8 credit hours free of charge.

9. **60-Day Deferment for VA Students**
   Students receiving VA benefits who have applied in writing no later than the specified date for the 60-day deferment of fees from the Office of Veteran's Affairs have until a specified date (See "Schedule of Classes") to pay registration fees in full.
10. **Room Rent**
    Room rent is paid in accordance with information in the Housing Contract.**

	Per Quarter
Quarter I, II, III	$200.00
Quarter IV (10-week session), per week	18.50

11. **Food Service**
    The following food service plan options are available to all students.**

Saga Food Service	*Per Quarter*
20 meal plan—Mon. through Sun.	$251.71
15 meal plan—Mon. through Fri.	221.93
12 meal plan—Mon. through Sun.	237.06
10 meal plan—Mon. through Fri.	211.43

** Prices listed are subject to change for the academic year 1977-78. Food service prices may be revised quarterly, if necessary.

Refund of Fees

Registration fees will be refunded under certain conditions upon presentation to the Division of Finance and Accounting of an authorization issued by the Office of the Registrar.

1. **Issuance**
   The processing of a registration refund will be detained for a two-week period immediately following the last day to pay fees without a late fee.
2. **Withdrawals**
   A. When officially requested by a student, a full refund of registration fees will be made if a student withdraws from the University on or before the final day of the regular "Drop-Add" period. (First week of classes).
   B. No refund of registration fees will be made if the student withdraws after the final day of the "Drop-Add" period except in the following cases:
      (1) If a student is involuntarily called back to duty with the armed forces.
      (2) Death of a student during the term for which enrolled.
      (3) Incapacitating illness of such duration and severity as to preclude successful completion of the academic program for the term for which a student is enrolled.

In the instances stated above, the refund will have a $2.85 per hour withdrawal fee deducted.

3. **Cancellations**
   A. A student who at any time has his registration cancelled by the University because he was allowed to register in error is entitled to a full refund of his registration fees.
   B. A student may be cancelled by the University when registration and tuition fees are not paid in full by the last day of the regular "Drop/Add" period, (first week of classes) except when a deferment is granted by the University.
4. **Reduction of Class Load**
   A student must officially drop a course within the "Drop/Add" period in order to be eligible for a refund. A "Registration Refund Request" form must be completed and presented to the Division of Finance and Accounting before any refunds will be initiated. The refund will be the amount paid less proper charges per hour for each hour continued.
5. **Late Fees**
   Late registration fees are not refundable.
6. **Refund Monies Used to Clear University Debts**
   Deductions from authorized refunds will be made for unpaid accounts due the University.

Check Cashing Service

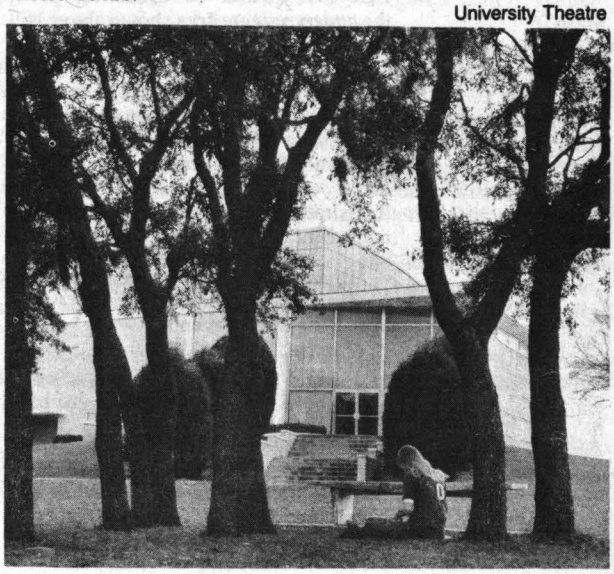
The University offers check cashing services under the following conditions:

1. The University will accept personal checks for accounts due to the University. Each student is urged to make his own financial arrangements through his choice of commercial banks.
2. The University Bookstore will cash personal checks not exceeding $50.00.
3. A service charge of 15 cents is made for each check cashed.
4. Responsibility for the check rests with the final endorser.
5. The University will not cash three-party checks.
6. All checks returned by the bank must be cleared within 5 days from the date of notification to the student. Failure to comply will result in cancellation of the student's registration. There is a $5 charge for each returned check.

Payments of Accounts Due the University

Charges against students for loss or breakage of University equipment, books, fines and other charges will be required to be paid upon notification that charges are due. Delinquent accounts may be considered sufficient cause for cancellation of registration. University regulations prohibit registration, or release of transcript for any student whose account with the University is delinquent. Payments should be brought into the Cashier's Office, Administration Building. Payments may be mailed to Finance and Accounting, University of South Florida, Tampa, Florida 33620.

University Theatre



Financial Aids

The University of South Florida has an established comprehensive Financial Aid Program that assists qualified U.S. students with their educational expenses. Financial assistance is granted on the basis of financial need, academic promise, and character. Generally speaking, academic merit, combined with financial need, determines whether aid is given, and the financial need determines the amount.

Financial assistance includes scholarships and/or grants, long-term loans, and on-campus employment. Students with a 3.0 or above grade point average may apply for scholarships as well as other types of assistance, while students with a grade point average below 3.0 will be considered for assistance other than scholarships.

Short-term, or emergency loans, are also available to help students in the event of a temporary unexpected short-term requirement for educational purposes.

In order to be considered for financial aid, the student must complete a USF financial aid application, and file either a Parents' Confidential Statement or a Financial Aid Form with the College Scholarship Service. These forms are available at the Office of Financial Aids. Priority will be given to students who are registered full time, i.e., 12 or more hours as an undergraduate and 9 or more hours as a graduate.

The deadline for applying for scholarships is February 1 for the academic year beginning the following September, and priority will be given to those students who apply for other types of assistance prior to March 1. In awarding financial assistance, no student is discriminated against because of race, religion, creed, age, sex, color, national origin, or marital status.

Vehicle Regulations and Fees

Motor Vehicles

Students may use properly registered motor vehicles on campus. Parking facilities are provided for resident and commuter students. All motor vehicles and bicycles used on campus must be registered with the Division of Public Safety. This applies to full-time or part-time, day or evening students. Each motor vehicle registrant must present vehicle registration certificate indicating proof of who owns the vehicle and authorization to operate the vehicle. A booklet entitled " USF Traffic and Parking Regulations" will be issued to each student on registering a motor vehicle. Registration fees (unless changed by State Statute) for three- or four-wheeled motor vehicles will be $10.00 for an academic year; $4.00 for an academic quarter. Yearly fees for students registering after the first quarter. Yearly fees for students registering after the first quarter will be adjusted proportionally. Students may park in remote areas without paying a fee but must register the vehicle in any case. Free decal provisions are described in the regulations. All decals expire on 31 August of the academic year.

Motorcycles

Fee for motorcycles will be $2.00 per year no matter what time of year they are registered.

Bicycles

Fee for bicycles is $1.00. Bicycles need only be registered once. Decal issued for bicycles is valid as long as used on campus. A booklet entitled "USF Bicycle Traffic and Parking Regulations" will be issued to each student registering a bicycle.

Special Services

Veterans Administration Benefits

The University of South Florida is approved for the education of veterans, service members, and dependents of veterans eligible for benefits under the GI Bill. All standard degree programs currently offered at USF are approved by the State Approval Agency.

University Center

The Offices of Veterans Affairs or veterans coordinator on each campus can provide information concerning the following: certification for benefits, advance pay checks, deferment of registration and tuition fees, tutorial assistance, advising and counseling services. (Note information listed elsewhere in this catalog under Offices of Veterans Affairs). *To initiate, change, or renew benefits, requests should be submitted through one of the above offices.* A minimum of six to eight weeks processing time should be allowed before expecting to receive the first check. Effective June 1, 1977 there will be no prepayment of benefits and advance pay checks will be considered only upon special written request to the VA.

To be eligible for full-time benefits, undergraduates and special students must enroll for 12 or more quarter hours each normal term (10-13 weeks); degree seeking graduate students must enroll for 8 or more quarter hours. There are special VA regulations regarding: special student enrollment, dual enrollment in two schools, courses taken by audit (no benefits), courses taken by television, the Cooperative Education Program, any nonstandard course or program, and standards of progress. *It is the student's responsibility to inquire concerning special regulations and to report any change in status which affects the rate of benefits.*

Students approved for benefits under chapter 31 (vocational rehabilitation) should contact the Office of Loans and Scholarships no earlier than regular registration for a book slip and other financial information.

The Veterans Representative assigned by the VA Regional

Office is available on the Tampa campus for assistance in the following areas: VA forms, VA regulations, eligibility questions, check problems, VA education loans, and additional VA benefits.

Other benefits include additional amounts of compensation and pension, which may be payable to eligible veterans and widows of veterans for children between the ages of 18 and 23, if the children are attending at least three class sessions per week. The student, parent, or guardian is responsible for notifying the VA Regional Office (where the veteran's records are located) of enrollment and termination of enrollment.

Social Security Benefits

Full-time students between the ages of 18 and 22 who are eligible for Social Security checks should notify their local Social Security office to request enrollment certification through the Tampa Social Security Office. To be considered full-time at USF, students must enroll and remain enrolled for a minimum of 12 quarter hours each term, except summer term. It is the student's responsibility to notify the Social Security Administration when he or she ceases to be enrolled full-time.

Railroad Retirement Annuity Award

The University maintains a file of students receiving Railroad Retirement Annuity Award benefits, notifying the Board when a student ceases to be enrolled full-time. A student ceases to be enrolled full-time when he is enrolled for less than 12 hours as an undergraduate and 8 hours as a graduate.

To initiate benefits, student should contact the Railroad Retirement Board.

BOOKSTORES

Textbook Center

Textbooks are located in the Textbook Center adjacent to the Central Receiving Building. Every attempt is made to have all required and recommended texts available the first day of registration.

USF Bookstore and Campus Shop

The USF Bookstore and Campus Shop, located in the University Center, serves the University community by providing numerous goods and services.

The Art and Engineering Department contains all course supplies of art, engineering, and science classes, as well as many hobby and general purpose items. Oil or water base paint, brushes, art paper, slide rules, electronic calculators, graph paper, drafting supplies, dissecting kits, and lab notebooks are among the many items in this department.

The Supply Department stocks all the basic school supplies and course required supplies necessary to fulfill course needs—notebooks, notebook paper, pens, pencils, etc.

The Customer Service Department stocks a large assortment of items which includes candy, cigarettes, tobacco products, health and beauty aids. This department provides many helpful services—film developing, college ring order service, fresh flower gift service, magazine subscriptions at student rates, etc.

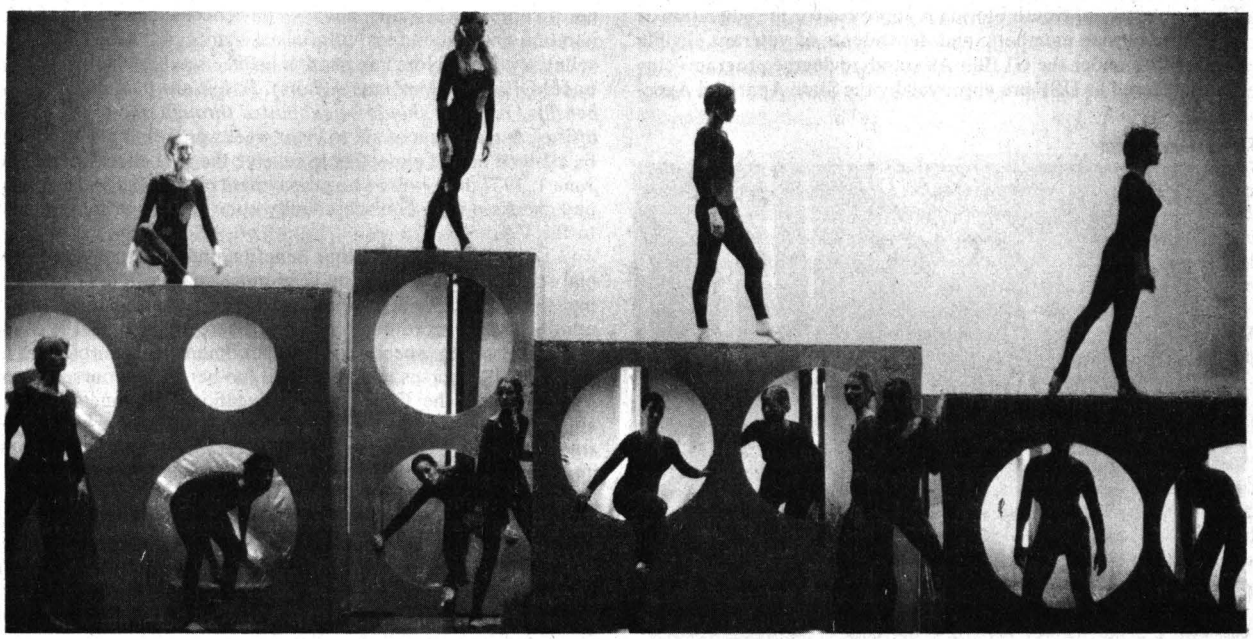
The Social Expression Department contains a complete selection of traditional and contemporary greeting cards and stationery.

The General Book Department is located in the basement of the Bookstore and features approximately 13,000 different titles, including the very latest in fiction, non-fiction, reference, study aids, and children's books. A copy center is also located in this area.

Check Cashing

The Bookstore provides a check cashing facility for students, staff, and faculty. Cash limit is $50.00. Student current fee card and picture ID or current staff card must be presented for identification.

USF Dance Performance



STUDENT SERVICES AND STUDENT AFFAIRS

The University of South Florida is dedicated to the intellectual, social and moral development of students in order to provide responsible leaders who can work effectively in a democratic society. The University has a concern for the total life of the student, both in and out of the classroom. Diversity of opinion, criticism, and dissent are essential in discharging these responsibilities, and this has been set forth and safeguarded in the Board of Regents' policies (Sec. 6c, Administrative Code of Florida).

As a condition for admission to one of the State Universities of Florida, students agree to abide by the policies of the Board of Regents and by the rules and regulations of the institution. The University has the right and responsibility to determine who shall be admitted to the institution; the conduct or behavior acceptable to the institution: and under what conditions one may continue as a student. Administrative due process and the right of review in all disciplinary hearings are provided by the University.

University officials and particularly the Vice President for Student Affairs and his staff are charged with the responsibility of interpreting the policies of the Board of Regents to students and others in the university community, and with developing positive student personnel programs which further the intellectual, social, and moral development of students.

Office of Student Affairs and University Development

The Vice President for Student Affairs and University Development, and the staff members in that area of administration, provide leadership and professional services necessary to maintain a campus environment conducive to learning. First, they offer services enabling students to cope effectively with factors of personal and social living that affect academic work: academic advising, financial aid, health service, individual and group counseling, career planning, placement, cooperative education, standards of conduct and performance, due process in disciplinary action, procedures for redressing grievances, and advice and assistance in time of trouble. Second, they provide programs enabling students to participate effectively in the corporate life of the University: orientation (FOCUS), equal opportunity programs, residence halls, student government, student publications, organizations, activities, and events of special interest. Third, they offer services, programs, and opportunities for alumni and friends of the University to assist the University in fulfilling its goals and mission.

The Office of the Vice President for Student Affairs and University Development is responsible for notifying all involved parties in the event of the death of a student.

Standards and Discipline

Just as the University tries to maintain high standards of academic performance, its members try to support high standards of individual conduct and human relations. Responsibility for one's own conduct and respect for the rights of others are essential conditions of academic and personal freedom in the University.

The University may deny admission or refuse continued enrollment to students whose actions are contrary to the purposes of the University, or impair the welfare and freedoms of other members of the University.

Standards of personal conduct are published in a handbook provided to students at the beginning of each term. Disciplinary procedures followed when a student fails to exercise his responsibility adequately or commits some offense against University standards, local, state or federal law provide the safeguards of due process customarily enjoyed by American citizens. These include a written description of the offense, participation in discussion of the matter and presentation of information in one's own behalf, the right to seek counsel in one's own best interest, and the right of appeal. These procedures are also described in the handbook.

Self-discipline and sensitivity to the rights and interests of others are the principal elements of University discipline. Students are entitled to seek advice on any matter of judgment, conduct or human relations that may concern them, and to participate in the development of standards of conduct supporting their interest in the purposes of the University.

Many students have asked for advice on standards of dress and personal appearance. Campus dress is expected to be appropriate to the activity in which the individual is engaged.

Student Government

All regularly enrolled students are voting members of the Student Government of the University of South Florida. They elect the college councils, the Student Government officers, and the student representatives to the University Senate. Student Government is an agency representing student interests in plans, programs, policies and procedures at the University, and securing student representation in University governance. The Student Government office also helps students deal with special problems in areas such as off-campus housing, veterans services, and referral for legal assistance.

Grievance Procedure

In order to assure to students the right to redress of grievances, the Office of Student Affairs is responsible for a grievance procedure. Any student may file a question, complaint, or statement of grievance, in the Office of Student Affairs, in person or in writing. A course of action or other answer will be given by a member of the staff of the Office of Student Affairs, within the week if possible. Students who do not wish to identify themselves or to provide local addresses will find the reply published in the earliest possible edition of *The Oracle.*

St. Petersburg and Sarasota Campuses

Student Affairs offices are also maintained at the St. Petersburg and Sarasota campuses. For information about the services and programs provided for these students, see page 8.

Financial Aids

The student financial aids program at the University of South Florida is a part of the Student Affairs program. For detailed information about financial aids see page 19.

Student Health Service

Comprehensive health care is provided through the University Student Health Service for all students who have paid the Health Fee. The Health Center is located on the fourth floor of the Univereity Center building.

A 12-bed infirmary is available for students with illnesses precluding class attendance. A walk-in clinic and medical laboratory are maintained for outpatient treatment.

University physicians have office hours by appointment, Monday through Friday. Registered nurses are on duty 24 hours a day, seven days a week in the Health Center and emergency care is available continuously, including nights and weekends.

Handicapped Students

Students with physical handicaps will be encouraged to attend the University of South Florida if they can fully participate in the educational program using existing facilities. (Physical disability is not in itself sufficient reason to debar admission.)

Only those students who can demonstrate the physical capacity to carry out academic responsibilities shall be admitted. Physically handicapped students admitted to the University shall not be denied admission to a course or degree program without demonstrated cause or reason.

The Office of Student Affairs shall be responsible for determining which handicapped students, who otherwise meet admission requirements, may be admitted to and continued in the University.

The Office of Student Organizations (CTR 217) provides assistance in academic advising, personal and social counseling, events of individual and group interests, and aids the student(s) in meeting the requirements of the University and other agencies which may benefit their needs.

Division of Cooperative Education & Placement

One of the recognized goals of a college education is to maximize career satisfaction and University of South Florida has dedicated itself to the purpose of assisting students and alumni in realizing their career objective. Undergraduate students are encouraged to participate in the CEP and graduating students and alumni are urged to take advantage of the Placement Service.

Cooperative Education Program

The Cooperative Education Program is an academic program open to majors in most disciplines offered at the University. The program's objective is a balanced education where occupational experience is an integral part of formal education and theory is blended with practice. In addition to regular classroom and laboratory exercises, it acquaints the student with the world of work and a professional environment. The ultimate objectives of the program are to provide relevance in the educational process, direction in career planning and bringing business, industry, and governmental agencies close to the educational program of the University and have the graduates absorbed into permanent employment of the leading employers.

A student must complete a minimum of 45 quarter hours of academic work with a grade point average of 2.5 or better before being assigned to an employer. Students transferring from other schools must complete two full-time quarters on the USF campus prior to a work assignment in addition to a 2.5 grade point average and other requirements. Qualifying students are assigned to a team and alternate between quarters of training (paid employment) and quarters of study until they complete a minimum of three quarters of off-campus work assignments. All University of South Florida cooperative programs are approximately four years in length except in the field of engineering, which is approximately a five-year program.

The University will assign students to training programs relevant to their educational and professional goals. Usually students are first placed on assignments where they can learn the fundamentals. They may then advance in the type of assignment from training period to training period.

Students are encouraged to make application for placement in the program at least one quarter prior to their desire to go on a training assignment. Once a student is accepted into the program, the training assignments become a part of their academic program leading to a degree. The students must remain on the alternating pattern of training and study until they complete the three quarter requirement and are released from the Cooperative Education Program by the Director of the program. Students signing an agreement covering training periods are obligated to fulfill their agreement.

Students who fail to report for a training period after signing an agreement, or who fail to keep their agreement ro remain with an employer to the end of a given training assignment, will receive a "U" grade and will be dropped from the program.

Cooperative Education students will be expected to meet deadlines for registering and for paying registration fees with any exceptions brought to the attention of the appropriate administrator by the Director of Cooperative Education and Placement.

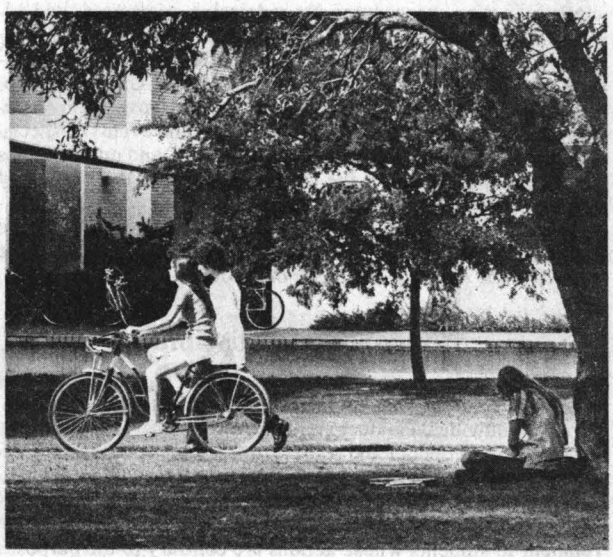
Cooperative Education students may take course work during each training period. This may be a regular course taken by class attendance, by independent study or correspondence, or a special problems course in an area appropriate to the student's major interest.

Graduating Students and Alumni

Each year representatives from business and industry, educational systems, and governmental agencies throughout the United States will conduct on-campus recruiting interviews for graduating students. In addition, employers will list career employment vacancies throughout the year and request referrals of qualified candidates. Graduating students should register with the office early in their graduating year to insure the establishment of their placement credentials. These services are available to alumni desiring career relocations.

The Occupational and Employer Information Library provides materials on vocational guidance, career opportunities, and employers. In addition, information on graduate schools is maintained.

The following data concerning the statistical records of



some of our 1976 graduates is provided for your information. It is hoped that this information will be helpful to you in making decisions for your future academic pursuits.

You should be aware that registration with the Office of Cooperative Education and Placement (by which this data is compiled) is entirely voluntary on the part of the student and that the student is not required to provide follow-up information on employment. In large part, this should be considered when examining the different percentages of registered students, the percentages that report employment and the percentages remaining on active files, many of whom may have obtained employment without reporting it.

This survey encompasses University of South Florida seniors who graduated from August 1975 through June 1976. Only those students who registered with the Cooperative Education and Placement Office were surveyed for the placement and salary information contained in this report. This information was gathered from employers, students and survey letters.

Of 4,488* graduating students, 1,536 or 34% registered with the Cooperative Education and Placement Office. Of the 1,536 registered graduating students:

390 - 25% -accepted positions
1,146 - 75% -remain on active file for referral

The following is a breakdown of the 390 accepted positions:

102 - 26% -Education
246 - 63% -Business and Industry
16 - 4% -Government
26 - 7% -Non-Profit

15 students enrolled in Graduate School.

NOTE: Questions concerning salary range should be directed to the Cooperative Education and Placement Office for explanation.

* Including graduates from Colleges of Medicine and Nursing who did not register with the Cooperative Education and Placement Office.

SUMMARY 1975-76

		Number of Graduates	Registered with Placement	Percent of Graduates Registered	Reported Number with Jobs	Percent of Registered with Jobs	Mean Yearly Salary
Arts & Letters	B:	433	90	21	16	18	$ 8,246
	M:	27	6	22	0	0	NA
	D:	1	1	100	0	0	
Business Administration	B:	717	434	61	151	35	9,734.59
	M:	51	30	59	6	20	13,900.00
	D:	0	0	0	0	0	
Education	B:	873	508	58	94	19	7,598.48
	M:	679	52	8	15	29	9,019.62
	D:	3*	2*	67*	0	0	
Engineering	B:	173	122	71	56	46	13,897.21
	M:	28	16	57	9	56	14,384.22
	D:	0	0	0	0	0	
Fine Arts	B:	118	12	10	2	17	4,808.00
	M:	14	0	0	0	0	NA
	D:	0	0	0	0	0	
Natural Sciences	B:	326	85	26	18	21	9,177.82
	M:	49	18	37	3	17	11,000.00
	D:	11	0	0	0	0	
Social & Behavioral Sciences	B:	825	147	18	14	10	7,592.54
	M:	158	25	16	3	12	10,249.00
	D:	2	1	50	0	0	
Sub-Total	B:	3,465	1,398	40	351	25	
	M:	1,006	147	15	36	24	
	D:	17	4	24	0	0	
TOTAL		4,488†	1,549	35%	387	25%	

*Either Education Specialist or doctorate degree
†Less 15 graduate school students

B—Bachelor's degree
M—Master's degree
D—Ph.D. degree

Housing

The residence hall program at U.S.F. is an integral part of the total educational experience at the University of South Florida. It is within this residential environment of the campus that students experience identity with the university community finding ongoing opportunities for intellectual, social, recreational, and vocational growth. Within the functional, pleasant surroundings of the residence halls professional staff members are available to foster academic and personal adjustment to facilitate interpersonal communication as students from all over the country establish friendships and share in cultural exchange.

Regularly enrolled students are eligible to live in University residence halls. An application for a room in University residence halls is sent with the Official Acceptance notification. Housing assignments are made without discrimination as to race, color, or national origin.

Residence Halls

The twelve halls within the Division of Housing and Food Service are clustered around two centers of community activity —the Argos and Andros Complexes. Each of the complexes provides a core of services for its residents including a central communications desk, mail delivery, TV and study lounges, and complete cafeteria and snack facilities. This arrangement has encouraged resident interaction while bringing the residence hall staff close to the needs of students. Although both Argos and Andros Complexes provide the same basic services, they represent different options in campus living.

The Argos Complex of residence halls—Alpha, Beta, and Gamma—represents traditional hall living. This arrangement provides attractive double-room accommodations designed for both studying and sleeping. The 40-50 residents occupying a living unit share common bath facilities which are attended daily by the hall's housekeeping staff. Centrally-located lobby areas, laundry rooms, and snack machines further describe the housing arrangements for the women of Gamma and Alpha (East Wing) and the men of Beta and Alpha (West Wing).

The Andros Complex, consisting of the nine small halls—Delta, Epsilon, Kappa, and Mu for women and Iota, Lambda, Theta, Eta, and Zeta for men—is characterized by the suite arrangements. Suites are designed to accommodate eight residents —two sharing a bedroom, four sharing a study area, and eight sharing bath facilities. With five suites on each living unit, the 40 residents find that the small kitchenette/lounge and laundry room become centers of floor activity.

Whether residing in Andros or Argos Complex, residents will find that all of the halls are fully air-conditioned and most are carpeted throughout. In addition, each room is furnished to provide a bed, desk, chair, dresser, closet and bookshelf for each resident. Outside, two olympic pools and numerous tennis, handball, and basketball courts await leisure-time recreation fans. And, of course, there's always a need for residents who are interested in residence hall programming.

Off-Campus Housing

The Student Government office located in the University Center maintains a list of off-campus housing. Listings are accepted only from householders and landlords that do not discriminate because of race, color, or national origin. Rental arrangements may best be made after personal inspection of facilities and conference with the householder before the University opens. Fall quarter arrangements may be made during the summer.

Food Service

A variety of food plans are offered through a food service contractor. Several small dining rooms may be reserved by committees or special groups wishing to take their trays to a private place for luncheon or dinner meetings.

University Center

The University Center seeks to facilitate another dimension of the educational experience by providing an environment for informal association outside the classroom. It provides facilities, services, and programs to enhance the social, cultural, and recreational life of the University. The information service desk serves as the coordinating center for the numerous and varied services and activities of the University Center and out-of-class student life. It is here that student organizations schedule facilities and request services for their various activities. The master schedule of all student activities is maintained at this location.

Many of the University center facilities and services provide for personal and social needs. The University Center has some fourteen meeting and conference rooms to be used by student organizations, and provides facilities for the various services offered through the Office of Student Organizations and Program Advising Office. For social activities, a ballroom is also located on the second floor. The first floor of the University Center has four social lounges for relaxation, as well as a gallery lounge to exhibit student art work. Other facilities on this floor are a television lounge, cafeteria and coffee shop, a campus store, and student government offices. Student health services occupy the fourth floor of the University Center.

The basement level of the University Center is the recreational area. To be found here are billiard tables, table tennis tables, table soccer games as well as a table game room equipped with cards, and a variety of table games. The crafts area has been expanded to include a large ceramics facility as well as leather work, copper enameling, macrame, candlemaking, and numerous other small crafts. Photography labs are also located in this area of the University Center.

Food Services, the Book Store, and Health Services operations are coordinated through their respective university administrative areas, while the other facilities and services are coordinated by the University Center Director's office.

The University Center not only includes Student Organizations but also a Program Advising Office. The Program Advising Office provides two professional advisers who are available to consult with student organizations regarding their programs and activities.

University Police

The University of South Florida Police Department, located at the intersection of Maple and Fletcher, provides the full range of public safety services to the University community 24 hours a day, seven days a week. All University Police Officers are commissioned law enforcement officers of the State of Florida. The *telephone* number for on-campus *emergencies* (crimes, fire, medical) is *2628.*

Clubs and Other Organizations

Students have formed clubs, organizations, and councils in almost every field of interest. New groups are being formed and will continue to develop. Groups presently organized cover the most frequently desired kinds of activities.

Professional staff members are available to assist individuals in forming new organizations and also to assist in the advising of currently recognized groups. For further information, please contact the Office of Student Organizations.

Dance, Music, and Drama Clubs

The excellent program in Fine Arts and its facilities, the Fine Arts Building, the University Theatre and the Theatre Centre, offer many opportunities for involvement of students, both those who major in this area and those from other colleges, in a number of activities and organizations. The Theatre department's production program is open to participation by students both on stage and off. Most of the performing organizations in the Music department welcome student participation and offer opportunities for instrumentalists and singers through its orchestras, bands, and choruses.

Cultural Events

Many of today's outstanding visual and performing artists are brought to the University of South Florida campus each year. The Artist Series provides unusual opportunities for experiencing the finest professional talents in Music, Dance, and Theatre. The Exhibitions Program provides unusual opportunities to view many varied and significant works of art annually in the University's three galleries. These and other programs conducted by the Florida Center for the Arts significantly contribute to the education of students and the general vitality of the campus.

In addition, the College of Fine Arts arranges a full schedule of concerts, plays, lectures, films, and workshops which feature students, faculty and visiting artists. The events are presented both during the day and in the evening. Many are free of charge.

Most events are open to the general public. The University publishes a Calendar of Events which is available upon request to the Coordinator of Events, Florida Center for the Arts, USF.

Fraternities and Sororities

There are currently 17 national fraternities and 10 national sororities functioning on campus. They carry out a program of social, education, service, and recreational activities for their members. Membership is open to any student, by invitation only. Their programs are coordinated through the Interfraternity Council and the Panhellenic Council with the advice of faculty and staff members.

The sororities are: Alpha Delta Pi, Alpha Epsilon Phi, Alpha Kappa Alpha, Chi Omega, Delta Delta Delta, Delta Gamma, Delta Sigma Theta, Kappa Alpha Theta, Kappa Delta, and Zeta Phi Beta.

The fraternities are: Alpha Phi Alpha, Alpha Tau Omega, Delta Tau Delta, Kappa Alpha Psi, Kappa Sigma, Lambda Chi Alpha, Omega Psi Phi, Phi Beta Sigma, Phi Delta Theta, Phi Gamma Delta, Pi Kappa Alpha, Sigma Alpha Epsilon, Sigma Chi Omega, Sigma Nu, Sigma Phi Epsilon, Tau Epsilon Phi, and Tau Kappa Epsilon.

Religious Organizations

The University has encouraged student religious organizations to develop associations and centers. Denominations have built centers in a reserved area on campus. The Episcopal Center was dedicated in the fall of 1962 and the Baptist Center in the spring of 1964. The University Chapel Fellowship followed in 1966. (This center is an ecumenical campus ministry of the following denominations: United Methodist, Presbyterian, and United Church of Christ.) The Roman Catholic Center joined the others in the fall of 1967, in an adjacent location.

Student religious organizations active on campus include: Baha'i Club, Baptist Campus Ministry, Bible Study Group, Campus Advance, Campus Crusade for Christ, Canterbury Club (Episcopal Center), Catholic Student Center, Chabad House, Christian Science Organization, Full Gospel Fellowship, Literary-Religious Association, Navigators, University Chapel Fellowship.

Service and Honorary

There are many organizations devoted to serving the University and the Tampa Bay Area. These Service Organizations are: Alpha Phi Omega, Careteam, Circle K, Peer Management Rap Cadre, Sierra Club, Tape Bank Service, and Women's Peer Counseling Center.

Membership to Honorary Organizations is usually by invitation. Honorary Organizations at USF are: Alpha Epsilon Delta, Beta Alpha Psi, Lambda Alpha, Mortar Board, Omicron Delta Kappa, Phi Kappa Phi, Phi Sigma, Pi Mu Epsilon, Sigma Tau Delta, Tau Beta Pi, and Themis.

Professional Fraternities

Many profession-oriented groups exist at USF. These include: American Society of Personnel Administration, Phi Chi Theta (management), Delta Sigma Pi (business), Phi Beta Lambda (business), Phi Mu Alpha (music), Pi Sigma Epsilon (marketing), Psi Chi (psychology), Sigma Alpha Eta (Speech Pathology and Audiology), Sigma Alpha Iota (music), Sigma Delta Chi (journalism), and Pi Sigma Alpha (government).

Special Interest Organizations

Students have organized and continue to organize clubs and organizations covering a broad range of interests. Included are those oriented to academic majors, departments, and colleges; groups providing programs, information, and governmental experience; and associations of students with a common interest in a specific recreational, technical, ideological, or other area of special concern. Complete information is available at the Office of Student Organizations.

Recreational Sports

The University of South Florida provides a variety of physical and recreational activities designed to meet the needs and interests of students. Believing that a sound and complete education includes a proper balance of work and study with physical activity, the University program includes Intramural Sports competition, Sports Clubs, and other recreational activities, in addition to basic instructional programs in physical education.

The activities represent a broad selection of sports ranging from those of a highly competitive nature to those of a non-competitive type and include individual, dual, team, and aquatic sports. Through participation, students, faculty, and staff will increase physical fitness, augment leisure time skills, and develop a wholesome attitude toward physical activity.

The Intramural Sports Program emphasizes activities that are especially suited to the Florida climate. Competition is scheduled in such individual sports as swimming, tennis, track, badminton, golf, cross country, table tennis, bowling, billiards, handball, paddleball, wrestling and archery, as well as the team sports of soccer, touch football, basketball, volleyball, and softball. Competition is scheduled through fraternal societies, residence halls, and independent divisions. Team awards are presented.

The Sports Club Program includes groups of students, faculty, and staff who have a special interest in a particular sports activity. They are organized for the purpose of increasing skills and augmenting knowledge through a continuing in-service training and competitive program. Each sports club is assisted by the coordinator of sports clubs in the selection of a faculty advisor, and the initial organization of the club is governed by University regulations. Students with special sports abilities or interests are encouraged to make them known so that when sufficient need and interest warrant, new sports clubs may be formed. Present clubs include: Aikido, bicycle, bowling, fencing, frisbee, gymnastics, judo, karate, lacrosse, rugby, sailing, soccer, sports car, scuba, sports parachute, track, volleyball, water skiing, weight lifting, and yoga.

The Special Events Program is geared to provide the University community with a variety of informal recreational activities. Some of the activities are: open tournaments, splash parties, picnics, camping, boating, coed activities, and other special project activities related to the development of campus recreation.

Intercollegiate Athletics

The University of South Florida fields intercollegiate teams in both men's and women's sports. The University is a member of the National Collegiate Athletic Association and competes in the University Division I level in baseball, basketball, golf, soccer, swimming, and tennis. The University is also a member of the Association of Intercollegiate Athletics for Women, and competes in quality competition in golf, basketball, swimming, softball, tennis, and volleyball. Schedules are arranged to include quality competition which reflects the high standards of the University, and includes contests with regionally and nationally ranked teams. USF became a charter member of the new Sun Belt Conference in 1976.

Student Publications

The University has encouraged a program of campus communication through two publications. These publications are all-University in approach and coverage. They are staffed by students under the general supervision of the Office of Student Publications.

A 5-column tabloid campus newspaper, the *Oracle,* is published five times weekly, Monday through Friday, during Quarters I, II, and III, and twice weekly, Tuesday and Thursday, during Quarter IV. Containing 16 to 20 pages in each issue, it provides professional experience for those students interested in journalism. Any student interested in working on the newspaper in any capacity is not only encouraged but urged to participate.

Omnibus, a quarterly magazine, is published during Quarters I, II and III as a supplement to the *Oracle. Omnibus I* is a tabloid magazine containing general interest features and photos produced by students. *Omnibus II* (The South Florida Review) is a literary magazine containing prose, poetry, photography, and artwork contributed by students and other members of the University community. *Omnibus III* provides a pictorial review of campus activities and events during the academic year.

Interested students are invited to apply for staff positions on either campus publication as well as make contributions to the quarterly magazine.

Development and Alumni

The purposes of the University's Development/Alumni Office are as follows:

1. To identify private resources to ensure excellence and the continued expansion and development of selected new programs at USF for which State resources are either not available or not available in quantities to meet program objectives.
2. To identify and effectively relate to the University's various advancement constituencies (Alumni, Parents, President's Council, Library Associates, University Circle, and Athletic Boosters) through the maintenance of a quality communication program, a variety of social/cultural events, involvement in programs and functions on the University campuses and a variety of fund-raising activities.

Division of University Studies

The Division of University Studies contains the offices of New Student Relations, Admissions, Academic Advising, and the Counseling Center for Human Development. The Division is responsible for assisting USF students at the point of initial contact in the community, during the process of admission at the undergraduate or graduate levels, until a choice of academic major is made with academic advising services, and with personal or career counseling services at any time.

As an administrative "home" for the USF undergraduate student who has not yet declared an academic major, the Division is a facility where the student receives the information, services, and counsel necessary for effective decision-making in regard to his or her academic and professional future.

It is through the offices of this Division that high school students seek early admission, effect dual enrollment between high schools and community colleges and the University, receive academic advisement until such time as they have chosen a major, and receive personal counseling, career information and guidance, and other support services. The Division provides information and special services for minority students and those who are above the traditional college age. Referrals to other student service units are freely made as the Division seeks to insure that all USF undergraduate students will progress toward graduation with optimal use of their time, interests, abilities, and the resources of the University.

Office of Academic Advising

The centralized academic advising office of the Division of University Studies is primarily concerned with the assistance of new lower level students and students who have not selected an academic major.

The office also serves as an initial point of contact for prospective students who are unfamiliar with the University structure and who need academic information about this institution. Since the decision about a major affects many aspects of a student's present and future life, the advisers in the Division maintain close liaison with other areas so they will be better equipped to use information from them in relation to the function of academic advising. Some of these resources are the college advising offices, the Counseling Center for Human Development, the Division of Cooperative Education and Placement, and Financial Aids.

The advising office houses a Special Services Program which is concerned with the implicit as well as the explicit needs of minority students. This program's responsibility is to help these students get whatever assistance they need in addition to their academic advisement.

This office is also responsible for checking requirements for the Associate of Arts Certificates.

Office of New Student Relations

The Office of New Student Relations assists prospective students, high school guidance counselors, parents, and the general public in securing information about the University of South Florida and its programs. Members of the New Student Relations staff represent USF at high school and college Career Education Programs throughout the State of Florida. Special programs are initiated to meet the needs and interests of prospective students. Among these activities are presentations and preparation of printed information relevant to high school students, mature students, and minority students; seminars for high school counselors; and campus Visitation Days for prospective students. These programs frequently represent a cooperative effort with other University divisions, public school systems, and community colleges in the local area. Invitations from schools, civic organizations, and youth groups for information and presentations about the University of South Florida are welcomed.

This office also serves as an initial point of contact for prospective students who are unfamiliar with the University and who are seeking general information about any aspect of the institution. Services include pre-admission counseling for high school students, minority group members, and mature, non-traditional college age individuals.

New Student Relations, in conjunction with the Admissions Office and other University units, administers the Early Admission, Dual Enrollment, New Student Orientation, and FOCUS: YOU AND USF programs.

New Student Orientation Program

At the beginning of each quarter, prior to the beginning of classes, all new full-time undergraduate students are expected to participate in the orientation program of the University. Normally a one-day program, orientation is designed to help new students become acquainted with the University and includes academic advising.

Students cleared for Quarter I (September) admission are urged to participate in FOCUS: YOU AND USF, a special summer orientation-early registration program, in lieu of orientation prior to the beginning of classes.

Counseling Center for Human Development

The Counseling Center for Human Development provides direct professional services to USF students in career counseling, personal counseling, psychiatric consultation, and reading-study skills. Special services are provided by the State Division of Vocational Rehabilitation and the Division of Probation and Parole, and each agency maintains an office located in the Counseling Center. These services are designed to assist students in achieving efficient learning habits and developing a satisfying participation in campus life.

The Career Counseling and Guidance Service helps students to develop realistic career goals through testing, counseling, use of career information, and the exploration of alternative educational and/or career goals and the means of reaching them. Emphasis is placed on developing skills for solving educational and career problems in order to make constructive career decisions. A Career Information Library is also maintained for student use.

The Personal Counseling Service is a student resource that

provides a range of clinical services aimed at the early detection and prevention of student mental health problems and the development of skill-enhancing programs. The following direct services are offered to USF students: Intake evaluation, psychiatric consultation, time-limited psychotherapy and behavior change, group therapy, skill-enhancing programs and workshops, test anxiety treatment, paraprofessional programs, and referral services. Professional psychologists from the Personal Counseling Service also assist students in career guidance, particularly those who may present identity, motivational, and other related personal problems. The Psychiatric Service aids the student when psychiatric evaluation, medication, or hospitalization is needed.

The Reading-Study Skills Service provides diagnosis and evaluation of reading skills and study habits. Two approaches are offered: (1) Credit classroom courses are offered which include intensive instruction and practice in word attack, vocabulary, and comprehension skills; (2) An Independent Study credit course is available with emphasis on the unique individual need. Reading-Study Skills Laboratory Service is available for all students enrolled in either the classroom or Independent Study Sections. Regular registration procedures will be followed for either of the above courses. Visual screening is also available.

Currently, there are three paraprofessional programs functioning at the Counseling Center. These programs receive professional training and supervision and are staffed by volunteer students under the leadership of trained and experienced graduate and undergraduate students. The programs include the following: Behavior Modification, Helpline, and Rap Cadre.

Application for any of these services may be made by all USF students by presenting themselves at the Counseling Center and requesting assistance. Center staff limitations will restrict servicing of new applications to emergencies during peak periods.

Offices of Veterans Affairs

Offices of Veterans Affairs are maintained on the Tampa, St. Petersburg, Sarasota, and Fort Myers campuses. These offices direct the University's PAVE program, which stands for Programs to Advance Veterans Education. All veterans, veterans dependents, and active-duty personnel can utilize the services of these offices. Highlights of the PAVE program include veterans pre-admissions counseling, and veterans benefits advising. These offices process requests for VA education benefits, through the VA Certification section of the Registrar's Office, to the Veterans Administration. Additionally, a VA representative is available at the Tampa campus to provide VA benefits assistance and to solve VA payment and certification problems.

Florida state law provides for the VA student deferment of tuition and registration fees for students utilizing the G.I. Bill. Veterans can qualify to work on-campus in the VA work-study program assisting the VA and USF to provide for veterans services. The Vet-to-Vet Tutorial Program affords VA students the opportunity for tutoring in needed subject areas. Under the G.I. Bill, students can receive up to $65 per month for a maximum of $780 to pay for a tutor, who may also be a veteran. There is the opportunity for developmental course-work and GED certification on-campus and through cooperative efforts with local community colleges and adult education programs. Active referral is made for financial assistance, student job placement, student housing, personal and family counseling, career planning, and academic advising.

As a Servicemen's Opportunity College, USF encourages active-duty personnel to participate in PAVE. For information on Project AHEAD, degree completion, and tuition assistance, students should first check with their local military education services office.

Activities Mart, University Center

ACADEMIC POLICIES AND PROCEDURES, PROGRAMS AND SERVICES

The Office of Records & Registration, a department of the Registrar's Office, maintains the official academic records for all students and course registrations for currently enrolled students. Students are encouraged to contact the Office of Records and Registration about general questions concerning Academic Policies and Procedures or an inquiry concerning their current registration or academic record. Note: Each student must be aware of the University's Academic Policies and Procedures in so far as they affect him or her.

General Academic Regulations and Information

Quarter System

The University of South Florida operates on a quarter system. The academic year commences in September and ends in August. Quarters begin in September, January, March, and June on the dates indicated on pp. 4-5.

Academic Load

The *maximum load* for an undergraduate student is 18 hours, unless approval is received from the Dean of the student's college or an authorized representative. Students classified as undecided must receive approval of the Director of the Division of University Studies. The *minimum load* for a student to be considered academically full-time is 12 hours for an undergraduate and 8 hours for a graduate student.

Availability of Courses

The University does not commit itself to offer all the courses, programs and majors listed in this catalog unless there is sufficient demand to justify them. Some courses, for example, may be offered only in alternate quarters or years, or even less frequently if there is little demand.

Adds

After a student has completed his registration on the date assigned, he or she may add courses until the "Add" deadline specified in the Academic Calendar. Drop/Add Forms may be picked up during the early Drop/Add period (Regular Registration) in the gymnasium and in the college offering the course during the regular Drop/Add period (first week of classes). Please refer to Academic Calendar in the University Class Schedule for dates.

Drops

A student may drop a course or courses by following the appropriate procedures below:

1. Early Drop/Add Period (Regular Registration) — Only students who have participated in Early Registration may drop courses during this period. The appointment time, as published in the University Class Schedule, must be followed. Students dropping courses during this time are entitled to a full refund of fees. No entry of the courses will appear on any records.
2. Regular Drop/Add Period (First week of classes) — Complete and turn in a Drop/Add form at the college offering the course. These drops are treated the same as drops processed during the Early Drop/Add Period (Regular Registration).
3. Between the second and sixth week of classes — Students should turn in a Drop/Add form at the college offering the course. Students who drop after the first week of classes must pay registration fees for those courses. Their records will reflect a "W" grade for the dropped course(s). *Courses dropped after the six week deadline (see Academic Calendar for date) will result in an automatic "F" grade.*

Auditing Privilege

A student may audit a course by following the appropriate procedure below.

1. During Early Registration — Enter the course information and reference number on the Course Request Form and also on the Audit Form which may be obtained at the Problem station. Submit both the Course Request Form and Audit Form to your College Advising Office.
2. During Regular Registration — Enter the course information and reference number on the Registration Form and check the "audit" block. Submit the top copy of the form to the Approving Clerk.
3. During Late Registration (First week of classes) — Obtain an Audit Form from the Office of Records and Registration and request the instructor to sign the completed form. Submit the form to the Office of Records and Registration or to the College Advising Office by the *last date* to add classes (see Academic Calendar for date).

Fees are charged at the same rate as credit courses.

Cancellation Before First Class Day

Students may cancel their registration by notifying the Office of Records & Registration in writing prior to the first day of classes. If fees have already been paid, the student may request a full refund of fees from the Office of Finance & Accounting.

Withdrawal

A student may withdraw from the University without academic penalty for the first six weeks of any term by submitting a completed Withdrawal Form to the Office of Records & Registration. After that date, a grade of "F" will automatically be assigned for all course work.

Students who withdraw during the Drop/Add period as stated in the Academic Calendar may receive a full refund of fees. All refunds must be requested in writing from the Office of Finance and Accounting. No refund is allowed after this period except for specified reasons. See "Refund of Fees" under Financial Information for complete details.

Any student who withdraws a second time within four consecutive quarters of attendance must receive approval of the Coordinator of Advising from his college before he is allowed to reenter the University

Transcript Information

Transcripts of a student's USF academic record may be requested by the student through the Office of Records & Registration. A student's academic record can only be released upon authorization of the student. Students requesting transcripts may do so in person or by writing to the Office of Records & Registration. Include in the request full name, social security number, and date of birth, and indicate name and address to whom the transcript is to be sent. If grades for the current term are needed, clearly indicate that the transcript request is to be held for grades. *No charge is made for transcripts.*

Grades, Scholarship Requirements, and Review Procedures

The University is interested in each student making reasonable progress towards his or her educational goals and will aid each student through guidance and faculty advising. To make students aware of their academic progress, the University has enacted a system of grading and policies of Academic Probation and Academic Dismissal which indicates whether or not a student is showing sufficient progress towards meeting degree requirements. Notations of Grades, Academic Probation and Academic Dismissal are posted to the student's permanent record.

When a student is academically dismissed from the University, not eligible to re-enroll, it may be in his or her best interest to re-evaluate his educational goals with an academic adviser in his college. If the student's poor academic performance has resulted from extenuating circumstances or if after a period of time the student feels he or she has gained adequate maturity and motivation, he may petition the Academic Regulations Committee for readmission. See "Academic Regulations Committee" for information on petitioning.

Grading System

A student's measure of academic achievement is recorded on his permanent record based on the following grading system:

A—Superior performance
B—Excellent performance
C—Average performance
D—Below average performance, but passing
F—Failure
S—Satisfactory
U—Unsatisfactory
W—Withdrawal from course without penalty
H—Honors (Medical students only)
I—Incomplete
N—Audit
Z— Indicates continuing registration in thesis/dissertation courses.

Grade Point Average

The University has a four-point system of grading used in computing grade point averages (A=4 grade points, B=3, C=2, D=1, F=0.) The grade point average (abbreviated GPA throughout this catalog) is computed by dividing the total number of quality points by the total hours attempted at the University of South Florida. The total quality points are figured by multiplying the number of credits assigned to each course by the quality point value of the grade given. Grades of S, U, I, Z, and grades which are followed by an "R" (indicating a repeat) are subtracted from the total hours attempted.

S/U Grade System

No-option Courses. Certain courses have been designated as S/U courses. The "S" and "U" grades are used to indicate the student's final grade. These S/U only courses are identified with (S/U only) after the course definition in this book. No grading system option is available to students or faculty in these courses.

Option Courses. Any undergraduate course may be taken on an S/U basis by a student under the following conditions and restrictions:

1. Required courses in the major may not be taken on an S/U basis.
2. Specifically designated required courses in the Distribution Requirements of the student's college may not be taken on an S/U basis.
3. All elective courses for the major and all elective courses in the Distribution Requirements, and all other free elective courses may be taken on an S/U basis except where:
   a. The certifying college restricts the number of courses which may be taken on an S/U basis in any one or all of the above areas or restricts the total number of S/U courses which can be accepted for all of the above areas.
   b. The certifying college specifies that certain courses may not be taken on an S/U basis.
   c. The instructor of a course refuses to allow the course to be taken on an S/U basis.

Mechanism for Assigning S/U Grades. The method by which a student receives an "S" or "U" grade in an option course will consist of the following:

1. A written agreement signed by both instructor and student shall be filed with such offices as may be designated by the College. The college shall set the deadline (no later than the last day of classes for the term) for the student to decide if he wishes to take the course on an S/U basis.
2. The instructor shall assign final letter grades A, B, C, D, F, or I, but will transmit to the Registrar S or U consistent with the following:
   a. Letter grades A, B, or C, shall be equivalent to a letter grade of "S".
   b. Letter grades D or F shall be equivalent to a letter grade of "U".

"S" and "U" grades are not computed in the student's grade point average.

"I" Grade Policy

An "I" grade may be awarded only when a small portion of the student's work is incomplete and only when the student is otherwise earning a passing grade. Until removed, the "I" is not computed in the grade point average for either undergraduate or graduate students. The time limit for removing the "I" is to be set by the instructor of the course. For undergraduate students, this time limit amy not exceed one academic quarter, whether or

not the student is in residence, and/or graduation, whichever comes first. "I" grades not removed by the end of the time limit will be changed to "IF" or "IU", whichever is appropriate. Students do not re-register for courses in which they are only completing previous course requirements to change an "I" grade. If a student wants to audit a course for review in order to complete course requirements, full fees must be paid. (Change of policy effective Quarter I, 1977.)

"Z" Grade

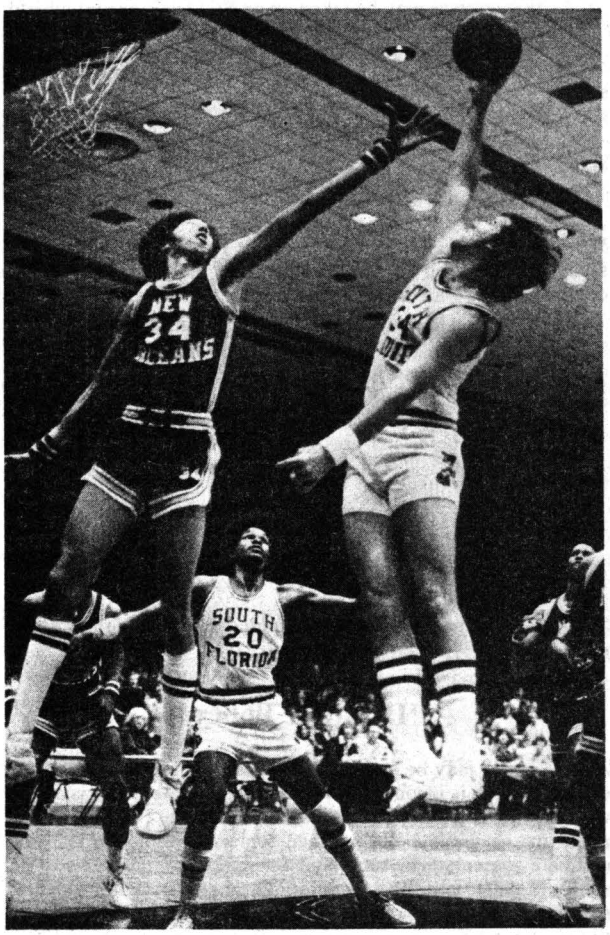
The "Z" grade shall be used to indicate continuing registration in thesis/dissertation courses, where the final grade to be assigned will be that of the completed sequence. Upon satisfactory completion of the thesis/dissertation course, the "Z" grade shall be changed to "S". The "Z" grade is not computed in the grade point average.

Grade Forgiveness Policy

The University of South Florida Grade Forgiveness policy permits an undergraduate to repeat a course and have the repeated grade computed in his/her GPA in place of the original grade providing the repeat grade is D or higher. Normally, Grade Forgiveness may only be applied to a specific course that a student chooses to repeat. No course taken on the S/U grade basis may have the Grade Forgiveness applied. Under unusual circumstances a different but similar course may be used if the substitute course has been previously approved by the college dean and is on file in the Office of Records and Registration.

Any undergraduate student who wishes to implement Grade Forgiveness must:

1) Complete a "Grade Forgiveness Request Form" (available in the Office of Records and Registration) for each course to be repeated.
2) Adhere to the following conditions:
   a. A limitation of applying Grade Forgiveness to three USF courses with no more than one repeat per course.
   b. With prior approval of the college dean, a course different from a course on the approved list may be substituted in the following cases:
      1. The substitute course is a change in prefix, number, hours, or title, but not a substantive change in content from the original course.
      2. The substitute course replaces a course no longer offered by the institution.
   c. The repeated course must be taken under the standard grading system (A-F) and the latest grade must be D or higher.
   d. All grades remain on the transcript. The original course grade will be annotated with an "R" to indicate that the course has subsequently been repeated and the original grade is not computed in the grade point average.
   e. Individual colleges may have further restrictions; therefore, the student should consult with his/her college.



Academic Probation and Academic Dismissal for Undergraduate Students

An undergraduate student whose Cumulative Grade Point Average (GPA) falls below 2.0:

in 0 to 89 hours attempted

in Quarter X*	will be placed on Academic Probation (AP)
in Quarter X + 1	will be placed on Final Academic Probation (FAP)
in Quarter X + 2	will be academically dismissed (AD)

in 90 or more hours attempted

in Quarter X *	will be placed on Final Academic Probation (FAP)
in Quarter X + 1	will be academically dismissed (AD)

Any student admitted on Academic Probation whose GPA falls below 2.0:

in the 1st Quarter	will be placed on Final Academic Probation (FAP)
in the next Quarter	will be academically dismissed (AD)

*Quarter X refers to any quarter in which the student's cumulative GPA falls below 2.0. Quarter X + 1 refers to the quarter in residence immediately following Quarter X, etc.

Any undergraduate student whose cumulative GPA falls below 1.0 will be dismissed for academic reasons (AD) at the end of the Quarter in which it occurs.

The determination and notification of probationary status or academic dismissal will be made by the Registrar's Office on the student's quarterly grade report and permanent record. An explanation of any required procedures to be followed will be enclosed with the grade report.

Academic Probation and Final Academic Probation: Students are strongly encouraged to confer with their academic advisers to explore ways of improving academic performance.

Academic Dismissal: A student academically dismissed for the first time is *suspended* for a two (2) quarter minimum. By petition to the Academic Regulations Committee, the student may request that his/her case be reviewed for readmission.

A student academically dismissed a *second* time is *permanently* dismissed from the University.

A student who attends another college or university during this intervening period will be classified as a transfer student and readmission will be based on the total record accumulated from all colleges and universities attended.

Graduate students should refer to the section on Graduate Studies for discussion of minimum academic standards.

College Policies For Academic Progress

Colleges may determine and implement standards of academic progress for undergraduate students (majors in the college) in addition to those established by the University. Students who do not meet the academic standards of progress set by their colleges will be placed on probation and may be disenrolled. Such students will not be permitted further enrollment in the University until they are admitted to another college or to the Division of University Studies (DUS) if appropriate. The college dean is responsible for implementing standards of academic progress and for notifying students of their probationary or disenrollment status.

Undergraduate students who have been disenrolled from a college and wish to continue at USF should follow these steps:

Students with fewer than 90 attempted hours may apply to be admitted to a different college or to DUS.

Students who have attempted 90 hours but fewer than 135 hours may apply to be admitted by a college or petition the Academic Regulations Committee for admission to DUS.

Students with 135 hours or more may apply to be admitted to a different college.

Only those students admitted will be allowed to continue.

Colleges may restrict the course selections and the number of hours a student may take which do not apply toward completion of degree requirements. Students who exceed this limit may have part or all of their registration cancelled.

Colleges are responsible for publicizing and students are responsible for knowing their college's policies for academic progress.

Class Standing

A student's class is determined by the number of credits he has earned without relation to his grade point average.

0	Special/Unclassified	Non-degree seeking students
1	Freshman	0 through 44 quarter hours passed
2	Sophomore	45 through 89 quarter hours passed
3	Junior	90 through 134 quarter hours passed
4	Senior	135 or more quarter hours passed, however no baccalaureate degree earned here or elsewhere
5	Baccalaureate degree	holder working on a second Undergraduate program or degree
6	Graduate student admitted to master's Degree Program	
7	Graduate student admitted to Specialist Degree Program	
8	Graduate student admitted to a Doctoral Degree Program	
9	Professional Program (M.D.)	

Admission to a College

All new lower level students must be initially advised by the Division of University Studies. After that time, a student may declare a major and move to a degree granting college. (Each college has specified in this catalog its requirements for admission.)

All undecided students are assigned to the Division of University Studies for purposes of advising until a choice of major is made. At that time, he/she may enter the college containing the major department. Undecided students may remain in this classification until a maximum of 135 quarter hours are earned. After that time, a major *must* be selected.

Change of Major

Change of Undergraduate Major: Undergraduate students desiring to change their major should consult the Advising Office in the old and new college(s) of their interest.

Change of Graduate Program: Graduate students desiring to change their program must complete an "Application for Graduate Change of Program" available in the Office of Records and Registration. Students will be notified by the Office of Records and Registration of the college's decision concerning their acceptance into the new program.

Change of Graduate Degree: Graduate students desirous of changing from one degree level to another (i.e., M.A. to Ph.D.) must make application in the Office of Admissions. Please refer to page 10 for further details.

Pending Status

A student may be placed on "Pending" by failing to meet obligations to the University. When a student is on Pending, he may not be allowed to register, receive a diploma, or receive a transcript. Settlement of financial accounts must be made at the University Cashier's Office.

Each student placed on Pending should determine from the Office of Records and Registration which office placed him in this status and clear the pending obligation with that office.

Student Information Changes

Notifications regarding change of address, change of name, change in marital status, change in residency, and change of citizenship should be filed promptly with the Office of Records & Registration.

Final Examination

There is no final examination period. Examinations in academic subjects are considered to be an integral part of the learning process and are not, therefore, separate from other aspects of the academic experience. Each USF teacher determines the entire grade for students in his or her sections. If the instructor desires to administer a final examination, this must be done only during the regular class periods.

Honors Convocation

The Honors Convocation policy is being revised as this edition of the catalog goes to press. Please check the quarterly schedule of classes for the revised policy.

Dean's List

Full-time undergraduate students who demonstrate superior academic achievement during one quarter will be honored on a "Dean's List". To be eligible for the Dean's list, a student must be in a "pool" (defined hereafter) and must complete 12 hours of graded (A-F) USF courses with no incomplete grades during the quarter. The "pool" consists of all students who have registered for at least 12 hours of USF courses in a given quarter. The Dean's list shall consist of the fewer of: 1) the upper 10% of the

enrollment of the college, or 2) students in the college with a USF 3.5 GPA or above (ties at the 90th percentile will be included in the honors group.)

The Dean of the College in which the student is majoring will award a certificate of recognition of this academic honor. Although DUS is a non-academic unit, students with this classification who meet the above criteria shall be awarded a certificate similar to the college award.

Academic Regulations Committee

The Academic Regulations Committee meets regularly to review petitions submitted by students to waive certain academic regulations. Students must petition and secure approval of the committee to return to the University after having been disqualified from further immediate attendance or for reasons pertaining to admission, registration, withdrawal, and deadline policies.

The committee normally meets once a week. To petition the committee, a student must secure the appropriate form from the Office of Records & Registration. Completed forms should be returned to the Office of Records & Registration by 5:00 p.m., Friday, to be reviewed at the next week's meeting. Students will receive notification of the committee's action the following week.

If the student wishes a personal interview with the committee he should make arrangements with the representative from his college prior to submitting his petition.

Student Academic Grievance Procedure

Student academic grievance procedures exist at USF to provide students the opportunity for objective review of facts and events pertinent to the cause of academic grievances. Such review is accomplished in a collegial, non-judicial atmosphere rather than an adversary one, and allows the parties involved to participate.

An Academic Grievance Committee, composed of an equal number of faculty and student members, exists in each college (except the College of Medicine, which has established a separate procedure) for the general purpose of considering student academic grievances and making recommendations based on these considerations to the dean of the college in which the alleged grievance occurred.

Student Violations or Offenses Involving Alleged Academic Dishonesty

Violations of academic codes, cheating and plagiarism will be handled initially by the instructor who will discuss the incident with the student. If the instructor decides that further action is warranted he will inform the student of the action that he is recommending to his department chairperson and the dean.

The instructor will file a confidential statement and recommendation through the department chairperson and with the dean of the college responsible for the course, and will provide the student with a copy of that statement.

The student, if dissatisfied with the instructor's recommendation, may ask for a meeting with the instructor, the department chairperson, and the dean indicating his version of the incident.

The final disposition of all cases of academic dishonesty rests with the dean of the college responsible for the course. In reaching a decision, the dean may accept the instructor's recommendation or, if not satisfied after reviewing the statement of the instructor and the student, may request meetings with the student, instructor, and department chairperson individually or jointly. The dean may also appoint a student-faculty committee for advice prior to rendering a decision in the case. The student may also request of the dean that such an advisory panel be formed.

If the issue remains open at the end of the quarter, the instructor is to give the student an "I" grade in the course until all issues are resolved. Once the dean has made a decision on the case, the student's right of appeal is to the Vice President for Academic Affairs.

General Distribution Requirements

All standard transfer† A.A. degree holders (from in-state or out-of-state accredited institutions) will be considered as having met our General Distribution Requirements and 90 quarter hours of work will be transferred. The determination of the prerequisites for a given academic program will remain the prerogative of the college in which the student is majoring.

A wide distribution of academic areas should be a part of a formal university education. For that reason, the following distribution requirements must be satisfied over the four-year period by the completion of 60 quarter hours with at least 8 quarter hours in each of these five areas:

Area I— English Composition
Freshman English (ENG 098 or 101 and 102, 103)

Area II— Fine Arts and Humanities
American Studies (AMS), Ancient Studies (ANC), Art (ART), Classics* (CLS), Dance (DAN), English (ENG —Excluding 098-103), Humanities (HUM), Any foreign language (ARA, FRE, FOL, GER, GRE, HEB, ITA, LAT, POR, ROM, RUS, SPA)*, "Introduction to Linguistics" (LIN 301), "Language and Meaning" (LIN 321), Music (MUS), Philosophy (PHI—Excluding PHI 303), Religion (REL), Speech Communication (SPE), Theatre (TAR)

Area III—Mathematics and Quantitative Methods
"Business and Economic Statistics" (ECN 231, 331), Computer Service Courses (ESC), Mathematics (MTH), "Logic" (PHI 303), "Social Science Statistics" (SSI 301)

Area IV—Natural Sciences
Astronomy (AST), Biology (BIO), Botany (BOT), Chemistry (CHM), Geology (GLY), Microbiology (MIC), "Introduction to Oceanography" (MSC 311), Physics (PHY), Zoology (ZOO)

Area V— Social and Behavioral Sciences
Afro-American Studies (AFA), Aging Studies (AGE), Anthropology (ANT), Criminal Justice (CJP), "Contemporary Economics Problems" (ECN 100), "Educational Psychology" (EDF 377), Geography (GPY), History (HTY), Political Science (POL), Psychology (PSY), Sociology (SOC), Interdisciplinary Social Sciences (SSI—Excluding SSI 301), Women's Studies (WSP)

Acceptable in the total of 60 quarter hours but not part of any of the five areas:

"The Teacher in a World of Work" (EDV 207); and "Use of the Library" (LLI 200).

Since each college may recommend specific courses for the satisfaction of each area, students should consult the distribution requirements as listed in each college section of the catalog.

**College of Engineering is unable to accept these courses as a part of its engineering accredited program.*

†As defined in the Florida Statewide Articulation Agreement.

Note: Education majors must take courses in at least two different departments under Areas II and V.

Courses required for a student's major program** will not be counted in the total of 60 hours although areas of the general distribution requirements may be waived where appropriate.

No more than 12 hours in a single department may be counted toward distribution requirements for any area.

A student may appeal to the Coordinator of Advising in his or her college for exceptions to these courses prior to registration in such courses.

A student must check with his/her college to be sure he/she is meeting general distribution requirements and special certification or accreditation requirements where appropriate.

** *Major Program*

a. *Specialization: Those courses required to give the student academic concentration and baccalaureate identification such as Mathematics, Accounting, Psychology, etc.*
b. *Supporting or Related: These courses may be prerequisites to the specialization courses, or they may support specialized courses by giving preparation or breadth to the area of specialization. These courses are often referred to as college or program core courses.*
c. *Program Electives: These are usually a broad band of courses offered by the college offering the major to further enrich the student in the general academic field of the major.*

Freshman English Requirement in Freshman Year

All first-time-in-college students are required to take Freshman English in accordance with the following conditions:

1. First-time enrolled students (a) who do not intend to take the CLEP Freshman English Test or (b) who have been notified of failing CLEP prior to registration and who do not intend to attempt the examination a second time, must take ENG 101 the first quarter, ENG 102 the second quarter and ENG 103 the third quarter of their freshman year. If one of the courses is failed, that course must be repeated the very next quarter and the remaining courses attempted in immediately subsequent quarters.
2. First-time enrolled students (a) who have not taken CLEP prior to their arrival on campus or (b) who have failed but wish to repeat the test, must attempt CLEP during their first quarter on campus. During this quarter they should not enroll in ENG 101. If the examination is failed or not attempted during the student's first quarter, he must take ENG 101 during his second quarter and ENG 102 and 103 in the immediately subsequent quarters until the total requirement is fulfilled. In this case, he will complete the sequence by the first quarter of his sophomore year.

These policies do not apply to first-time enrolled students who can meet the Freshman English requirement with credit transferred from another institution.

Credit by Examination

A student who feels he has already acquired the basic content of a course on his approved schedule should inquire about credit-by-examination. Some exams are offered through the College Level Examination Program (CLEP) and others may be offered within departments. Interested students should obtain additional information from their advisers or the Office of Testing and Advanced Placement.

Graduation Requirements—Baccalaureate Degree

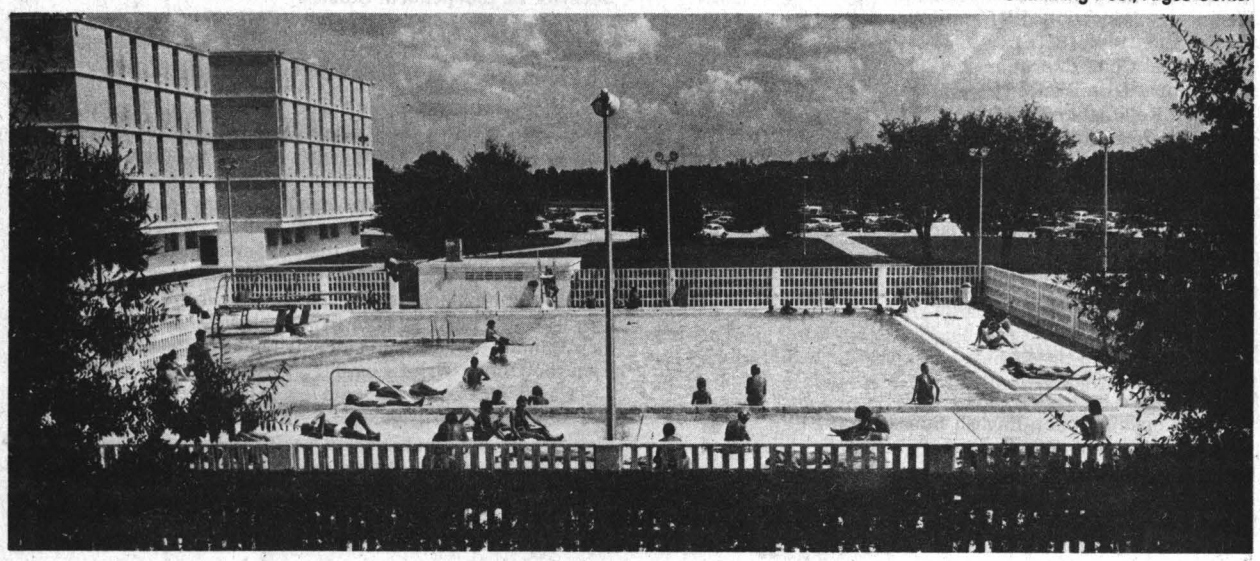
University Requirements

While each college sets specific requirements for graduation, the basic University requirements must be met by every student upon whom a degree is conferred. These basic requirements specify that a student obtain at least 180 quarter hours of credit with at least a "C" average for all University of South Florida courses attempted in order to be eligible for graduation. At least 60 of his quarter hours must be for upper division level work (courses numbered 300 or above).

Effective September 1, 1976, all students entering the University of South Florida with less than 90 quarter hours of credit shall be required to earn at least 15 quarter hours of credit prior to graduation by attendance at one or more summer quarters. The University may waive the application of this rule in cases of unusual hardship to the individual.

In addition to specific requirements of their major and College, candidates for Graduation must also satisfy the University General Distribution Requirements and be recommended for graduation by the dean of the college granting the degree.

Swimming Pool, Argos Center



Major Fields of Study

The University of South Florida offers curricula leading to the baccalaureate degree in the following fields. The degree is indicated in parenthesis after each college; the major code, after each major.

College of Arts and Letters: (B.A.)

American Studies (AMS)
Anthropology-Linguistics (ANL)
Classics (Latin or Latin-Greek) (CLS)
Classics and Foreign Language (CLF)
English (ENG)
English-Linguistics (ENL)
Foreign Language-Linguistics (FLL)
Foreign Languages (combination) (FOL)
French (FRE)
German (GER)
Humanities (HUM)
Italian (ITA)
Liberal Studies (ALA)
Mass Communications (COM)
Philosophy (PHI)
Religious Studies (REL)
Russian (RUS)
Spanish (SPA)
Speech Communication (SPE)
Speech Communication-English (ENS)
Speech Communication-Theatre (STA)

College of Business Administration: (B.A.)

Accounting (ACC)
Economics (ECN)
Finance (FIN)
General Business Administration (GBA)
Management (MAN)
Marketing (MKT)

College of Education: (B.A.)

Art Education (EDA)
Botany Education (BOE)
Business and Office Education (VBU)
Chemistry Education (CHE)
Classics Education (CLE)
Distributive Education (VDE)
Elementary-Early Childhood (EEC)
Elementary Education (EDE)
English Education (ENE)
Exceptional Child Education
  Emotional Disturbance (EMD)
  Mental Retardation (MRD)
  Specific Learning Disabilities (SLD)
Foreign Language Education (FOE)
Health Education (HEN)
Humanities Education (HUE)
Industrial-Technical Education (VIT)
Mass Communications-English Education (MCE)
Mathematics Education (MAE)
Music Education (EDM)
Physical Education (EDP)
Physics Education (PHE)
Science Education (SCE)
Social Science Education (SSE)
Speech Communication-English Education (SEE)
Zoology Education (ZOE)

College of Engineering

Engineering (EGU) **(B.S.E.)**
Engineering Science (EGC) **(B.S.E.S.)**
Engineering Technology (ETK) **(B.E.T.)**

College of Fine Arts: (B.A.)

Art (ART)
Dance (DAN)
Music (MUS)
Theatre (TAR)

College of Natural Sciences: (B.A., B.S.)

Astronomy (AST)
Biology (BIO)
Botany (BOT)
Chemistry (CHM) **(B.A.)**
Chemistry (CHS) **(B.S.)**
Clinical Chemistry (CHC)
Geology (GLY)
Mathematics (MTH)
Medical Technology (MET)
Microbiology (MIC)
Natural Sciences Interdisciplinary (INS)
Physics (PHY) **(B.A.)**
Physics (PHS) **(B.S.)**
Zoology (ZOO)

College of Nursing: (B.S.)

Nursing (NUR)

College of Social and Behavioral Sciences: (B.A., B.S.W.)

Afro-American Studies (AFA)
Anthropology (ANT)
Criminal Justice (CJP)
Economics (ECN)
Geography (GPY)
History (HTY)
International Studies (INT)
Political Science (POL)
Psychology (PSY)
Social Sciences Interdisciplinary (SSI)
Social Work (SOK) **(B.S.W.)**
Sociology (SOC)

External Degree Program: (B.I.S.)

Bachelor of Independent Studies

Academic Residence

Candidates must be recommended for graduation by the dean of the college granting their degree and must have completed at least 45 hours of the last 90 hours of their undergraduate credit in on-campus courses. The approval of the dean of the college granting their degree must be secured for any transfer credits offered for any part of these last 90 hours.

Exceptions to the above rules are students who are enrolled at other universities on approved exchange programs, Cooperative Education students enrolled in other institutions (prior approval having been secured from their USF advisers) while on their training periods, and students taking correspondence work from the University of Florida.

Candidates at the graduate level should refer to the residency requirements on page 48.

Students' Choice of Catalog

In order to graduate from the University of South Florida, each student must meet all of the graduation requirements specified in

the USF catalog of his/her choice. The student may choose any USF catalog published during his/her continuous enrollment. Students who have transferred from one Florida public institution to another are affected by the following Board of Regents policy:

> "Graduation requirements in effect at the receiving SUS institution at the time a student enrolls at a Florida public institution of higher learning shall apply to that student in the same manner that graduation requirements apply to its native students provided the student has had continuous enrollment as defined in the SUS institution's catalog."

At the University of South Florida, continuous enrollment is defined as completing a minimum of two terms per year at USF, inclusive of receipt of grades for courses, through time of graduation. Therefore, students cannot choose a USF catalog published prior to or during an academic year in which they did not complete at least two terms.

Each catalog is considered to be published during the academic year printed on the title page.

If the student cannot meet all of the graduation requirements specified in the catalog of his/her choice due to decisions and changes by the University in policy matters, course offerings, etc., appropriate substitutions will be determined by the chairperson of the department or program of the student's major.

University policies are subject to change and apply to all students regardless of their choice of catalog. If the student's graduation requirements are affected by changes in University policies, appropriate arrangements will be made to preclude penalization of the student.

Repeat Course Work

The hours for a course which has been repeated may be counted only once toward the minimum 180 quarter hours of credit required for graduation.

Double Undergraduate Major

Students may elect to graduate with two majors. In that event, they must apply independently to each college and be assigned an adviser in each discipline. The student must meet all requirements of each major separately and must be certified for graduation by the appropriate dean(s).

Second Undergraduate Major

A student who wishes to work for a second major, after receipt of a baccalaureate degree, must apply through the Office of Admissions and meet the major requirements as determined by the college. (Exceptions to this rule are students who had been previously accepted for a "Double Undergraduate Major" but graduate with only one major.) After acceptance by the appropriate college and proof of completion, the student's "permanent academic record" will be posted accordingly.*

Two Degrees (USF Students)

A student at the University of South Florida may receive two baccalaureate degrees provided he/she meets the University's graduation requirements; a minimum of 45 quarter hours must be earned in on-campus undergraduate courses to apply to the second degree; the student must meet the requirements of the colleges awarding the degrees and the residency requirement.

Second Baccalaureate Degree (Transfer Students)

A student already graduated from an accredited four-year institution must earn a minimum of 45 quarter hours of on-campus undergraduate courses to apply toward his second baccalaureate degree. Students must also meet the requirements of the college awarding the degree and the residency requirements.

B.A. Degree for Medical and Dental Students

Students who are admitted to a medical or dental school after completing their junior year at USF may be awarded the B.A. degree in Interdisciplinary Natural Sciences from the College of Natural Sciences. (See College of Natural Sciences on page 103.)

Application for Graduation

To be considered for graduation, a student must submit an "Application for Degree" to the Office of Records & Registration within the first 15 class days of the term in which he expects to graduate. The application form is available in the Office of Records & Registration. (Inquiries regarding approval or denial should be made to the colleges.)

A student applying for a second undergraduate major must do so within the same deadline set for applying for a degree.

Honors at Graduation

Any baccalaureate candidate whose overall grade point average at USF is 3.5 or higher shall be considered for honors. In addition, transfer students to be eligible for honors must have a grade point average of 3.5 or higher when combined with all work attempted at other institutions.

Candidates with a GPA of 3.5 but below 3.71 shall receive a diploma designation of "cum laude."

Candidates with a GPA of 3.71 but below 3.90 shall receive a diploma designation of "magna cum laude."

Candidates with a GPA of 3.90 or above shall receive a diploma designation of "summa cum laude."

Each Dean has the option to select on the basis of academic performance 1% of the college's graduates or 1 student per quarter for graduation "with distinction."

Commencement

Commencement ceremonies at USF are held once a year in June, following the end of the Spring quarter. All students who have graduated the previous Summer, Fall, and Winter quarters and candidates for degrees for the Spring quarter are eligible to participate. Information for those eligible will be mailed to them during the Spring quarter. If information has not been received by early May, the student should contact the Office of Records & Registration. Undergraduate students who anticipate graduating the subsequent Summer quarter may participate but must contact the Office of Records & Registration for information.

**Note that those students who complete the requirements for a second major must be aware that they will not receive a second degree.*

Graduation Requirements—Graduate Programs

For complete discussion of graduate programs and academic policies and procedures, students should refer to the section on "Division of Graduate Studies."

Certification Requirements—Associate of Arts

Upon the student's successful completion of the minimum requirements for the Associate of Arts, an appropriate certificate will be presented.

To receive the Associate of Arts, a student must complete 90 quarter hours of University credit; the last 30 hours must be completed in residence at the University of South Florida; the minimum grade point average must be 2.0 based on work attempted at USF; and the General Distribution requirements of the University must be satisfied. Physical Education and Military Science credits do not count toward the A.A. Certificate.

Application for the Associate of Arts certificate is obtained from the Division of University Studies prior to the application deadline. The certification must be awarded prior to the student's accumulation of 135 credit hours. Detailed instructions to determine the student's eligibility to receive the A.A. certificate are included with the application form.

The awarding of the Associate of Arts certificate does not alter the calculation of the grade point average. Certification for the A.A. in no way affects what the individual colleges required for the completion of the major for a bachelor's degree.

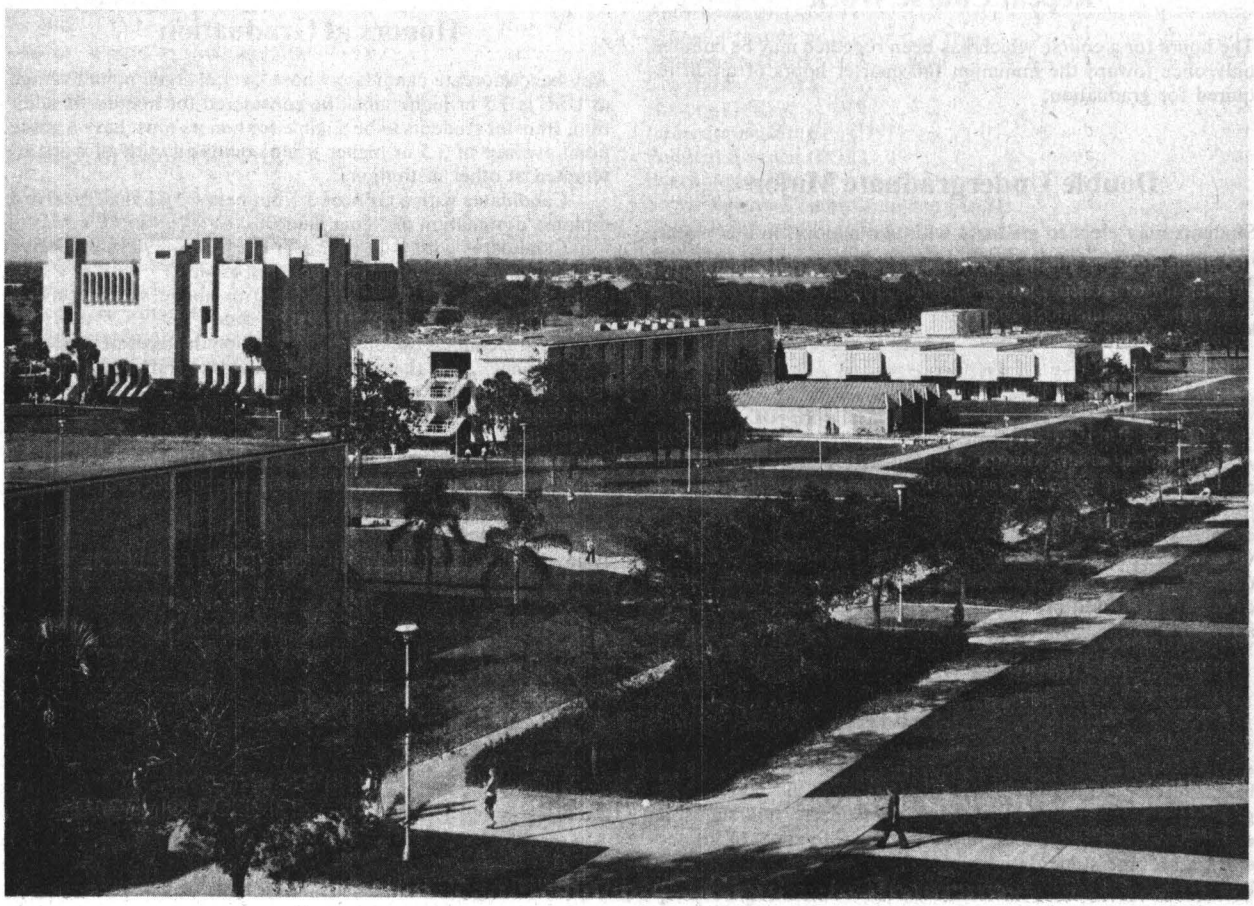
Limited Access Student Records

The following student records are open for inspection only by the student, or parents of dependent students as defined by the Internal Revenue Service, and such members of the professional staff of the institution as have responsibility for working with the student or with the student's records.

1. Student Health and Medical Records
2. Student Disciplinary Records
3. Records of Student Personal Non-Academic Counseling
4. Required Student Financial Income Records
5. Student Permanent Academic Records (from which transcripts are made)
6. Student Placement Records

Except as required for use by the president in the discharge of his official responsibilities, the custodians of limited access records may release information from such records only upon authorization, in writing, from the student, or upon order of a court of competent jurisdiction.

Natural Sciences



Release of Student Information

Pursuant to requirements of the Family Educational Rights and Privacy Act (the "Buckley Amendment"), the following types of information, designated by law as "directory information," may be released via official media of the University of South Florida (according to USF policy):

Student name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended.

The *University Directory*, published annually by the University, contains only the following information, however: Student name, local and permanent address, telephone listing, classification, and major field of study. The *Directory* and other listings of "directory information" are circulated in the course of University business and, therefore, are accessible to members of the public, as well as to other students and members of the faculty and staff. NOTE: General release of the aforementioned types of "directory information" is accomplished pursuant to USF policy. USF policy prohibits use of such information for commercial purposes.

Students must inform the USF Office of Records and Registration, *in writing* (on forms available for that purpose), if they refuse to permit the University to release "directory information" about them without specific prior consent. Notification to the University of refusal to permit the release of "directory information" will result in the University's refusing to release *any* of this information to *anyone* except as provided by law. Such a decision may result in a student's name not appearing in lists of honor students, candidates for graduation, athletic programs, news releases and the like. Therefore, students are encouraged to give this matter careful consideration before making the decision. Once made, the decision will remain in effect forever—or until notification is received by the Office of Records and Registration, *in writing*, to the contrary.

Notification to the University of refusal to permit release of "directory information" via the *University Directory* must be received no later than the end of the second week of classes in the Fall Quarter (Friday, October 7, 1977).

Special Academic Programs

USF/HCC Cross Enrollment

Some undergraduate students may find it advantageous to cross enroll at Hillsborough Community College while attending USF. Procedures have been developed to permit USF students to register on the USF campus during USF's early registration periods for HCC courses. The grade point average earned at HCC will not transfer to USF. However, credit for the courses taken will apply toward graduation, if prior approval was received from the student's USF adviser.

Those USF students desirous of cross enrolling at HCC *must* contact their USF adviser for detailed registration procedures and course approval.

HCC students may cross enroll at USF under similar procedures but *must* contact their HCC advisor for additional information and course approval.

Bachelor of Independent Studies External Degree Program

The Bachelor of Independent Studies (BIS) Program is an adult oriented, external degree program for individuals whose life styles preclude attendance at regular classes. The BIS student proceeds at his own pace, and for the most part, in his own setting. The exception is the seminars which require periodic, short-term residence.

The curriculum consists of interdisciplinary studies which are divided into four areas: the Humanities, Natural Sciences, Social Sciences and Inter-area Studies.

The student approaches the *first three areas of study* via guided independent study and a seminar. Directed reading or independent study requirements represent long term involvement as compared with the short term duration of a seminar. The first three study areas are in free standing order. The student is encouraged to start in his area of strength.

Studying in absentia and usually on a part time basis, the student engaged in independent study relates with a faculty adviser who furnishes directions regarding reading assignments, methods of reporting, and other study projects. The student demonstrates that he has attained the level of proficiency required for completion of independent study in a particular area through the satisfactory completion of an area comprehensive examination. The exam may be taken on or off campus.

When certified as eligible for a seminar, the student is invited to attend a three week seminar in conjuction with each of the first three study areas (Humanities, Natural Sciences, and Social Sciences). Seminar residence requirenents, in other words, add up to a total of nine weeks of periodic residence on the USF campus. Each seminar represents a period of intensive residential learning under the direction of a team of faculty members.

The *fourth area of study*, or inter-area studies, represents an opportunity to integrate the various insights gained from the first three study areas. Fourth area study is essentially a thesis-oriented experience.

Applicants must qualify for admission to the University of South Florida and for admission to the External Degree Program. The USF Director of Admissions rules on the admission of an applicant to the University. The BIS Committee rules on admission of an applicant to the BIS Program.

Fees for the BIS Degree Program are as follows:

Application Fee	$ 15.00
Pre-Enrollment Procedures	60.00
1st Study Area	
Independent Study	300.00
Seminar	300.00
2nd Study Area	
Independent Study	300.00
Seminar	300.00
3rd Study Area	
Independent Study	300.00
Seminar	300.00
Fourth or Inter-area Studies	650.00
TOTAL*	2525.00

Students may not transfer credits into or out of the BIS Program. Program policy does provide for *recognition of prior learning* which may have been achieved through formal study, leisure

**Please note that the fees listed do not include such additional expenses as books, travel, and living expenses during seminars.*

time reading, life or work experience, or a combination of these. More specifically, applicants who can demonstrate sufficient competence may waive up to a maximum of two areas of guided independent study. Applications for waiver are processed following completion of the pre-enrollment procedures. Those who take an area comprehensive exam for waiver will be assessed a fee of $75.00. Applicants who have sufficient competence in some but not all of the disciplines in a study area receive advanced placement or an abbreviated reading program based on the individual's background and needs. The concept of advanced placement is implemented by the study area adviser following the student's enrollment.

The BIS Program is academically responsible to the Vice President for Academic Affairs through the BIS Committee. Brochures are available on request. For further information, write: Director, BIS Program, University of South Florida, Tampa, Florida 33620.

Your Open University (Y.O.U.)

Y.O.U. is a University program by which individuals, regardless of previous educational background, can earn credit through the use of television, radio, and other educational media in their own home. This innovative method for learning is designed to bring the maximum convenience to students and provide learning opportunities for those unable to attend the University under normal circumstances.

Y.O.U. courses are broadcast over WUSF-FM-TV in the afternoons and evenings. Each lesson is repeated. Most cable television systems in this area carry Y.O.U. programs.

Y.O.U. credit courses are considered the same as other courses offered on campus and fees are the same.

Course offerings are published quarterly. For further information, interested persons should contact the Y.O.U. administrative office of the University.

College-Level Examination Program (CLEP) and College Placement Tests (CPT)

The University grants credit for Distribution Requirements and for a number of specific courses through CLEP General Examinations, CLEP Subject Examinations and College Placement Tests. Performance levels necessary to achieve credit are established at a common level for all universities in the State system. Generally the performance levels are based on the average score of students who have already taken the courses. Detailed information concerning the procedures for application and rules governing the programs are available in the Office of Testing and Advanced Placement.

Advanced Placement Credit Program

The University of South Florida participates in the Advanced Placement Program conducted by the College Entrance Examination Board.

Participation in this advanced placement program does not affect the University's regulations concerning waiver, credit by examination, independent study, or other provisions for the advanced placement of qualified students. For additional information, contact the Office of Testing and Advanced Placement.

Independent Study

Graduate or undergraduate students wishing to take a course by independent study must contact the instructor of the course for permission. The instructor specifies the requirements to be completed by the student including tests, periodic class attendance, term papers, etc.

Not all courses in the University can be taken by independent study. The respective colleges have jurisdiction in the determination of which courses may be taken in this manner.

The regular grading system applies to all independent study students. Grades earned by independent study have the same status as those acquired through regular class attendance. Students taking a course by independent study must register for the specific course section in the regular manner.

New College of USF

New College, an honors-type educational program on the Sarasota Campus offers students the opportunity to work in traditional liberal arts areas within an innovative curricular structure.

Students create their own term-by-term educational contracts, with the help of faculty sponsors, permitting a maximum amount of self-direction and independent study work. New College students have the option of completing their work for the Bachelor's degree in three years.

A residential college with its own admissions and graduation requirements and its own faculty, New College is partially supported by funds from the private New College Foundation. (See full description of New College of USF on page 115.)

Army ROTC (Reserve Officer Training Corps)

Under the terms of an agreement between the University of Tampa and University of South Florida, male and female USF students may participate in the Army ROTC program. Participants who successfully complete the ROTC program are commissioned Second Lieutenants (Regular or Reserve) in the United States Army.

Features of the program include scholarship opportunities, a veterans' program, and a abbreviated curriculum for transfer students or others who did not participate in Basic (Freshman and Sophomore) ROTC. A special summer program is also available on the Tampa campus.

Enrollment is open to qualified students at all levels, including graduate students.

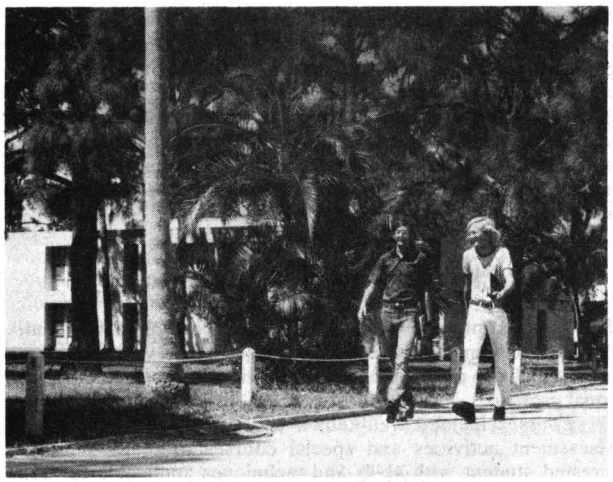
Military Science course offerings are available on both the St. Petersburg and Tampa campuses. Offerings are published quarterly. Interested students should contact the Army ROTC Campus Coordinator for enrollment information.

Marine Officer Program

Qualified students may apply for an officer program leading to a commission as a Second Lieutenant in the United States Marine Corps. Commissions are offered in both ground and aviation components. The Platoon Leaders Course (PLC) is offered to freshmen, sophomores and juniors who attend precommissioning training during the summer. Financial Assistance and Flight Indoctrination Programs are available. Qualified seniors attend 12 weeks of training in the Officer Candidate Course (OCC) after graduation. For details, contact the placement office or the Marine Officer Selection Officer when he is on campus.

University of Florida Correspondence Courses

The University of Florida has been designated as the only institution in the State University System to offer correspondence courses. Therefore, the University of South Florida will consider such courses as resident credit, however grades earned are not transferable. Exception: Grades for University of Florida correspondence courses taken by Cooperative Education students will be computed in their University of South Florida grade point average.



Sarasota Campus

Enrollment in Evening Courses

Evening courses at the University of South Florida are considered a part of the regular academic program; they are offered at times convenient to people within commuting distance who wish to continue their education at night while occupied during the day with other responsibilities. Requirements for evening courses are the same as those for the regular academic program. See the University Class Schedule for special evening registration dates and times.

Continuing Education

The University of South Florida, Center for Continuing Education, serves an ever widening community with a variety of credit and noncredit Public Service programs and special activities designed to meet individual and organizational educational needs. Programs are offered in many locations, but are coordinated from the Center for Continuing Education's Offices located on the Tampa campus, the St. Petersburg campus, and in Sarasota.

Credit Courses: For a discussion of the credit course offerings, refer to page 15.

Noncredit Programs: A variety of noncredit educational programs (conferences, workshops, seminars, short courses, etc.) of varying lengths are scheduled throughout the year, making it possible for the University to serve greater numbers of adults with richer and more diversified programs. The programs vary in length from one day to ten weeks, and the subject matter is concentrated as needed for the group being served. The Continuing Education Unit (CEU) is recorded for all noncredit programs and special activities conducted by the University. The CEU is awarded to participants in select programs sponsored by Continuing Education and approved by an academic unit. Transcripts indicating awarded CEU's are available on request.

The Center for Continuing Education develops programs for business and industry, government, professional, civic, and service groups. A variety of instructional methods are used to assure maximum participation in the educational programs. Distinguished faculty members from the several colleges of the University, faculty from other institutions of higher education, as well as national and international resource persons, serve as consultants, instructors, and lecturers for the programs.

Professional program coordinators are available to provide technical assistance in program planning, budget preparation, and evaluation, and to assist organizations in developing programs consistent with the needs of the group and the overall educational objectives of the University.

The Center also offers a number of programs and courses designed to meet various educational needs of individuals. Emphasis is placed upon quality classes for professional advancement, personal improvement, and cultural enrichment.

Registration in these classes is open to all adults with a desire for knowledge and interest in the subject matter.

Special Student Enrollment

Individuals wishing to register for courses but not working for a degree may enroll as "Special" students. For detailed information, refer to page 13.

Cooperative Education

The University of South Florida participates in a Cooperative Education Program in which students can combine their formal education with an occupational experience. For description of the program, refer to page 22.

Special Student—Dual Enrollment

Dual enrollment in USF classes is open to academically qualified students currently enrolled in high school. For detailed information, refer to page 13.

Early Admission

Early admission is open to qualified high school students who wish to enter the University of South Florida as regularly enrolled students prior to high school graduation. For detailed information refer to page 11.

Upward Bound

Upward Bound is a pre-college program for students from low-income families who have academic potential, but who have inadequate secondary school preparation or have not achieved success in school.

Its purposes are to assist these students in developing goals and academic skills, and to provide the motivation necessary to obtain entrance and achieve success in a college or post-secondary program.

To qualify, the applicant must meet the following criteria:

1. Family income must meet established federal guidelines.
2. Student must have completed the 9th grade and be presently enrolled in the 10th, 11th, 12th grade in a high school.
3. Student should have approximate grade point average of *C*.

Applications should be forwarded to Director, Project Upward Bound, University of South Florida.

Off-Campus Term Program

The Off-Campus Term (OCT) Program offers a program of experience-study whereby all students are encouraged to spend at least one quarter engaged in individual educational pursuits away from the University campus. Students are offered a wide variety of opportunities for self-designed and self-implemented experience for academic credit. For example, students may become involved in social action projects, international travel or study, independent research-study, work, or internship projects, and many other personalized projects—all off campus and all for academic credit.

While most student activities are individually designed and implemented, the OCT Program also provides for some group projects. Foremost of these are four to six credit hour, faculty-led, short term group projects in Jamaica several times annually

and Urban Survival projects for 12 to 16 hours credit in New York City or any other urban area. The latter projects involve intense urban interaction and living in an inner-city hotel at most favorable student rates.

Academic credit is earned by students while engaged in off-campus activities through the OCT Program. The number of hours of credit varies according to student interest and proposed activities. Students may enroll in a variety of projects and pay fees for variable hours of credit from 1 to 15 in a term. Academic credit activities are designed around the basic off-campus experiences for the most part and projects resulting in academic credit are designed by the student and supervised by OCT or other appropriate faculty. Credits may be earned which apply towards general education and elective requirements. Credit may also be earned in the major field of study in many cases.

The OCT Program has a variety of course projects designed specifically for implementation entirely off-campus using the community and its people as the learning resource. Examples of such offerings are 3-5 hour projects each in (1) environmental interactions and (2) inter-cultural interactions, 4-hour project in international interactions, 3-hour projects in volunteer, community service activities, and others. These courses are the foundation of each student's academic plan, supplemented with a project in the major field of study in many cases.

Students may participate in the OCT Program anytime beginning with the freshman year through the final quarter prior to graduation. Good standing in the University and a 2.0 grade average is required for acceptance into the Program. The OCT Program operates throughout the entire year and students are urged to plan their off-campus experiences during the fall through spring quarters to avoid the traditional rush common to the summer term. *Early action is urged since quotas are placed on the number of participants accepted each term.*

Elective Physical Education

This program provides the student with opportunities for identifying, developing and assessing various forms of vigorous movement which can contribute to his educational experience and personal growth.

Courses include well-known sports as well as individual assessment activities and special courses to prepare the interested student with skills and techniques applicable for conducting or directing community activities related to sport and movement.

All Elective Physical Education (PEB) courses are graded S/U.

Exchange Programs

National Student Exchange

The University is affiliated with the National Student Exchange (NSE) which permits undergraduate students to study for up to one year in another public university as part of their program at the University of South Florida. These exchanges can occur only at universities which are part of the National Student Exchange.

In addition to the University of South Florida, other universities participating in this program are Bowling Green State University (Ohio), California State College at Bakersfield, Illinois State University, Jackson State University (Miss.), Morgan State University (Md.), Montana State University, Moorhead State University (Minn.), Oregon State University, Rutgers University, South Dakota State University, West Chester State College (Pa.), William Paterson College of New Jersey and the Universities of Alabama, Delaware, Hawaii (Hilo and Manoa), Idaho, Maine (Ft. Kent and Portland-Gorham), Massachusetts, Montana, Nevada (Reno and Las Vagas), North Colorado, North Dakota, and Oregon. The number of participating schools increases each year so this list must not be considered complete. An up-dated listing is maintained by the NSE Office.

Under the National Student Exchange program, University of South Florida students apply for exchange status at their home campus. To qualify, students must be in their sophomore or junior year while at the exchange school, and have a 2.5 grade point average. They pay in-state fees at the host campus and the credits and grades transfer back to the University of South Florida upon completion of the exchange.

Application deadlines for September exchange is March 1 annually. Thereafter, no applications for exchange are processed until September for mid-year exchanges if such are possible. *Students are urged to apply early as there are quotas established for participation in the NSE Program.* The NSE Program is coordinated by the Off-Campus Term Program. The OCT Program maintains a library of materials about the program and the member institutions involved in the NSE Program. Interested students should contact the Director of the Off-Campus Term Program for information and application.

University of Maine Exchange Program

The College of Education operates a student exchange program with the University of Maine, Farmington. This program provides opportunities for sophomores, juniors and seniors to exchange residence at both campuses. The student exchange provides a waiver of out-of-state tuition. University credit earned is applicable towards graduation. Students desiring further information should contact the coordinator of student activities in the College of Education.

Study Abroad Programs

USF students are eligible, if they meet the specific academic requirements, for enrollment in a wide variety of study abroad programs sponsored by the Florida State University System as well as by certain other U.S. colleges and universities, national educational organizations, and foreign institutions of higher learning.

Programs of the Florida State University Systems are listed below.

Administered by the University of Florida; year abroad program at the University of Utrecht in the Netherlands; year abroad program, University of the Andes, Bogota, Colombia.

Administered by the Florida State University; two quarter and academic year programs at study centers in Florence, Italy, and London, England; summer program in Belgrade, Yugoslavia.

Administered by the Department of Foreign Languages, University of South Florida: one or more quarters each academic year at the National University of Mexico, Mexico City.

Through USF's institutional membership in the Institute of International Education, the Council on International Educational Exchange, and the American Association of State Colleges and Universities, students may participate in study abroad programs in France, Spain, Italy, Mexico, Canada, and other countries.

Students who prefer independent study abroad, rather than the formal institutional programs, may do so through the Off-Campus Term. The Off-Campus Term also offers an intersession program in Jamaica which is conducted one or two times each calendar year.

The programs described in this section are approved exchange programs and will be considered toward on-campus credits. Students who plan to participate in study abroad programs should consult their departmental advisers well in advance to de-

termine whether the course of study they plan to pursue will be acceptable for meeting other degree requirements.

Information about these and other programs, as well as advising on study abroad, may be obtained from the Overseas Information Center in the College of Social and Behavioral Sciences.

Florida College Exchange Program

Through an exchange agreement, students of the University of South Florida, with the approval of their advisers, may elect courses in Greek, Hebrew, Bible, or religious education at nearby Florida College. Credit for acceptable work may be transferred to the University and counted as elective credit toward graduation. Students from Florida College have a similar transfer arrangement.

Costs for students under these dual enrollment plans are based on credit hours of work taken, and payment is made to the appropriate institution in accordance with its per-hour fee rate.

Traveling Scholar Program

The University System of the State of Florida has a Traveling Scholar program which will enable a graduate student to take advantage of special resources available on another campus but not available on his or her own campus; special course offerings, research opportunities, unique laboratories, and library collections. For procedures and conditions, refer to page 44.

Academic Support and Services

University Library

It is important that a library take into account not only the books on its shelves but also the people it serves. This point of view is central in the philosophy of the University of South Florida Library. The Library staff wants students to regard books as a way of life and use the Library regularly. One of the reasons for providing a library collection is to encourage students to buy, read and discuss books. The University expects students to become familiar with the University Library book collection, to master the techniques of using it, and—before graduation—to achieve a familiarity with books which will carry over into later life.

The new University Library building was completed in March, 1975; the seven floor building is the largest budgeted non-medical academic facility in Florida. This centrally located building, with its open stacks, adjoining study areas and many individual carrels, has been designed to facilitate study, research and reading. When fully occupied, it will provide space for 2,500 readers and will ultimately accommodate over 800,000 volumes.

The present library collection consists of about 500,000 volumes and is constantly growing in order to serve the University community's need for materials for instruction and research, as well as for personal knowledge and cultural advancement. All academic areas are served, with the exception of the College of Medicine which has its own library.

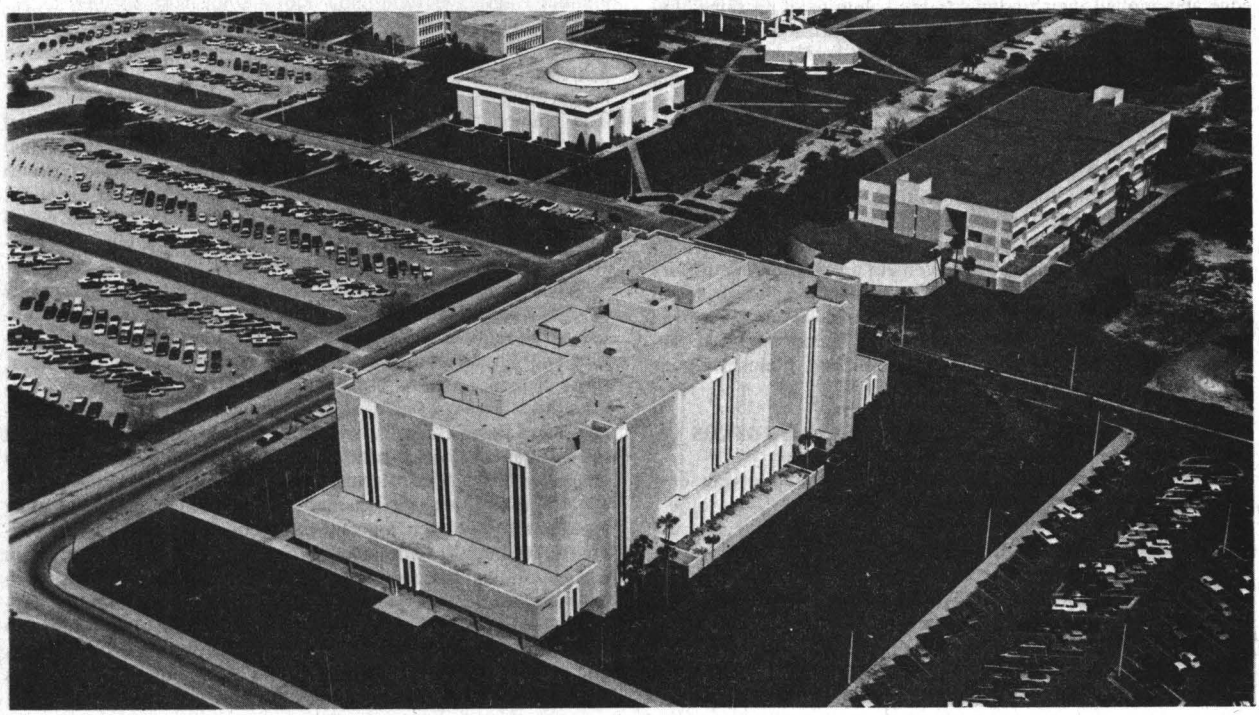
The card catalog and reference collection are located on the first floor. Reference service is provided at the Reference and Information desks. To assist students in learning about the resources of the Library, the Reference staff offers a two-credit course, *Use of the Library, LLI 200.* The staff also gives orientation lectures on library use and provides individual assistance to students in search strategy and bibliographic form. A descriptive guide to the Library and its services is also available.

Circulating books are located on the third through fifth floors. Patrons may check out books at the Circulation desk, first floor, before exiting through the new library security system in the lobby.

The U.S. Documents collection is on the basement level. The Library is a depository for U.S. Government publications and also receives the microprint edition of the United Nations documents and official records. The Document staff is available to assist in using these materials.

The Reserve Department, containing books and articles "re-

University Library



served" at faculty request for the use of a particular class is also on the basement level. Adjoining the Reserve desk is the Reserve Reading Room, which serves as one of the Library's quiet study centers.

The periodicals collection is on the second floor. In addition to more than 4,000 periodicals, the Library subscribes to newspapers from Florida and major cities in the United States, and from many foreign countries. The Microform room, also on the second floor, holds a large collection of material in microtext, including 20,000 reels of film and about 200,000 items in other microformat. This material provides access to many important sources otherwise inaccessible.

The fourth floor Special Collections Department, houses the Library's rare books, University Archives and the Florida Historical Society Library. This area contains an extensive collection of books, maps, documents and manuscripts covering historical and contemporary Florida. These valuable items are in closed stacks, but the materials and assistance are available at the service desk.

Division of Sponsored Research

Research is an important aspect of the educational programs of the University of South Florida. Faculty members are encouraged to pursue research activities, and many students participate in research and training projects supported by funds awarded to the University by public and private granting agencies. Research is integrated with the instructional program.

The Division of Sponsored Research is the central coordinating unit for research and other sponsored educational activities on the campus. It provides information about granting agencies and serves as a consultation center for faculty who desire help in drafting research proposals. All proposals seeking outside support are transmitted by this office.

Although the Division of Sponsored Research operates primarily for the benefit of the faculty, students who have an appropriate interest in research are welcome to visit the office.

From its beginning, USF faculty and staff have been active in the search for new knowledge and actively concerned about the world in which they live. Supported by private and public grants, they have pushed back the frontiers of current knowledge and applied their findings to the solutions of pressing contemporary problems. Since 1960, they have attracted over 1,400 grants, totaling more than $48 million, and have generated over 10,000 separate scholarly and creative contributions to human knowledge and understanding. Many of these projects were basic research; others involved the practical application of new knowledge to improve the quality of life in this area; still other projects made the special training and knowledge of USF faculty and staff available to elected political leaders, organizations working for social betterment, religious and educational institutions and businesses large and small.

But such "academic" involvement in community affairs pays dividends to the university, too. When scientists or social scientists or experts in marketing or business administration share their specialized knowledge in resolving community problems or questions, they become better teachers themselves.

The Division of Educational Resources

The Division of Educational Resources offers the following services for USF faculty, staff and students:

Audio-Visual Services—provides equipment and instructional material for classroom use, University events and other functions. Such equipment includes public address systems, tape recorders, and projectors of all kinds. Various types of audio-visual equipment may also be rented.

The *Film Library* houses over 3,000 films which are available at no charge for utilization in scheduled USF courses, for rental to external agencies or non-academic internal utilization, and for preview in the films facility located on the Tampa campus. The collection contains USF-produced films available for purchase. Research and reference of other than USF owned films is available, as well as a catalog of films upon request.

The *Instructional Materials Center (IMC)* is a resource center for instructional materials and non-book media. Non-print materials for use of all students are available, as well as printed material for K-12. A Production Room provides graphics and photography facilities, duplicating equipment and a laminator to all USF personnel.

The *Learning Lab* provides study aids using assorted audio-visual media to USF students. Faculty members may convert portions of their classroom teaching to media for use in the Lab. This facility is available on certain evenings each week for evening students as well as the scheduled daytime classroom hours.

Production Services—Graphics, Photography, and Cinematography services for use in the classroom as well as the overall University program are available.

WUSF-TV (Channel 16) is a public, non-commercial UHF television station serving the University and the communiities of the nine surrounding counties. It is an affiliate of the Public Broadcasting Service.

WUSF-FM (89.7 mhz) is a stereo, public radio station serving the University and surrounding communities within a 17-county area. It is an affiliate of National Public Radio.

IDs—All identification cards for students, faculty and staff are produced in this area. ID service is available throughout registration and the first week of classes in each quarter. During the balance of the quarter, IDs are made on Monday and Friday from 2:00-3:00 p.m. and on Thursday from 9:00-10:00 a.m. for students. Faculty and staff ID cards are made on Wednesday from 1:00-3:00 p.m. and on Thursday from 9:00-10:00 a.m. There is no charge for the original ID nor to replace a damaged ID providing the damaged card is presented. All other replacements are charged for at the rate of $5.00 for each replacement.

Y.O.U. (Your Open University) provides opportunities for everyone regardless of previous education to earn college credit with courses offered through media, including television and redio (WUSF-FM and/or WUSF-TV). Courses are approved by the Department of Education for teacher certification or recertification. Course offerings are announced prior to each academic quarter. (For more detailed information, see page 38.)

Computer Research Center

The University is the host institution for a large scale digital computer facility which provides administrative, instructional and research computing support for the University of South Florida and for Florida Technological University at Orlando. This combined operation has been designated as the Central Florida Regional Data Center within the State University System.

The Computer Research Center makes computing services available to users through its Office of Services, which establishes the required user project identifications, through Instruction and Research consultants, and, in the data systems area, through project teams consisting of systems analysts and programmers. The staff also includes keypunch and computer operators and systems (software) technical specialists. The Center operates as a service facility, is centrally funded, and makes no charge for normal consulting and processing services.

Computing equipment includes an IBM 360/75 system, a plotter, remote batch job entry stations and other on-line keyboard terminals at various locations, in addition to tape and disk storage units at the central site. Remote access units are also located at the St. Petersburg campus. The Center maintains keypunch, sorter and electronic calculators in "open use" areas to enable students and faculty to prepare and check their programs and data. These areas are accessible in general on a 24-hour basis each day.

DIVISION OF GRADUATE STUDIES

The Division of Graduate Studies is administered by a Director who coordinates the admission of graduate students to the University, advises on the budgetary request and internal allocation of state funds for the support of graduate training, administers graduate scholarships and fellowships, allocates graduate out-of-state waivers, and certifies final approval of all graduate theses and dissertations.

Admission to Graduate Study

Graduate students are advised to apply early as the University accepts applications one year in advance. Applications for which all credentials are not received by the deadline (see academic calendar, pages 4-5) will not be considered for that term. Some departments have different, earlier deadlines than those listed on pages 4-5. Students should check the requirements for the specific programs in which they are interested. A $15.00 non-refundable application fee must accompany the application unless the student has been previously enrolled and paid the fee at the University.

Students who seek admission as first-time or transfer graduate students to a master's or doctoral degree program in the State University System shall be required to meet minimal system-wide requirements. Universities may follow more restrictive admission policies if they so desire.

In order to be admitted, a first-time graduate student or one transferring from a graduate program at another university must have a bachelor's degree or equivalent from an accredited university and meet at least one of the following criteria:

1. He/she shall have earned a "B" average or better in all work attempted while registered as an upper division student working for a baccalaureate degree, or
2. He/she shall have a total Quantitative-Verbal Graduate Record Examination score of 1000 or higher or an equivalent score on an equivalent measure approved by the Board of Regents, or
3. He/she shall have earned a graduate degree from an accredited institution.

Applicants for the College of Business Administration (except Economics) are evaluated based on a combination of indicators, namely the GMAT (Graduate Management Admission Test) and the upper division GPA prior to graduate admission. For the M.B.A. and M.S. in Management, the applicant must score at least 1000 points based on the formula: 200 times the upper division GPA plus the GMAT score. For the Master of Accountancy, applicants must submit a score of 475 or higher on the GMAT *and* at least a "B" average (3.0) in all work attempted while registered as an upper division student working for a baccalaureate degree.

Test scores are required of all applicants, even though admission may be based on undergraduate grades. The GRE is given six times a year at a multitude of centers in the U.S. and in many foreign countries. Candidates must register for this examination at least four weeks in advance of the test date and should allow six weeks for the receipt of their test scores. Care should be taken not to exceed 18 hours as a Special student because of the limitation of applying hours taken as a Special student to a degree program.

Acceptance by the college and the program for which the student is applying includes satisfaction of any additional requirements listed by the specific program.

In admitting students for a given academic year, up to 10 per cent of the graduate students admitted for that academic year may be admitted as exceptions to the above criteria. Students admitted as exceptions need not meet any of the criteria listed above but should meet other criteria devised by the university, such as excellent letters of recommendation from trusted colleagues or satisfactory performance in a specified number of graduate courses taken as post-bachelor students or practical professional experience in the discipline for a specified period of time.

A student's acceptance to graduate standing is granted for the quarter and for the particular program specified in the official acceptance notification. In the event that a student wishes to change the date of entrance, he/she must notify the Office of Admissions of his/her intentions to do so. Failure to enroll during the specified quarter without notifying the Admissions Office will result in the cancellation of the admission and will necessitate re-application.

A graduate student enrolled for work in a program who wishes to change to another program must make formal application through the Office of Records and Registration.

If, on completion of one graduate degree, a student wishes to begin work on another advanced degree at USF, he/she must reapply at the Office of Admissions.

Procedure for Applying

1. Applicants must submit application and fee prior to the deadline.
2. Two official transcripts from every institution of higher learning attended must be submitted directly to the Office of Admissions.
3. a. Admissions test results are required from every applicant. These must be sent directly to Graduate Admissions Office from the testing agency.
   (1) Graduate Record Examination Aptitude Test. *All applicants* except those applying to Business Administration (see below), must submit scores from the GRE aptitude test taken within 5 years preceding application.
   (2) Graduate Management Admission Test (GMAT). All applicants to Business Administration, except those applying to Economics, must submit scores from the GMAT. Those applying to Economics must submit scores from the GRE aptitude test (see above).

   b. Postponement of Admission Test: If applicant has a grade point average of 3.0 or better in his last two years of undergraduate work but has not taken the GRE or GMAT, he/she may be admitted as a degree-seeking student subject to receipt of satisfactory admissions test scores. Required test scores must be received before a second registration will be permitted.

International Students

International students requesting an application will be sent preliminary information forms. Upon receipt of these forms, the Admissions Office will review the provided information and determine whether the student meets the minimum requirements for admission to USF in his/her major field.

If minimum requirements are not met for admission, the applicant will be advised of this by the Admissions Office, and the application process will be terminated at that point. If the student does meet the minimum admission requirements, the Admissions Office will forward a formal application with additional instructions and information. A complete admission application should be received by USF at least 6 months prior to the desired entering date, together with the non-refundable $15.00 application fee. Submission of a formal application does not automatically guarantee admission. Priority in admissions will be given to those applicants whose potential indicates the greatest likelihood of success in the program requested.

For all International students the following items are required as part of the formal application and must be received in the Admissions Office before any decision will be made:

a. Completed application.
b. A $15.00 non-refundable fee must accompany the application unless the student has been previously enrolled as a degree-seeking student and paid the fee at the University.
c. Letters of Recommendation:
   1. One letter from the last institution attended to the Director of Admissions.
   2. Three letters of recommendation sent directly to the program to which the student applied, attesting academic performance and capability.
d. A certificate of financial ability. All international applicants must furnish proof of financial resources sufficient to cover travel to and from the United States, tuition, fees, room and board, and other expenses for the full academic year.
e. All applicants whose native language is not English are required to submit scores from the Test of English as a Foreign Language (TOEFL). A minimum score of 550 will be required for all colleges and programs. Applicants are responsible for making arrangements with the Office of Educational Testing Service to take that examination and to have their scores sent directly from Educational Testing Service to the Office of Admissions.
f. GRE/GMAT Test Scores:
   All applicants to the graduate school (except those applying to the College of Business Administration) must submit scores on the Graduate Record Examination (GRE). Graduate applicants to the College of Business Administration (with the exception of Economics) must submit scores from the Graduate Management Admission Test (GMAT). Applications for Economics must submit scores from the GRE.
g. Application and information for the required tests may be obtained from the addresses listed below.
   1. For information and to obtain an application for the Graduate Record Examination:
      Graduate Record Examination
      Educational Testing Service
      Box 955
      Princeton, New Jersey 08540, U.S.A.
   2. For information and to obtain an application for the Test of English as a Foreign Language:
      Test of English as a Foreign Language
      Educational Testing Service
      Box 899
      Princeton, New Jersey 08540, U.S.A.
   3. For information and to obtain an application for the Graduate Management Admission Test:
      Graduate Management Admission Test
      Educational Testing Service
      Box 966
      Princeton, New Jersey 08540, U.S.A.
h. International applicants must request all schools attended to submit directly to the Office of Admissions, University of South Florida, transcripts of all work attempted. Transcripts in a language other than English must be accompanied by a certified English translation signed and sealed by the U.S. Consul or other authorized government official. Applicants must submit certificates, diplomas or other supporting documents, transcripts showing subjects and grades from the first year of university work to the time of application.Documents submitted will not be returned to the applicant or forwarded to another institution. Applicants are expected to familiarize themselves with program admission requirements prior to applying.

Special Students

Students who are qualified to enroll in specific graduate courses but who do not intend to work toward a graduate degree may enroll as Special Students. Special Students may enter classes on a space available basis during the first week of each quarter by obtaining consent of the course instructor. Special Students must meet all stated prerequisites of courses in which they wish to enroll. Certain classes are available only to degree seeking majors and may not be available for Special Students. *No more than 18 hours of credit* earned as a Special Student may be applied to satisfy graduate degree requirements. Any application of such credit must be approved by the degree granting college and must be appropriate to the program.

Those interested in enrolling as Special Students are urged to contact the Coordinator of Graduate Studies in the College offering the courses concerned for a description of requirements and procedures.

The Traveling Scholar Program

The University System of the State of Florida has a Traveling Scholar program which will enable a graduate student to take advantage of special resources available on another campus but not available on his own campus.

Procedure

A Traveling Scholar is a graduate student, who, by mutual agreement of the appropriate academic authorities in both the

sponsoring and hosting institutions, receives a waiver of admission requirements and the application fee of the host institution and a guarantee of acceptance of earned credits by the sponsoring institution.

A Traveling Scholar must be recommended by his own graduate adviser, who will initiate a visiting arrangement with the appropriate faculty member at the host institution.

After agreement by the Director of Graduate Studies at the University of South Florida and the student's adviser and the faculty member at the host institution, Deans at the other institution will be fully informed by the adviser and have authority to approve or disapprove the academic arrangement.

The student registers at the host institution and pays tuition and registration fees according to fee schedules established at that institution.

Conditions

Each university retains its full right to accept or reject any student who wishes to study under its auspices.

Traveling Scholars will normally be limited to one Quarter on the campus of the host university and are not entitled to displacement allowance, mileage, or per diem payments. The sponsoring institution, however, may, at its own option, contribute to the financial support of the Traveling Scholar in the form of fellowships or graduate assistantships.

Graduate Assistantships and Fellowships

(1) To be eligible to obtain a one-half time *graduate teaching assistantship*, a student must be degree-seeking and be registered for a minimum of eight credit hours each quarter toward degree requirements.
(2) To be eligible to obtain a *graduate research assistantship*, a student may be degree-seeking *or* a Special Student for one quarter of enrollment *only* and be registered for a minimum of eight credit hours toward degree requirements.

Teaching and Research Assistantships are awarded by the individual programs/departments. The Graduate Council of the University of South Florida awards fellowships for graduate students.

Fields of Graduate Study

Master's Degree Programs

College of Arts & Letters

American Studies—M.A.
English—M.A.
French—M.A.
Linguistics—M.A.
Philosophy—M.A.
Spanish—M.A.
Speech Communication—M.A.

College of Business Administration

Accountancy—M.Acc.
Business Administration—M.B.A.
Economics—M.A.
Management—M.S.

College of Education

Administration & Supervision—M.Ed.
Art Education—M.A.
Curriculum & Instruction—M.Ed.
Elementary Education—M.A.
Exceptional Child Education:—M.A.
- Emotional Disturbance
- Gifted
- Mental Retardation
- Specific Learning Disabilities

English Education—M.A.
Foreign Language:—M.A.
- French
- German
- Spanish

Guidance—M.A.
Humanities Education—M.A.
Junior College Teaching:—M.A.
- Astronomy
- Biology
- Business
- Chemistry
- Economics
- Engineering
- English
- French
- Geography
- Geology
- History
- Mathematics
- Physics
- Political Science
- Sociology
- Spanish
- Speech Communication

Library-Audiovisual Education—M.A.
Mathematics Education—M.A.
Music Education—M.A.
Physical Education—M.A.
Reading Education—M.A.
School Psychology—M.A.
Science Education—M.A.
Social Science Education—M.A.
Speech Communication Education—M.A.
Vocational & Adult Education:—M.A.
- Adult Education
- Business & Office Education
- Distributive Education
- Industrial-Technical Education

College of Engineering

Master of Engineering—M.E.
Master of Science in Engineering—M.S.E.
Master of Science in Engineering Science—M.S.E.S.

College of Fine Arts

Art—M.F.A.
Music—M.M.

College of Natural Sciences

Astronomy—M.A.
Botany—M.A.
Chemistry—M.S.
Geology—M.S.
Marine Science—M.S.
Mathematics—M.A.
Microbiology—M.A.
Physics—M.A.
Zoology—M.A.

College of Social & Behavioral Sciences

Anthropology—M.A.
Communicology:
  Audiology—M.S.
  Aural (Re)Habilitation—M.S.
  Speech Pathology—M.S.
Criminal Justice—M.A.
Geography—M.A.
Gerontology—M.A.
History—M.A.
Political Science—M.A.
Psychology—M.A.
Rehabilitation Counseling—M.A.
Sociology—M.A.

Intermediate Program

College of Education

Education Specialist—Ed.S.

Professional Program

College of Medicine

Medicine—M.D.

Doctoral Degree Programs

College of Arts & Letters

English—Ph.D.

College of Education

Education—Ph.D.

College of Engineering

Engineering Science—Ph.D.

College of Medicine

Medical Sciences—Ph.D.

College of Natural Sciences

Biology—Ph.D.
Chemistry—Ph.D.
Mathematics—Ph.D.

College of Social & Behavioral Sciences

Psychology—Ph.D.

Regulations Governing Graduate Study

The development of University policies and principles for graduate work is the responsibility of the Graduate Council. In addition, the Council exercises the right of inquiry and review to insure that high scholarly standards are being maintained. It is responsible for the establishment of University standards and regulations for graduate students and faculty. The Council also reviews all new graduate courses and degree programs and modifications to existing courses and programs. The membership of the Graduate Council includes the chairperson, nine faculty members, two graduate students, and three ex-officio members.

Major Professor

An adviser or major professor will be appointed for the student in his first term of work and will be designated by the chairperson of the department or area in which the degree is sought upon a mutual recommendation from the student and professor concerned.

Quality of Work

Graduate students must attain an overall average of 3.0 (B) in all courses. No grade below "C" will be accepted toward a graduate degree, but all grades will be counted in computing the overall average.

Any graduate student who at the end of a quarter is not in good standing shall be considered to be on probationary status. Such a student may be dropped from degree seeking status after one quarter of probation by the dean of his college. Notification of probation shall be made to the student in writing by his major professor, with a copy to the college dean. At the end of the probationary quarter, the major professor shall recommend to the college dean, in writing, one of three alternatives: (1) removal of probationary status; (2) continued probation; or (3) drop from degree program. Every effort will be made during the probationary period to aid the student in reestablishing his standing.

A student who has been formerly admitted to the University and who has not attended for two years or longer must contact the department/area for reevaluation of his/her degree program.

Appeals

Graduate students may appeal actions regarding their academic status:

1. In actions based on departmental requirements, the student may appeal first to his department through his major professor, then to the college dean or his representative, and then to the Graduate Council if necessary.
2. In actions based on the University minimum requirements, appeal shall be made directly to the Graduate Council.

Reports of actions and appeals will be maintained in the student's permanent file.

Enrollment Requirements—Minimum University Regulations

A student taking eight or more hours toward his/her degree in a quarter will be classified as a full-time student. The normal graduate load is 12-15 credit hours.

Students who have completed their course work and continue to occupy space and to receive faculty supervision but who have not made a final thesis/dissertation submission shall register for a minimum of three hours of 699 or 799. The exact number of hours is determined by staff and facilities needed to support the student.

Graduate students having completed all requirements except for comprehensive exams or completion of I and/or Z grades will be allowed use of University Library facilities for one quarter, with approval of department chairperson.

Graduate students who receive financial support from the University, other than fellowship recipients, will hold their appointments for no more than six quarters (excluding summer quarter) while working toward the master's degree (eight quarters for the MFA) and no more than nine additional quarters while working toward the Ph.D. degree.

Transfer Credit

Transfer of credit from another recognized graduate school is limited to nine quarter hours. All transferred credit must (1) be approved by the program or college concerned, and (2) have been completed with grades of "B" or better.

Transfer (post-baccalaureate, transfer credits from other institutions) and Special Student credits* must be evaluated and transferred by the time of formal acceptance and enrollment. The graduate department/program will be responsible for evaluating and initiating the transfer.

Grades in the Graduate Program

No graduate student may take a course in his/her major on an S/U basis except for certain courses that are specifically designated in the catalog. A graduate student may take courses outside of his/her major on an S/U basis with prior approval of the professor of the course, his/her major professor and the Dean of the College who will approve the degree.

The student may apply a maximum of six hours of such credit (excluding Directed Research, Thesis/Dissertation, Design, Practicum, or Internship) toward a master's degree. Courses 681, 699, 781, and 799 are designated as Credit Varies and are awarded credit on an S/U basis only. Before a student undertakes work under Directed Research (681 or 781) a written agreement between the student and the professor concerned, setting forth in detail the requirements of the course, shall be completed.

The Z grade shall be used to indicate continuing registration in thesis/dissertation courses, where the final grade to be assigned will be that of the completed sequence. Upon satisfactory completion of the thesis/dissertation course, the Z grade shall be changed to S.

Other procedures involving grades such as drops, withdrawals, audits, etc. are the same as those used for undergraduates.

Change of Graduate Degree Program

A student who wishes to change his advanced degree program must obtain a Graduate Change of Program Application from the Office of Records and Registration. The change of program is completed upon acceptance of the student by his new department. The new department may elect not to accept all, some, or none of the previous graduate courses taken by the student.

Application for Degree

Each student who plans to complete his graduate requirements by the end of a term must complete the Application for Graduation within 15 class days after the beginning of that term. The application is available at, and after completion must be returned to, the Office of Records and Registration.

Exclusions

Members or former members of the faculty who hold or have held the rank of Assistant Professor, Associate Professor, or Professor are not eligible to be granted degrees from the University of South Florida, except upon prior authorization of the Graduate Council, and approval of the Vice President for Academic Affairs.

In cases where the immediate family of the faculty are enrolled in graduate degree programs, the faculty member may not serve on any advisory or examination committee nor be involved in any determination of academic or financial status of that individual.

Faculty Eligibility

In order to teach a graduate course at the University of South Florida, a person must have a current USF faculty appointment. The director of a thesis or dissertation must be a USF faculty member with an advanced degree, or equivalent professional qualifications, appropriate to the required level of supervision.

MASTER'S DEGREE

Program of Study and Course Requirements

During the first term of study, in consultation with his major professor, the student should plan a program of work to be completed for satisfaction of degree requirements. A copy of this program signed by the student and professor should be maintained in the student's department file.

A minimum of 45 quarter hours is required for a master's degree, at least 24 hours of which must be at the 600 level. At least 30 hours must be in formal, regularly scheduled course work, 15 of which must be at the 600 level. Courses at the 500 level are acceptable for credit toward the master's degree when taken as a part of a planned degree program.

A major professor may approve up to 8 hours of 400-level courses if taken as part of a planned degree program. Additional graduate credit may be earned in 400-level courses only if specifically approved by the appropriate dean and by the Graduate Council. Students enrolled in undergraduate courses as a part of their planned degree program will be expected to demonstrate a superior level of performance.

Supervisory Committee

Students working toward a thesis degree will have the benefit of a supervisory committee. The committee, consisting of the major professor and at least two other members of the department or area in which the degree is sought, will be appointed by the appropriate chairperson upon recommendation from the student and his major professor. Notification of the committee appointment will be sent to the Dean of the College and to the Director of Graduate Studies. The committee will approve the course of study for the student, supervise his research, and accept his thesis.

Time Limit

All work applicable to the master's degree requirements must be completed within seven years from the time a student is admitted into his/her program.

Final Comprehensive Examination

Prior to clearance for the degree, the candidate must perform satisfactorily on a comprehensive examination in his major field.

Thesis

When a thesis is required, the thesis must conform to the guidelines in the *Handbook of Graduate Theses and Dissertations* available in the University Bookstore. The thesis must be submitted to the Director of Graduate Studies at least three weeks before the end of the quarter in which the student is to receive the degree. The Graduate Studies Office will not accept a

**No more than 18 hours of credit earned as a Special Student in a non-degree seeking status may be applied to satisfy graduate degree requirements.*

thesis after the first day of the quarter unless the candidate is enrolled in the proper 699 course for at least three hours. Only after the thesis has been approved for filing in the University Library can the student be certified for his/her degree.

Second Master's Degree

A second master's degree may be granted so long as there is no duplication of credit. If there is any duplication of credit, the request must be considered by the Graduate Council.

Ph.D. DEGREE

The degree of Doctor of Philosophy is granted in recognition of high attainment in a specific field of knowledge. It is a research degree and is not conferred solely upon the earning of credit and completion of courses or by the acquiring of a number of terms of residency. The amount of residence and the requirements suggested below are a mimimum. The degree shall be granted on evidence of proficiency and distinctive achievement in a specified field, by the demonstration of the ability to do original independent investigation and the presenting of these findings with a high degree of literary skill in a dissertation.

Student Committees

An advisory Committee shall be appointed by the chairman of the appropriate department or program for each student during his or her first quarter of residency at the University of South Florida. This Committee shall advise the student on indicated subject matter deficiencies and provide aid in choice of a major professor and an area of research. As soon as an area of research is determined and a major professor is chosen, a Dissertation Committee shall be appointed for the student by the chairperson of the department or program in which the degree is sought. Notice of the appointment of the Dissertation Committee shall be sent by the chairperson to the Dean of the College and the Director of Graduate Studies immediately after the appointment is made. The Dissertation Committee will approve the student's course of study, supervise the research, and the written comprehensive qualifying examination, and conduct the final examination. The Dissertation Committee shall consist of at least five members, at least three of whom must come from the academic area in which the major work for the degree will be done.

Language Requirement

Before a student is eligible to take the comprehensive qualifying examination, he must normally have completed a reading knowledge of two foreign languages. However, special work done outside the student's field of concentration, and related subjects may be substituted for one or both languages, provided this exception is recommended by the student's dissertation committee and approved by his department's Graduate Committee.

Residency

The minimum requirement shall be three academic years of work beyond the bachelor's degree. At least one academic year of residence must be on a campus of the University of South Florida. An academic year's residency shall be defined as a minimum of eight hours of graduate work per term, or the chairperson of the student's supervisory committee may certify that the student be considered as in full-time residence. Any graduate work counted toward the fulfillment of the requirement of the Ph.D. degree after admission to candidacy must be done within a seven-calendar-year period.

Comprehensive Qualifying Examination

As soon as a substantial majority of the course work is completed the student must pass a written comprehensive qualifying examination over the subject matter of the major and related fields. This examination may be supplemented by an oral examination. If the degree is not conferred within five calendar years of the comprehensive examination, the examination must be taken again.

Admission to Candidacy

A graduate student does not become a candidate for the Ph.D. degree until he/she is formally admitted to candidacy, and no student may enroll in 799 (Ph.D. Dissertation) until he/she has been admitted to candidacy. This admission is granted when the dissertation committee certifies that the student has successfully completed his/her comprehensive qualifying examination and in the opinion of his/her committee he/she has demonstrated the qualifications necessary to successfully complete his/her requirements for the degree. The certificate of admission shall be issued by the dean of his/her college through the Director of Graduate Studies.

Dissertation

Students in the Ph.D. programs must take an appropriate number of credits for dissertation, the exact number to be determined by departmental and/or individual requirements.

At least two weeks before the end of the quarter in which the student is to receive his degree, a candidate must submit to the Director of Graduate Studies a completed dissertation that has been signed by his committee. The dissertation must conform to the guidelines in the *Handbook of Graduate Theses and Dissertations* available in the University Bookstore. An abstract is also required. The Graduate Studies Office will not accept a dissertation after the first day of the quarter unless the candidate is enrolled in the proper 799 course for at least three hours. Upon approval of the dissertation by the Director, the student will be certified for his degree. The two copies of the dissertation will then be deposited in the University Library. Each dissertation will be microfilmed with the student being assessed a fee for this service.

Final Oral Examination

When the Dissertation Committee has inspected the final draft of the dissertation and finds it suitable for presentation, the Committee will complete a form requesting the scheduling and announcing of the final oral examination. The request form will be submitted via the appropriate department chairperson to the college dean and the Director of Graduate Studies for approval. The announcement must be received in the Graduate Studies Office at least two weeks prior to the scheduled oral examination. The final oral examination must be held at least three weeks before the end of the quarter in which the student is to be awarded the degree.

The chairperson of the examination shall be appointed by the dean of the college and shall not be a member of the student's Dissertation Committee or the department or program in which the degree is sought.

COLLEGE OF ARTS & LETTERS

The College of Arts and Letters studies culture in the broadest meaning of the word. The College offers students a sense of themselves and their world, chiefly through courses and programs involving human expression and communication. Students not only receive a liberal education, but also explore vocational interests, as they develop both the breadth of knowledge and precision of mind necessary for responsible leadership in our society.

More specifically, the College seeks:

1. To help students discuss new subjects, affording fresh ideas and talents enriching to life.
2. To enable students to work in several fields as a means of determining the best vocational choice.
3. To give sufficient development within the chosen vocational field that the student will be prepared to obtain a job upon graduation or to move successfully into a graduate or professional school.
4. To join with the other colleges of the University in providing liberal arts courses to augment required training in those professional schools.
5. To cultivate independent thinking, creative imagination, and value commitment, that students may become constructive leaders in their chosen activities.

Accordingly, the College is concerned with arts and letters, both as instruments and as ends in themselves. Language, literature, philosophy, the forms of communication, interdisciplinary studies, and other humanistic subjects are studied not merely for their utility, but for their intrinsic merit as well, and for what they tell us about what is permanently and universally significant to mankind.

The departments and degree programs of the College are grouped in four divisions:

1. Communications
   a. Mass Communications
   b. Speech Communication
2. Language
   a. Foreign Languages
   b. Linguistics
3. Letters
   a. American Studies
   b. Humanities
   c. Liberal Studies
   d. Philosophy
   e. Religious Studies
4. Literature: English

Responsibility for research and innovative teaching in each division is in the hands of an individual coordinator.

BACCALAUREATE LEVEL DEGREE PROGRAMS

Admission to the College

Admission to the College of Arts and Letters is open to all students who have been accepted to the University of South Florida, who are in good academic standing, and who have declared themselves a major in a particular field within the College.

For entrance into the College, each undergraduate student must complete an application in the Office of the Coordinator of Advising. The student will then be assigned to an adviser from the major field and will be counseled in the selection of courses which will fulfill his/her educational needs and satisfy the requirements for the Bachelor of Arts degree. Three programs (American Studies, Liberal Studies, and Mass Communications) have additional requirements, listed under Programs and Curricula.

General Requirements for Degrees

The degree of Bachelor of Arts will be conferred upon those who fulfill the requirements for degrees with majors in the fields of:

American Studies (AMS)
Anthropology-Linguistics (ANL)
Classics (Latin, Latin-Greek) (CLS)
Classics & Foreign Language (CLF)
English (ENG)
English-Linguistics (ENL)
Foreign Languages, Combination (FOL)
Foreign Language-Linguistics (FLL)
French (FRE)
German (GER)
Humanities (HUM)
Italian (ITA)
Liberal Studies (ALA)
Mass Communications (COM)
Philosophy (PHI)
Religious Studies (REL)
Russian (RUS)
Spanish (SPA)
Speech Communication (SPE)
Speech Communication-English (ENS)
Speech Communication-Theatre (STA)

A minimum of 180 quarter hours credit with an overall average of 2.0 or better in all work done at the University of South Florida must be completed in order to earn the Bachelor of Arts degree, except for courses taken by majors in the Mass Communications department, which requires a 2.5 in all its departmental work. The degree program must include the completion of (1) General Distribution Requirements, (2) a departmental major, and (3) elective courses.

1. General Distribution Requirements

This work comprises a total of sixty (60) quarter credits which (except for English) may be spread over the normal four-year degree program. The requirement includes:

Eight (8) hours credit in English Composition
Eight (8) hours credit in Humanities/Fine Arts
Eight (8) hours credit in Mathematics/Quantitative Method
Eight (8) hours credit in Natural Sciences
Eight (8) hours credit in Social and Behavioral Sciences

The remaining twenty (20) hours are to be divided among the last four areas at the discretion of the student and adviser.

See page 32 for details.

2. The Departmental Major

A departmental major consists of a concentration of course work in a specific department. The number of credit hours required for a major will vary from department to department. There must be at least a cumulative grade point average of 2.0 in the major, with the exception of Mass Communications, which requires a 2.5 of its majors in all departmental work. At least 120 quarter hours must be earned in courses outside the student's major.

3. Elective Courses

Of the minimum of 180 quarter hours required for a bachelor's degree in the College of Arts and Letters, sixty (60) are normally earned in general elective courses. This number varies with the credit requirement for the major and should be treated as an average figure.

Physical Education credit earned before Spring Quarter (III) 1972, will not be counted toward the 180 quarter hours required for the degree. However, up to four elective PE credits earned in Quarter III, 1972, or later, may be counted toward the 180 hour requirement. No transfer PE credit will be accepted by the College of Arts and Letters.

Work transferred from other schools will not be included in the grade point average computed for graduation.

Six hours of ROTC credit may be used as academic credit toward the B.A. degree. No transfer ROTC credit will be accepted by the College of Arts and Letters.

GRADUATE LEVEL DEGREE PROGRAMS

Master's Degree Programs

The College of Arts & Letters offers graduate programs leading to the Master of Arts degrees in the fields of:

American Studies (AMS)
English (ENG)
French (FRE)
Linguistics (LIN)
Philosophy (PHI)
Spanish (SPA)
Speech Communication (SPE)

The University requirements for graduate work at the Master's level are described on page 47. The departmental requirements are listed under the appropriate program descriptions.

Doctor of Philosophy

The Department of English offers a program leading to the degree of Doctor of Philosophy. The University requirements for graduate work at the doctor's level are given on page 48. Specific requirements for the degree are listed under the Department of English.

NON-DEGREE PROGRAMS

Certificate of Concentration

The Certificate of Concentration is a short-term goal program for adults who are interested in taking a series of courses in a selected area of Arts & Letters but are not necessarily interested in a degree. The courses, on an undergraduate level, are offered to adults who may or may not have a degree. The Certificate of Concentration is awarded when a minimum of 25 hours has been completed in a given area or in a combination of areas. (In a combination of areas, 12 hours must be in one particular area.) It is a program that may be taken on a satisfactory-unsatisfactory or letter grade basis and may be applied toward an undergraduate degree in Arts & Letters. The Certificate of Concentration is designed for registration in the Special Student Category rather than the regular route of admission and registration.

■ INTERDISCIPLINARY LANGUAGE-LITERATURE

Interdisciplinary Language-Literature offers courses of an interdisciplinary nature not housed in a specific department or program within the college. The primary objective of the courses is to aid the student in expanding his understanding of the interrelations among the various disciplines.

PROGRAMS AND CURRICULA

■ AMERICAN STUDIES (AMS)

The American Studies major is designed for those students interested in studying the relationships among the important elements which shape American civilization. American Studies is a multi-disciplinary program drawing upon a variety of courses from outside the program and outside the college. Bachelor's and master's degrees are available in American Studies.

Requirements for the B.A. Degree:

Required Core Courses (32 cr. hrs.)

AMS 301	(5)	AMS 313	(5)	AMS 493	(4)
AMS 311	(5)	AMS 491	(4)		
AMS 312	(5)	AMS 492	(4)		

Required Supporting Courses (12 cr. hrs.)
(no more than one course from each department)

AFA 335 or 336	(4)	ENG 330 or 331		HTY 400-005	(4)
AMS 321 or 331	(4)	or 332	(5)	PHI 413	(4)
COM 301	(4)	HTY 311 or 312	(4)	POL 411	(4)
ENG 308	(5)				

Related Electives (21 cr. hrs.)
(no more than 9 hours from one department)

Appropriate courses to be selected from the following departments in consultation with an American Studies adviser: Afro-American Studies, Anthropology, Dance, Economics, English, Geology, Geography, History, Philosophy, Political Science, Religious Studies, Sociology, Speech Communication, and Interdisciplinary Social Sciences.

Students desiring to major in American Studies are reminded that an interview with a department adviser is mandatory.

Requirements for the M.A. Degree

Requirements for Admission. An applicant must (1) meet the general admission requirements of the University; (2) have an academic average of "B" or better in all work attempted during the junior and senior years or a total score of 1000 or better on the Graduate Record Examination; (3) demonstrate (to the American Studies Graduate Committee) a satisfactory knowledge of United States history, literature, and government. In some cases, the students may be required to take extra undergraduate courses before admission.

Course Work and Thesis: Total required hours 45

1. 12 hours: AMS 601, 602, 603.
2. 24 hours: To be selected from 500 or 600 level courses by related departments such as history, philosophy, English, sociology, and humanities. No more than 12 hours from any one department may be credited toward the degree. Work in AMS 681, 683, 685 may be included for additional credit.

Other Requirements. During the last quarter of course work, each candidate must take a written examination on a short list of representative American achievements, illustrating major aspects of civilization in the U.S.A. from colonial times to the present. Upon completion of the thesis, he must take an oral examination which may include relationships between thesis and material covered on the written examination.

■ ENGLISH (ENG)

Freshman English Requirement in Freshman Year

All first-time-in-college students are required to take Freshman English in accordance with the following conditions:

1. First-time enrolled students (a) who do not intend to take the CLEP Freshman English Test or (b) who have been notified of failing CLEP prior to registration and who do not intend to attempt the examination a second time, must take ENG 101 the first quarter, ENG 102 the second quarter and ENG 103 the third quarter of their freshman year. If one of the courses is failed, that course must be repeated the very next quarter and the remaining courses attempted in immediately subsequent quarters.
2. First-time enrolled students (a) who have not taken CLEP prior to their arrival on campus or (b) who have failed but wish to repeat the test, must attempt CLEP during their first quarter on campus. During this quarter they should not enroll in ENG 101. If the examination is failed or not attempted during the student's first quarter, he must take ENG 101 during his second quarter and ENG 102 and 103 in the immediately subsequent quarters until the total requirement is fulfilled. In this case, he will complete the sequence by the first quarter of his sophomore year.

These policies do not apply to first-time enrolled students who can meet the Freshman English requirement with credit transferred from another institution.

Requirements for the B.A. Degree:

The program in English provides a flexible curriculum that recognizes the individual interests of students and offers a wide variety of professional choices. Designed to provide a logical, balanced, and complete sequence of courses in English studies, the curriculum gives the student a choice of seven options (exclusive of English-Education sequences, described under the section for the College of Education), as follows:

I. English and American Literature, Early to Modern. This option is designed to prepare undergraduates for advanced study in the profession. It focuses on the literature of England from the earliest period through the nineteenth century and on the "classical" period of American literature.

The required courses (40 hours) for this option include:

ENG 310	(5)	ENG 313	(5)	ENG 330	(5)
ENG 311	(5)	ENG 314	(5)	ENG 331	(5)
ENG 312	(5)	ENG 315	(5)		

Beyond this core requirement, the student will select 10 hours of courses from any of the following:

ENG 401	(5)	ENG 418	(5)	ENG 438	(5)
ENG 402	(5)	ENG 424	(5)	ENG 441	(5)
ENG 406	(5)	ENG 425	(5)	ENG 442	(5)
ENG 407	(5)	ENG 430	(5)	ENG 445	(5)
ENG 408	(5)	ENG 431	(5)	ENG 446	(5)
ENG 409	(5)	ENG 432	(5)	ENG 450	(5)
ENG 410	(5)	ENG 435	(5)	ENG 453	(5)
ENG 413	(5)	ENG 436	(5)	ENG 481	(1-5)
ENG 414	(5)	ENG 437	(5)		

Beyond the required 50 hours, the major is free to take 10 hours of any courses the department offers.

II. English and American Literature, Enlightenment to the Present.

Like option I, this option is designed to prepare undergraduates for advanced study in the profession. The principal difference is that this option emphasizes more recent literature, beginning at the eighteenth century and coming up to the present.

The required courses (40 hours) for this option include:

ENG 300	(5)	ENG 316	(5)	ENG 331	(5)
ENG 314	(5)	ENG 317	(5)	ENG 332	(5)
ENG 315	(5)	ENG 330	(5)		

Beyond this core requirement, the student will select 10 hours from any of the following:

ENG 400	(5)	ENG 414	(5)	ENG 437	(5)
ENG 401	(5)	ENG 418	(5)	ENG 438	(5)
ENG 402	(5)	ENG 424	(5)	ENG 441	(5)
ENG 406	(5)	ENG 425	(5)	ENG 442	(5)
ENG 407	(5)	ENG 430	(5)	ENG 445	(5)
ENG 408	(5)	ENG 431	(5)	ENG 446	(5)
ENG 409	(5)	ENG 432	(5)	ENG 453	(5)
ENG 410	(5)	ENG 435	(5)	ENG 476	(5)
ENG 413	(5)	ENG 436	(5)	ENG 481	(1-5)

Beyond the required 50 hours, the major is free to take 10 hours of any courses the department offers.

NOTE: Options I and II may be combined for thorough coverage of the entire Anglo-American literary tradition. In that case, the requirement of ENG 300 specified in Option II would be waived.

III: World Literature and Comparative Literature

These two options are designed for students who are interested in a scope of literary study that includes not only Anglo-American literature, but the literature (in translation or in the original) of other nations of the Western World. Both the *World Literature* option and the *Comparative Literature* option have a common core requirement of 35 hours:

ENG 300	(5)	ENG 340	(5)	ENG 343	(5)
ENG 301	(5)	ENG 341	(5)		
ENG 302	(5)	ENG 342	(5)		

To complete the major in the *World Literature* option, the student must elect 15-25 hours (including 10 hours of 400-level courses) from the following:

ENG310	(5)	ENG 408	(5)	ENG 436	(5)
ENG 317	(5)	ENG 409	(5)	ENG 437	(5)
ENG 330	(5)	ENG 410	(5)	ENG 438	(5)
ENG 331	(5)	ENG 413	(5)	ENG 441	(5)
ENG 345	(5)	ENG 414	(5)	ENG 442	(5)
ENG 376	(5)	ENG 418	(5)	ENG 445	(5)
ENG 377	(5)	ENG 424	(5)	ENG 446	(5)
ENG 400	(5)	ENG 425	(5)	ENG 450	(5)
ENG 401	(5)	ENG 430	(5)	ENG 453	(5)
ENG 402	(5)	ENG 431	(5)	ENG 476	(5)
ENG 406	(5)	ENG 432	(5)	ENG 481	(1-5)
ENG 407	(5)	ENG 435	(5)		

To complete the major in the *Comparative Literature* option, the student must take 15-25 hours of English courses, including 10 hours of 400-level courses and ENG 383 *Selected Topics (Introduction To The Study Of Comparative Literature)* and ENG 483 *Selected Topics (Seminar In Comparative Literature);* and, since this option is designed for those who are interested in doing graduate work in Comparative Literature, the student is advised to take a a minimum of 16 hours (four courses) in the original literature of the foreign language of his choice. Beyond the required 50 hours, the major is free to take 10 hours of any courses the department offers.

IV. **General Literature.** This option offers a selection of courses which reflect an interest in the relationship between literature and other aspects of contemporary culture. This is a more culturally oriented approach to literature than traditional studies customarily provide.

The required courses (30 hours) for this option include:

ENG 300	(5)	One of the following:			
ENG 301	(5)	ENG 340	(5)		
ENG 302	(5)	ENG 341	(5)		
ENG 310	(5)	ENG 342	(5)		
ENG 450	(5)				

Beyond this core requirement, the student will select 20 hours (including 10 hours of 400-level courses) from any of the following:

ENG 306	(5)	ENG 376	(5)	ENG 425	(5)
ENG 307	(5)	ENG 378	(5)	ENG 430	(5)
ENG 308	(5)	ENG 379	(5)	ENG 431	(5)
ENG 309	(5)	ENG 385	(5)	ENG 432	(5)
ENG 316	(5)	ENG 400	(5)	ENG 435	(5)
ENG 317	(5)	ENG 401	(5)	ENG 436	(5)
ENG 332	(5)	ENG 402	(5)	ENG 437	(5)
ENG 340	(5)	ENG 406	(5)	ENG 438	(5)
ENG 341	(5)	ENG 407	(5)	ENG 441	(5)
ENG 343	(5)	ENG 408	(5)	ENG 442	(5)
ENG 345	(5)	ENG 409	(5)	ENG 445	(5)
ENG 370	(5)	ENG 410	(5)	ENG 446	(5)
ENG 372	(5)	ENG 413	(5)	ENG 453	(5)
ENG 373	(5)	ENG 414	(5)	ENG 476	(5)
ENG 374	(5)	ENG 418	(5)	ENG 481	(1-5)
ENG 375	(5)	ENG 424	(5)		

Beyond the required 50 hours, the major is free to take 10 hours of any courses the department offers.

V. **American Literature.** This option, while offering background in the literature of England, focuses on the literature which has been produced in America, and includes such possible selections as the literature of Black Americans and the American Indian.

The required courses (35 hours) for this option include:

ENG 300	(5)	ENG 331	(5)	ENG 431	
ENG 301	(5)	ENG 332	(5)	or	
ENG 330	(5)	ENG 430	(5)	ENG 432	(5)

Beyond this core requirement, the student will select 15 hours (including 10 hours of 400-level courses) from any of the following:

ENG 306	(5)	ENG 401	(5)	ENG 435	(5)
ENG 307	(5)	ENG 402	(5)	ENG 436	(5)
ENG 310	(5)	ENG 406	(5)	ENG 437	(5)
ENG 317	(5)	ENG 407	(5)	ENG 438	(5)
ENG 340	(5)	ENG 408	(5)	ENG 441	(5)
ENG 341	(5)	ENG 409	(5)	ENG 442	(5)
ENG 342	(5)	ENG 410	(5)	ENG 445	(5)
ENG 343	(5)	ENG 413	(5)	ENG 446	(5)
ENG 345	(5)	ENG 414	(5)	ENG 450	(5)
ENG 370	(5)	ENG 418	(5)	ENG 453	(5)
ENG 372	(5)	ENG 424	(5)	ENG 476	(5)
ENG 373	(5)	ENG 425	(5)	ENG 481	(1-5)
ENG 400	(5)				

Beyond the required 50 hours, the major is free to take 10 hours of any courses the department offers.

VI. **Advisory Option.** This option is designed for those students who have the maturity, independence, intellectual curiosity, and eclectic interests to want to design their own programs. Core requirements are:

ENG 300 (5) ENG 301 (5) ENG 302 (5)

with electives totaling between 35 and 45 credit hours (including 10 hours of 400-level courses). Students in this option must have prior consent of an English adviser at each stage of planning their programs.

VII. **Creative Writing Option.** This option is designed for aspiring writers of fiction or poetry. This program, in addition to giving credit for writing through a variety of course offerings, attempts to provide information about procedures for becoming published.

a. The required courses (30 hours) for the *fiction option* include:

ENG 351	(5)	ENG 451	(5)	ENG 437 or	
ENG 353	(5)	ENG 435 or		ENG 438.	(5)
ENG 450	(5)	ENG 436	(5)		

Beyond this core requirement, the student will select 20 hours from any of the following:

ENG 300	(5)	ENG 341	(5)	ENG 424	(5)
ENG 301	(5)	ENG 342	(5)	ENG 425	(5)
ENG 302	(5)	ENG 343	(5)	ENG 430	(5)
ENG 310	(5)	ENG 345	(5)	ENG 431	(5)
ENG 311	(5)	ENG 400	(5)	ENG 432	(5)
ENG 312	(5)	ENG 401	(5)	ENG 435	(5)
ENG 313	(5)	ENG 402	(5)	ENG 436	(5)
ENG 314	(5)	ENG 406	(5)	ENG 441	(5)
ENG 315	(5)	ENG 407	(5)	ENG 442	(5)
ENG 316	(5)	ENG 408	(5)	ENG 445	(5)
ENG 317	(5)	ENG 409	(5)	ENG 446	(5)
ENG 330	(5)	ENG 410	(5)	ENG 453	(5)
ENG 331	(5)	ENG 413	(5)	ENG 476	(5)
ENG 332	(5)	ENG 414	(5)	ENG 481	(1-5)
ENG 340	(5)	ENG 418	(5)		

Beyond the required 50 hours, the major is free to take 10 hours of any courses the department offers.

b. The required courses (30 hours) for the *poetry option* include:

ENG 216	(5)	ENG 352	(5)	ENG 442	(5)
ENG 351	(5)	ENG 441	(5)	ENG 452	(5)

Beyond this core requirement, the student is free to select 20 hours from any of the following:

ENG 300	(5)	ENG 342	(5)	ENG 430	(5)
ENG 301	(5)	ENG 345	(5)	ENG 431	(5)
ENG 302	(5)	ENG 353	(5)	ENG 432	(5)
ENG 310	(5)	ENG 400	(5)	ENG 435	(5)
ENG 311	(5)	ENG 401	(5)	ENG 436	(5)
ENG 312	(5)	ENG 402	(5)	ENG 437	(5)
ENG 313	(5)	ENG 406	(5)	ENG 438	(5)
ENG 314	(5)	ENG 407	(5)	ENG 442	(5)
ENG 315	(5)	ENG 408	(5)	ENG 445	(5)
ENG 316	(5)	ENG 409	(5)	ENG 446	(5)
ENG 317	(5)	ENG 410	(5)	ENG 450	(5)
ENG 330	(5)	ENG 413	(5)	ENG 451	(5)
ENG 331	(5)	ENG 414	(5)	ENG 453	(5)
ENG 332	(5)	ENG 418	(5)	ENG 476	(5)
ENG 340	(5)	ENG 424	(5)	ENG 481	(1-5)
ENG 341	(5)	ENG 425	(5)		

Beyond the required 50 hours, the major is free to take 10 hours of any courses the department offers.

Requirements for the M.A. Degree:

The M.A. in English is designed primarily to train college teachers. The program includes study of college teaching, as well as the study of literature.

Requirements for Admission. An average of B in the last two years of undergraduate work (a GRE total score of 1000 may be substituted for this requirement). It may be necessary to require students who have not been English undergraduate majors

to take extra undergraduate courses before graduate admission to English. Other exceptions may be made by the Graduate Committee of the Department of English.

Course Requirements.

1. ENG 693 (this must be the first course taken)
2. Forty-five credit hours, which must include:
   a. ENG 681 (this must be taken in the student's first or second term in the program)
   b. ENG 601
   c. One of these:
      ENG 610 ENG 620 ENG 625
      ENG 616
   d. One of these:
      ENG 630 ENG 640 ENG 645
   e. One of these:
      ENG 650 ENG 660
   f. ENG 683

Options:

It is possible, at student option, to take ENG 699 (thesis) in place of one of the elective courses. A student may transfer from another university up to 9 hours of graduate credit. He may take up to 10 hours of credit in another department (the courses to be approved in advance by the Department of English Graduate Committee).

Comprehensive Examination. This examination will be based on a list of literary works given to each student as he commences his graduate studies. The student will be asked to write on the following five areas:

1. British literature before Shakespeare
2. British literature from Shakespeare to 1740
3. British literature from 1740 to 1900
4. American literature before 1900
5. Twentieth Century American and British literature

Students will be graded 1 (Excellent), 2 (Good), 3 (Satisfactory), or 4 (Unsatisfactory). The Department will recommend students with a grade of 1 or 2 for admission to the Ph.D. program. A grade of 3 will satisfy the examination requirement for the M.A. degree; a grade of 4 will not.

Public Presentation. Each student will be required to present, before graduate students and faculty, a discussion of a major work or idea. The performance will be evaluated by the student's examining committee.

Thesis. Thesis optional (See Options, above).

Requirements for the M.A. Degree in Junior College Teaching:

This program is intended for those who plan to teach in junior and community colleges. It emphasizes lower-level college teaching.

Requirements for admission. See M.A. program above.

Course work.

1. EDR 410
2. EDH 651
3. EDH 653
4. EDC 691 (Internship if required —waivers must be endorsed by the College of Education)
5. The following English courses:
   a. ENG 601
   b. ENG 686 (offering in advanced composition for teachers only)
   c. One of these:
      ENG 610 ENG 616 ENG 620 ENG 625
   d. One of these:
      ENG 630 ENG 640 ENG 645
   e. One of these:
      ENG 650 ENG 660
   f. Five hours of English electives

Comprehensive Examination. This examination will be based on a list of literary works given each student as he commences his graduate studies. The student will be asked to write on the following five areas:

1. British literature before Shakespeare
2. British literature from Shakespeare to 1740
3. British literature from 1740 to 1900
4. American literature before 1900
5. Twentieth Century American and British literature

Students will be graded 1 (Excellent), 2 (Good), 3 (Satisfactory), or 4 (Unsatisfactory). The Department will recommend students with grades of 1 or 2 for admission to the Ph.D. program. A grade of 3 will satisfy the examination requirement for the M.A.; a grade of 4 will not.

Public Presentation. Each student will be required to present, before graduate students and faculty, a discussion of a major work or idea. The performance will be evaluated by the student's examining committee.

Requirements for the Ph.D. Degree:

Aim of the Program. The aim of this doctoral program is to produce teacher-scholars who have a good general knowledge of English and a special knowledge in their field of concentration. Each student in the program must take courses in teaching college English, and these courses include actual teaching experience.

The Ph.D. in English involves 50 hours of course work beyond the M.A. degree, exclusive of credits devoted to the doctoral dissertation. In addition, each student must achieve a grade of B or A in a foreign language course number 202 (i.e., FRE 202, GER 202, LAT 202, RUS 202, SPA 202). A dissertation is required.

Requirements for Admission. M.A. degree and a grade of 1 or 2 on the University of South Florida English M.A. final examination. Transfer students who have the M.A. in English must present a graduate average of at least B+. Students who do not have a M.A. in English will be required to take supplementary graduate work before being officially admitted to the program.

Course work. The following courses are required:

ENG 693 or its equivalent
ENG 702 or ENG 703
ENG 791
ENG 799

Seven other courses in English at the 600 or 700 level. A student may transfer from another university up to 9 hours of graduate credit. He may take up to 10 hours of credit in another department (the course to be approved in advance by the Department of English Graduate Committee).

Examinations. After five courses beyond the M.A. the student must take the written doctoral Qualifying Examination in all periods of American and British literature (1. British literature to 1500; 2. British literature 1500-1660; 3. British literature 1660-1780; 4. British literature 1780-1890; 5. American literature to 1920; 6. American literature after 1920 and British literature after 1890)—writing for two hours on each period. The total exam will require twelve hours of writing. Students may take this examination only twice; a second failure disqualifies them from the Ph.D. program. Students passing this comprehensive examination and the foreign language course are admitted to doctoral candidacy. After completion of an approved dissertation the student will defend his dissertation in a two-hour oral examination and will be examined as well on his major field. Thereafter, he is awarded his doctoral degree.

■ FOREIGN LANGUAGES (CLF/CLS/FOL/FRE/ GER/ITA/RUS/SPA)

Requirements for the B.A. Degree:

Foreign Language major programs are designed to meet the needs of students who desire competency in a language and an

expanded understanding of its culture and literature. They are of particular interest to students who wish to teach languages, those who plan to further their studies in graduate school, and those who seek careers in various types of foreign or foreign-related employment.

Major programs leading to the Bachelor of Arts degrees are offered in Classics (Latin, Latin-Greek), French, German, Italian, Russian, and Spanish.

Combined majors are offered in any two languages. For the combined major, a student must take 48 hours in the courses required for the complete major in one language, and the stipulated courses in the second language (16-20) hours).

Instruction is also provided in Portuguese, Romance Philology, the less-commonly taught languages, such as Chinese, Dutch, Modern Hebrew, Modern Arabic, Modern Greek, Polish, and others on occasion.

CLASSICS (CLS)

Latin and Latin-Greek Option

For requirements for this area, see department adviser.

FRENCH (FRE)

Required Courses (16 cr. hrs.)

FRE 301 (4) FRE 405 (4) FRE 406 (4)
FRE 303 (4)

Required Supporting Courses:

32 hours in upper-level courses planned with the adviser.

GERMAN (GER)

Required Courses (16 cr. hrs.)

GER 301 (4) GER 405 (4) GER 406 (4)
GER 303 (4)

Required Supporting Courses:

32 hours in upper-level courses planned with the adviser.

ITALIAN (ITA)

Required Courses (16 cr. hrs.)

ITA 301 (4) ITA 405 (4) ITA 406 (4)
ITA 303 (4)

Required Supporting Courses:

32 hours in upper level courses planned with the adviser.

RUSSIAN (RUS)

Required Courses (16 cr. hrs.)

RUS 301 (4) RUS 405 (4) RUS 406 (4)
RUS 303 (4)

Required Supporting Courses:

32 hours in upper-level courses planned with the adviser.

SPANISH (SPA)

Required Courses (20 cr. hrs.)

SPA 301 (4) SPA 405 (4) SPA 407 (4)
SPA 303 (4) SPA 406 (4)

Required Supporting Courses:

28 hours in upper level courses planned with the adviser.

Requirements for the M.A. Degree:

Requirements for Admission. General requirements for graduate work are given on page 43.

Students who do not have an undergraduate major in French or Spanish may be required to take additional undergraduate courses before being admitted to the M.A. program. The student must have a 3.0 grade point ratio over the last two years of undergraduate work attempted, or a total score of 1000 on the Graduate Record Examination. All applications must be approved by the Department of Foreign Languages.

Program Requirements For a master's degree in French or Spanish, the following are required:

1. Reading proficiency in a second foreign language.
2. Satisfactory completion of a written comprehensive examination, based upon a reading list provided by the department, on French language and literature or Spanish and Spanish-American language and literature. Portions of the comprehensive examination must be written in the foreign language.
3. A thesis written under the direction of an adviser and two additional professors, or an additional four (4) hours of course work.
4. Course work following one of the plans listed below:

Plan I

45 hours plus thesis; or 49 hours.

Plan II

31-35 hours with 10-14 hours in a second language, plus thesis; or 35-39 hours with 10-14 hours in a second language, or with 10-14 hours in another department (the courses to be approved in advance by the Department of Foreign Languages' Graduate Committee).

■ HUMANITIES (HUM)

The Humanities Program is an interdisciplinary curriculum that deals with the visual arts, music, literature and the culture from which they emerge. Secondary sources are used sparingly; students are encouraged to make a vigorous, personal response to specific works of art, literature, and music.

Requirements for the B.A. Degree:

The curriculum for the Humanities major comprises interdisciplinary courses in the verbal, visual, and musical arts of specified periods and cultures. Specific requirements are as follows:

1. 42-57 credits in upper level Humanities courses, with the option of up to eight hours being substituted from among the following four courses: ANC 321, ANC 352, ANC 421, ANC 423.
2. HUM 491, a senior essay, four credits.
3. Nine credits in the creative or performing arts.

Requirements for the B.A. Degree in Humanities Education:

A program designed to prepare secondary school Humanities teachers is available through the College of Education. For requirements, see the College of Education, page 70.

Requirements for the M.A. Degree In Humanities Education:

A graduate program leading to a M.A. degree in Humanities Education *(HUE)* is available. For requirements, see the College of Education, page 76.

■ LIBERAL STUDIES (ALA)

Requirements for the B.A. Degree:

The Liberal Studies Degree is conceived to fulfill the intent of the traditional Liberal Arts degree and is offered for students who require a broad academic approach for realization of their conceived academic or pre-professional goals.

For admission to the program, the student must (1) have a minimum of 30 (to a maximum of 120) quarter hours, (2) have a minimum Grade Point Average of 3.0 at time of admission, and (3) submit a written proposal explaining the student's special academic circumstances and goals for which this major is appropriate.

Core Curriculum (16 hours minimum)

ALA 301 ALA 491

(and 2 of the following three courses)

ALA 311 ALA 313 ALA 483

In addition, the student must complete the General Distribution Requirements and four quarters of a foreign language. The

remaining 88 quarter hours will be devoted to disciplinary study in the Liberal Arts disciplines. When admitted to the program, the student will formulate, in collaboration with the program director, a program of studies to be pursued toward his or her particular academic goals.

■ LINGUISTICS (ANL/ENL/FLL/LIN)

Linguistics is primarily an upper-level and graduate discipline with strong interdisciplinary concerns. Undergraduates interested in Linguistics must elect one of the three combined majors described below. Graduate students may effect complete specialization in the program leading to the Master of Arts degree in Linguistics.

Students interested in Linguistics are urged to acquire a broad language background in their undergraduate programs, especially if they intend graduate study. A classical language (Latin, Greek, Hebrew) or a non-Western language is strongly recommended in addition to any modern European language(s) the student may have studied. Also, prospective graduate students are advised that good foundations in Mathematics (MTH 309 and PHI 509 are especially recommended), computer programming, statistics, and experimental design and methodology may prove valuable. All programs for any of the three majors leading to the baccalaureate degree described below must be approved by an adviser from *both* of the disciplines concerned.

Requirements for B.A. Degrees:

1. **Anthropology-Linguistics Major (ANL).** This sequence is designed for students who are particularly interested in the role of language in human behavior and cultural development.

Required Core Courses (43 cr. hrs. minimum)

ANT 201	(4)	ANT 401	(3-6)	ANT 461	(4)
ANT 311	(4)	ANT 431		ANT 491	(4)
ANT 321	(4)	or		LIN 301*	(4)
ANT 331	(4)	ANT 441	(3-6)	LIN 401	(4)

Required Supporting Courses
(12 cr. hrs. minimum from the following group)

LIN 321	(4)	LIN 441	(4)	PSY 405	(4)
LIN 405	(4)	SSI 301	(4)	PSY 441	(4)
LIN 431	(4)	PHI 531	(4)	SPE 503	(5)

*One section of LIN 301 is for Anthropology majors and requires ANT 201 as a prerequisite.

2. **English-Linguistics Major (ENL).** This sequence is designed for students who are especially interested in the role of linguistic studies in problems of English grammar, composition, and literary structure and style.

Required Core Courses (45 cr. hrs.)

ENG 300	(5)	ENG 310	(5)	ENG 475	(5)
ENG 301	(5)	ENG 350	(5)	ENG 476	(5)
ENG 302	(5)	ENG 402	(5)	ENG 477	(5)

Required Supporting Courses
(12 cr. hrs. minimum from the following group)

LIN 321	(4)	LIN 431	(4)	PHI 531	(5)
LIN 401	(4)	LIN 441	(4)	SPE 503	(5)
LIN 405	(4)	ANC 373	(2)		

3. **Foreign Language-Linguistics Major (FLL).** This sequence is designed for students who are especially interested in the role of linguistic studies in problems of grammar, composition, and literary structure and style.

Required Core Courses
(12 cr. hrs.)

LIN 301	(4)	LIN 401	(4)	LIN 405	(4)

Required Supporting Courses (8 cr. hrs. minimum from the following group)

LIN 321	(4)	ANC 373	(2)	PHI 531	(4)
LIN 431	(4)	ANT 401	(3-6)	SPE 503	(5)
LIN 441	(4)	ENG 477	(5)		

Plus one of the following five sequences:

I. French *(24 cr. hrs.)*

FRE 301	(4)	FRE 401	(4)	FRE 405	(4)
FRE 303	(4)	FRE 403	(4)	FRE 406	(4)

II. German *(24 cr. hrs.)*

GER 301	(4)	GER 401	(4)	GER 405	(4)
GER 303	(4)	GER 403	(4)	GER 406	(4)

III. Italian *(24 cr. hrs.)*

ITA 301	(4)	ITA 401	(4)	ITA 405	(4)
ITA 303	(4)	ITA 403	(4)	ITA 406	(4)

IV. Russian *(24 cr. hrs.)*

RUS 301	(4)	RUS 401	(4)	RUS 405	(4)
RUS 303	(4)	RUS 403	(4)	RUS 406	(4)

V. Spanish *(24 cr. hrs.)*

SPA 301	(4)	SPA 401	(4)	SPA 405	(4)
SPA 303	(4)	SPA 403	(4)	SPA 406	(4)

Students wishing to combine two foreign languages and linguistics must take one of the above sequences as the first language and the sequence 301, 303, 401, 403 (prefix determined by language selected), plus any phonetics, stylistics, or history of the language courses offered for that language. Students who intend to do graduate work are strongly urged to consider Latin or Classical Greek as a second language. Students may also elect a non-Western language as a second language; six quarters satisfies the requirements for one of these. The Linguistics course requirements remain the same as for a single foreign language.

Requirements for the M.A. Degree:

Requirements for Admission. Undergraduate majors generally regarded as appropriate foundations for graduate study in linguistics (LIN) are: anthropology, English, a foreign language, linguistics, and speech communication; however a student with a baccalaureate degree in any discipline is eligible. In addition to the general requirements of the University, an applicant must have an academic average of B in all of his major courses and a combined score of 1000 on the aptitude section of the Graduate Record Examination (a minimum of 500 of the total must be earned on the verbal portion). If a student's undergraduate preparation has not included suitable introductory courses in general or descriptive linguistics and phonetics, he will be required to remedy the deficiencies by taking LIN 301, LIN 401, LIN 405, and SPE 503. (A maximum of 8-credit-hours earned in these courses may be applied toward the degree requirements, except that graduate credit will not be given for LIN 301.) The undergraduate study of one or more foreign languages, especially a non-Western language, is strongly encouraged.

Course Work. An M.A. degree in linguistics requires a minimum of 48 hours of course work. All students must satisfy the core requirements which constitute a minimum of 28 hours. The remainder of the course work may be taken in linguistics courses, or closely related courses in other departments, notably Anthropology, Ancient Studies, Education, English, Foreign Languages, Philosophy, Psychology, Sociology, and Speech

Communication. The student may elect to take all of these remaining courses in one such department, or he may take them in several departments, but each program must be planned with and approved by the Linguistics' adviser, who may make appropriate substitutions when he deems these educationally advisable.

Core Requirements (28 cr. hrs. minimum)

LIN 600	(2)	LIN 621	(4)
LIN 601	(4)	LIN 699 (minimum of 2 units	
LIN 602	(4)	must be earned)	
LIN 611	(4)		

Plus one course from each of the following two groups:

Group A		*Group B*	
LIN 612	(4)	LIN 623	(4)
ENG 687	(5)	LIN 633	(4)

Foreign Language Requirement. The foreign language requirement is regarded as an integral part of the M.A. program in Linguistics, and students must demonstrate a proficiency in one foreign language for the degree. However, students who intend to concentrate in historical-comparative linguistics will be expected to bring to the program an extensive undergraduate background in foreign languages, or else to remedy the deficiency after admission. Students who intend to concentrate their work in general-descriptive linguistics or other sub-specialties will have wide latitude in their choice of a foreign language to satisfy the requirement, and the study of a non-Western language is strongly encouraged. The choice of a language and the method for satisfying the proficiency requirement (e.g., course work, examination, etc.) will be determined on an individual basis by the student and his thesis committee.

Other Requirements. The student will present an acceptable thesis in the field of linguistic studies (from 2 to 8 hours credit are granted for this project through registration for LIN 699; see above under course work requirements). In addition, the student must pass a comprehensive examination in linguistics, both oral and written. If a student has elected to take as many as eight hours of course work in a department other than Linguistics in his program, then his examination will cover material from those courses also.

The following courses taught in other departments are also linguistics courses, or are closely related to linguistics:

ANC 373	ENG 476	GER 513	SPE 503
ANT 401	ENG 477	GER 601	SPE 511
CLY 580	ENG 616	PHI 531	SPE 603
CLY 623	ENG 686	PSY 441	SPE 611
EDT 431	ENG 687	SPA 403	SPE 612
EDT 631	FRE 403	SPA 501	
EDX 649	FRE 601	SPA 601	

Descriptions of these courses may be found under the appropriate departmental heading.

■ MASS COMMUNICATIONS (COM)

Mass Communications offers a number of courses, essentially liberal arts in approach. They introduce students to the theories, principles, and problems of communications, emphasizing the concept of freedom of information as the cornerstone of Constitutional Democracy and preparing students for future leadership rather than yeoman roles in communications media. Graduates should understand the structure and functions of mass media systems as well as the basic processes of communication. In addition, students specialize in an area of mass communications (advertising, broadcasting, film, magazines, news-editorial, public relations, or visual communications) to blend a strong introduction to professional skills with the theoretical orientation.

Majors seeking careers in the mass media will be directed to the various media with which the department maintains close contact for summer internships and parttime work.

Requirements for the B.A. Degree:

To be admitted to the core curriculum in Mass Communications, students must have completed 75 hours with a 2.5 minimum Grade Point Average, and English 101, 102, and 103 with a minimum grade of "C" in each. Both courses in the Mass Communications core curriculum (COM 302 and COM 303) must be completed with a minimum grade of "C" before any other COM-prefix course may be taken. A 2.5 GPA in Mass Communication courses is required for graduation, and no grade lower than "C" in Mass COM-prefix courses may be used toward graduation.

A required core curriculum, "Writing for the Mass Media" (COM 302) and "Mass Communications and Society" (COM 303), and a balance between required and recommended courses in the major sequence offers students a guided set of essential courses plus a number of options of their own choosing. Majors will take approximately 72 hours of electives outside the department in addition to the 60-hour University distribution requirement. Students will be encouraged to use a substantial number of their electives in courses which support their major.

Required are 8 hours in the Mass Communications core curriculum (COM 302 and COM 303) and 40 hours in a major sequence—20 hours specified and 20 hours to be selected from a restricted list of options—for a minimum and maximum of 48 hours in COM-prefix courses within the 180-hour degree requirement. Certified typing ability of 25 words per minute is a prerequisite for admission to the department.

The departmental sequence requirements are:

Departmental Core Curriculum							(8 cr. hrs.)
COM 302	(4)	COM 303	(4)				
Sequence Requirements							(20 cr. hrs.)
Sequence Selections							(20 cr. hrs.)
I. Advertising Requirements							
COM 311	(4)	COM 313	(4)	COM 414	(4)		
COM 312	(4)	COM 341	(4)				
Selective Requirements							
COM 314	(4)	COM 371	(4)	COM 403	(4)		
COM 330	(4)	COM 375	(4)	COM 449	(4)		
COM 361	(4)	COM 376	(4)	COM 500	(4)		
II. Broadcasting Requirements							
News Track							
COM 330	(4)	COM 362	(4)	COM 465	(4)		
COM 361	(4)	COM 403	(4)				
Selective Requirements							
COM 331	(4)	COM 400	(4)	COM 463	(4)		
COM 334	(4)	COM 435	(4)	COM 500	(4)		
COM 363	(4)	COM 449	(4)				
Programming and Production Track							
COM 311	(4)	COM 368	(4)	COM 468	(4)		
COM 361	(4)	COM 465	(4)				
Selective Requirements							
COM 312	(4)	COM 353	(4)	COM 371	(4)		
COM 313	(4)	COM 354	(4)	COM 461	(4)		
COM 314	(4)	COM 355	(4)	COM 462	(4)		
COM 341	(4)	COM 364	(4)				
III. Film Requirements							
COM 354	(4)	COM 452	(4)	COM 457	(4)		
COM 451	(4)	COM 456	(4)				
Selective Requirements							
COM 353	(4)	COM 371	(4)	COM 455	(4)		
COM 355	(4)	COM 450	(4)	COM 458	(4)		
COM 356	(4)	COM 453	(4)	COM 554	(4)		
IV. Journalism Requirements							
News-Editorial Track							
COM 330	(4)	COM 403	(4)	COM 435	(4)		
COM 331	(4)	COM 433	(4)				
Selective Requirements							
COM 321	(4)	COM 372	(4)	COM 434	(4)		
COM 334	(4)	COM 375	(4)	COM 439	(4)		
COM 371	(4)	COM 376	(4)	COM 500	(4)		

Magazine Track

COM 320	(4)	COM 325	(4)	COM 403	(4)
COM 321	(4)	COM 330	(4)		

Selective Requirements

COM 311	(4)	COM 341	(4)	COM 425	(4)
COM 331	(4)	COM 371	(4)	COM 435	(4)
COM 334	(4)	COM 375	(4)	COM 439	(4)

V. Public Relations Requirements

COM 330	(4)	COM 441	(4)	COM 449	(4)
COM 341	(4)				

Selective Requirements

COM 311	(4)	COM 331	(4)	COM 375	(4)
COM 312	(4)	COM 361	(4)	COM 403	(4)
COM 313	(4)	COM 362	(4)	COM 453	(4)
COM 321	(4)	COM 371	(4)	COM 500	(4)

VI. Visual Communications Requirements

COM 354	(4)	COM 371	(4)	COM 403	(4)
COM 370	(4)	COM 375	(4)		

Selective Requirements

COM 311	(4)	COM 355	(4)	COM 453	(4)
COM 321	(4)	COM 356	(4)	COM 456	(4)
COM 325	(4)	COM 361	(4)	COM 461	(4)
COM 330	(4)	COM 368	(4)	COM 463	(4)
COM 331	(4)	COM 372	(4)	COM 471	(4)
COM 341	(4)	COM 376	(4)		
COM 353	(4)	COM 425	(4)		

Note: There is a Mass Communications - English Education (MCE) major available through the College of Education (see page 70 for further information).

■ PHILOSOPHY (PHI)

Requirements for the B.A. Degree:

The philosophy program includes five major areas of study: (1) logic and scientific method, (2) history of philosophy, (3) theory of knowledge, (4) theory of reality, and (5) theory of value. Majors in philosophy must complete at least 45 credit hours in the program, with the following courses required: from area (1)—PHI 303; from area (2)—PHI 333, 334, and 335. In addition, all majors who are going to graduate school in philosophy are urged to take at least one course in the three remaining major areas of study. All majors must take at least nine credits above the 413 level, including two seminars. No more than two of PHI 301, 311, 317 will be counted toward the major.

Honors Program

The Department of Philosophy offers the philosophy major the opportunity of participating in the Philosophy Department Honors Program. A student may graduate wih departmental honors if he/she: (1) is accepted by the department as an honors candidate, (2) completes four honors courses with a grade point average of 3.5 or better, and (3) completes the courses necessary for a philosophy major with a grade point average of 3.2 or better. The four honors courses will consist of three upper-level courses in which the student attends regular class sessions but makes arrangements with the instructor for additional work. The student will receive additional credit for honors work by enrolling for one hour of directed study for each course taken as an honors course. The fourth honors course will be a research project, and the student will enroll for the project under PHI 481.

Requirements for the M.A. Degree:

Requirements for Admission. For admission the student must have a B average in Philosophy at the undergraduate level, have a score of at least 1000 on the GRE, and have completed the equivalent of PHI 303, 333, 334, and 335. No credit toward the M.A. degree will be given for courses outside the Department of Philosophy without the approval of the Graduate Program Director and the Department Chairperson.

Program Requirements. The following comprise the degree requirements in Philosophy, in addition to the general requirements for graduate work as specified on pages 43-47.

1. Reading knowledge of a foreign language approved by the student's adviser.
2. A written comprehensive examination.
3. A thesis or thesis-type paper, written under the direction of an adviser assigned by the Department Chairperson, and approved by the student's supervisory committee.

■ RELIGIOUS STUDIES (REL)

In Religious Studies, students are afforded a variously dimensioned field of study which hopefully facilitates an educated person's understanding of his presuppositions on the meaning of life, the nature of the religious-social milieu in which he lives, and the religious dynamic in human history. It also aims toward an understanding of the religious thought and life-styles of people possessing religious heritages other than the Judaeo-Christian heritages.

Majors in Religious Studies will find, in addition, courses designed to give depth in certain areas of religious investigation and to supply language tools and critical analysis methods which will prepare them for advanced graduate study.

Requirements for the B.A. Degree:

A total of 49 credit hours are required for a major chosen from Religious Studies courses (REL).

Of the 49 hours required for a major in Religious Studies, twelve hours may be selected from the following extra-departmental courses:

ANC 341	(3)	ANC 443	(3)	PHI 333	(4)
ANC 342	(3)	AST 371	(5)	PHI 341	(4)
ANC 343	(3)	BIO 256	(4)	PHI 409	(4)
ANC 441	(3)	HTY 361	(4)	PHI 521	(4)
ANC 442	(3)	PHI 301	(4)	SOC 373	(4)

With departmental approval, students may make other course substitutions for the extra-departmental courses listed above.

Arts and Letters Building

Each student's program must be planned with a faculty adviser in Religious Studies, who may make appropriate course substitutions when such changes are academically advisable.

Ancient Studies

Within the Department of Religious Studies there is also a sequence of courses in Ancient Studies. This sequence provides a program for students interested in the civilizations of the Ancient Mediterranean and Middle East.

The sequence in Ancient Studies requires 52-54 credits (of which 37 credits must be in Religious Studies courses). The prerequisite is normally two years of high school Latin or one year of college Latin. (The latter can be taken concurrently with other required courses but without credit toward it. It can be waived in special cases with the consent of the coordinator.)

Recommended courses:

Two ancient languages

ANC 321	(5)	ANC 423	(4)	CLS 351	(4)
ANC 352	(3)	ANC 427	(4)		
ANC 421	(4)	ANC 429	(4)		

The sequence of Ancient Studies courses is to be arranged in consultation with the coordinator of the sequence and approved by the department chairperson.

■ SPEECH COMMUNICATION (SPE/ENS/STA)

The speech communication curriculum provides courses for all students interested in increasing their understanding and skills in human communication. It offers a major program in Speech Communication (SPE) and two combined major programs: Speech Communication-English (ENS) and Speech Communication-Theatre (STA).

Requirements for the B.A. Degree:

A major in speech communication requires a minimum of 45 credits in SPE courses. A combined Speech Communication-English major, intended primarily for those preparing to teach in secondary schools, requires 65 credits in the combined areas and five credits in theatre. A combined Speech Communication-Theatre major requires 69 credits in the combined areas.

The major requirements for all three speech communication sequences are as follows:

SPE 201	(5)	SPE 363			
SPE 203	(5)	or 365	(5)		
SPE 321	(5)	SPE 491	(5)		

Speech Communication Sequence (SPE)

The major requirements as listed above, and 20 hours of speech communication electives in 300-level courses or above. (A maximum of 10 elective credits may be taken in any given speech communication area. These areas include: Rhetoric and Communication Theory, Oral Interpretation, and Speech Science. The remaining credits must be taken in one or more of the other speech communication areas.) Within the 20 credits of speech communication electives, no more than a total of six hours may be counted toward the major from the following two-hour courses: SPE 320, 322, 360, and 366.

Further study in any of the three areas beyond the minimum 45 hours and within the maximum 60 hours is strongly encouraged.

Speech Communication-English Sequence (ENS)

The major requirements as listed above, and 10 credits of speech communication eleectives in 300-level courses or above. Within the 10 credits of speech communication electives, no more than a total of four credit hours may be counted toward the major from the following two-hour courses: SPE 320, 322, 360, and 366. English requirements as listed below:

Two courses from the following:

ENG 300	(5)	ENG 310	(5)	ENG 312	(5)
ENG 301	(5)	ENG 311	(5)	ENG 313	(5)

One course from the following:

ENG 302	(5)	ENG 331	(5)	ENG 332	(5)
ENG 330	(5)				

One course from the following:

ENG 350	(5)	ENG 351	(5)

One course from the following:

ENG 307	(5)	ENG 437	(5)	ENG 446	(5)
ENG 308	(5)	ENG 438	(5)		
ENG 317	(5)	ENG 442	(5)		

Also required:

ENG 475	(5)	TAR 303	(5)

Speech Communication-Theatre Sequence (STA):

The major requirements as listed above, and 10 credits of speech communication electives in 300-level courses or above. Within the 10 credits of speech communication electives, no more than a total of four credit hours may be counted toward the major from the following two-hour courses: SPE 320, 322, 360, and 366. Theatre requirements as listed below:

TAR 201	(2)	TAR 212	(3)	TAR 213	(3)
TAR 211	(3)				

Two courses from the following:

TAR 311	(4)	TAR 431	(4)	TAR 437	(4)
TAR 339	(3)	TAR 434	(4)		

Two courses from the following:

TAR 312	(3)	TAR 361	(4)	TAR 411	(4)
TAR 314	(3)	TAR 365	(4)		
TAR 321	(4)	TAR 410	(4)		

Plus one additional course from either of the above tracks.

Requirements for the M.A. Degree:

Requirements for Admission. In addition to the general requirements of the University, an applicant must have: (1) a baccalaureate degree in Speech or related fields from an approved college or university (2) a *B* average or better in all work attempted during the last two years of undergraduate work or a total quantitative-verbal GRE score of 1000 or higher. All prospective M.A. candidates must take the GRE whether or not they have the minimum of *B* average, (3) review by the Department of Speech Communication graduate committee, (4) approval by the department chairperson.

Course Work. A Master of Arts degree in Speech Communication requires 45 credit hours of course work distributed in the following manner: 15 hours of Rhetoric and Communication Theory, 10 hours in Oral Interpretation of Literature, 5 hours of Speech Science, 5 hours of research and bibliography, and 10 hours of electives. (Electives in related areas must be approved by the candidate's major professor and the departmental graduate committee.)

For graduate SPE electives, students may substitute two courses acceptable for graduate credit in related areas, subject to approval by the Department of Speech Communication.

Examinations. Each student is required to pass a written comprehensive examination. An oral examination is also required for students selecting the thesis option.

Other Requirements. Each student will select one of the plans listed below. Successful completion of one of the following plans is in addition to the 45-quarter-hour requirement: competency in the selected plan to be determined by the candidate's supervisory committee.

Plan A—An extended critical or analytical paper (thesis) in the field of Speech Communication studies. (SPE 699)

Plan B—Three courses (or 12 credits) in Speech Communication and/or other academic disciplines if part of an approved planned sequence. If this plan is elected, students are ordinarily expected to follow a sequence of courses that either deepens their competency in a speech communication area or in a related academic discipline or in a research tool area such as computer sciences, foreign languages, linguistics, or statistics.

COLLEGE OF BUSINESS ADMINISTRATION

The College of Business Administration offers courses of study leading to both undergraduate and graduate degrees. These programs are designed to prepare individuals for business and government careers, and graduate education.

The undergraduate curriculum leads to a Bachelor of Arts degree. Programs in Accounting, Economics, Finance, Management, Marketing and General Business Administration (an interdisciplinary business curriculum) are structured to accomplish the following objectives:

1. Give the student a broad foundation in general and liberal education, a thorough grounding in basic business courses, and some specific competence in at least one significant functional area of economics, business, or administration.
2. Strengthen students' powers of creative, independent analysis, and sensitivity to social and ethical values.
3. Instill in students a desire for learning that will continue after they have graduated and taken their place in the community.

A general graduate program in Business Administration, and specialized graduate programs in the fields of Accounting, Economics, and Management seek to:

1. Make high quality professional education available to those qualified individuals who have selected specific career objectives in fields of business, government or education.
2. Support adequately the research activity so vitally necessary to maintain a quality graduate faculty and program.
3. Foster independent, innovative thinking and action as a professional individual.

BACCALAUREATE LEVEL DEGREE PROGRAMS

General Requirements for Degree

Satisfactory completion of 180 academic quarter hours. Of the 180 hours, Business course credits may vary from a minimum of 87 to a maximum of 100. Consequently, non-Business course credits may vary from a maximum of 93 to a minimum of 80. The variance depends upon the major field chosen and the mixture of General and Business Electives. If the student enters USF as a freshman, the requirements for graduation are:

	Quarter Hours	
1. General Distribution Courses: (see page 32). Minimum of 8 hours in each of five areas.)		60
2. Business Core:		
Accounting 201, 202, 300	9	
Computer Applications: GBA 333	3	
Economics 201, 202, 301	13	
Finance 301	5	
Law: GBA 361	5	
Management 301	5	
Marketing 301	5	
Statistics: ECN 231, 331	8	53
3. Major Area:*		20-36
4. General Electives: (Non-business Courses)		20-33
5. Business Electives		7-20
TOTAL		180

*An average of 2.0 must be achieved in major field for a student to be certified for graduation.

Note: College Level Examination Program (CLEP) may be substituted for course work in the General Distribution area and some courses in the Business Core. For specific details see page 38.

Admission to College Programs

Undergraduate Programs

New students and students currently enrolled at USF, with a grade point average of 2.0 or higher, may be admitted to the College by (1) attending a college orientation, (2) filing a signed declaration of major form with the undergraduate studies office.

Transfers from Junior/Community Colleges: Junior/community college students should complete the program of general education as required by the junior/community college. Certification to this effect will be accepted as fulfilling the general distribution requirements of the University of South Florida.

Furthermore, they should follow the business parallel program indicated in their junior/community college catalog to assure graduation from the University of South Florida in minimum time. Should the junior/community college catalog not specify pre-business courses, we recommend that students take two semesters of mathematics; two semesters of economics; two semesters of accounting, and one semester of statistics while still at the junior/community college.

Business is requiring more and more analytical functions of its management-level personnel each year. Since one of the most basic analytical tools is mathematics, more higher mathematics is being required as a prerequisite for business courses. The student therefore is encouraged to complete more than the minimum mathematics requirements and to add beginning calculus to his curriculum at the junior/community college. All transfer students, particularly those not pursuing the parallel program, should note that a maximum of nine quarter hours of credit will be allowed for courses taken at junior/community colleges which are available only as 300 and 400 level courses in the College of Business Administration at USF and only five hours of such courses may be accepted in the major area.

Transfer students from Other Colleges and Universities: Transfer credit ordinarily will be accepted from accredited institutions in the amount earned, however, all hours earned may not always be applied towards graduation. Individual courses will be evaluated and appropriately credited toward requirements in the student's program at the University of South Florida.

Student Advising and Records

The Undergraduate Studies Office provides the following services for College of Business Administration students:

1) Academic advising and program information for all undergraduates.

2) Orientation for all students applying for admission to the College of Business Administration. Such orientation is mandatory prior to acceptance.

3) Registration, drop/add, and general College of Business Administration and University policy information for College of Business students, both graduate and undergraduate.

4) Evaluation of transcripts of transfer students and maintenance of academic advising records on all admitted students.

GRADUATE LEVEL DEGREE PROGRAMS

The College of Business Administration at USF offers a number of graduate programs, including the Master of Business Administration, Master of Accountancy, Master of Arts degree in Economics, and Master of Science degree in Management. Evening and day courses are scheduled in such a way as to allow either part time or full time students to complete all program requirements within a reasonable length of time.

Applicants to graduate programs in the College of Business Administration should apply directly to the University Graduate Admissions Office and must meet the University requirements for admission (see pages 43-44). Applicants are expected to demonstrate the ability to perform successfully in graduate studies in business.

Admissions

Admission to the graduate programs in the College of Business Administration is open to qualified men and women holding an undergraduate degree in arts, letters, science, humanities, engineering, or business from an accredited institution in the United States or from a recognized academic institution in a foreign country. In making admission decisions, the College does not favor any particular academic discipline nor does it make any distinction between applicants with experience and those coming directly from an academic program. The important factors besides the GMAT (Graduate Management Admission Test) and GPA (Grade Point Average) are the applicant's motivation in undertaking graduate work and the degree of focus in the applicant's career plans for the future.

All applicants are expected to demonstrate the ability to perform successfully in graduate studies. To be admitted all students must furnish:

1. Satisfactory GMAT scores for the M.B.A., M.Acc., and M.S. in Management. Applicants for the M.A. in Economics must furnish satisfactory GRE scores.
2. Acceptable undergraduate grade point averages. Candidates offering grade point averages less than 3.0 (B) are expected to achieve higher than normal scores on admission tests.
3. Three letters of recommendation.

Students interested in specific programs within the college should contact the appropriate graduate studies adviser:

M.B.A.—Assoc. Dean Charles A. McIntosh, Jr., Director of Graduate Studies.
M.Acc.—Assoc. Prof. Jack L. Smith.
M.A. degree in Economics—Prof. Howard S. Dye.
M.S. degree in Management—Asst. Prof. Ruth M. Walsh

Special Students

See "Special Students" paragraph in Graduate Studies Section (page 44) for general instructions. The College of Business Administration will accept no more than nine hours of credit earned as a Special Student, to satisfy degree requirements, without the written permission of the Director of Graduate Studies in the College.

Academic Standing

All Masters candidates are expected to maintain a cumulative grade point average of 3.0 (B) throughout their program. Failure to maintain the B average places the student on academic probation. Any student on academic probation for two consecutive quarters is subject to dismissal. The part-time student must earn a cumulative 3.0 (B) average in the first 12 credit hours of graduate study, otherwise will be subject to dismissal.

Supporting Programs

Two significant programs support College academic activities. The **Center for Urban Economics and Management Studies** (CUEMS) serves as a research and service arm to supplement and expand the academic programs, particularly in relation to the urban thrust of the College. Studies, conferences, and other projects are presented in cooperation with business, government, and other educational units.

The **Center for Economic Education** (CEE) is sponsored and administered in conjunction with the College of Education. The objective is to raise the level of economic understanding of Floridians. Working in cooperation with the Joint Council on Economic Education, the Florida Council, other State organizations, and regional public schools, programs for K-12, as well as adult education programs, have been developed as primary vehicles for this effort.

PROGRAMS AND CURRICULA

■ BUSINESS ADMINISTRATION (BA/MBA)

General Business Administration (GBA)

Students with special objectives and career interests have the opportunity to develop an undergraduate program to meet these needs. Working closely with a faculty adviser, students may design an approved plan of study which will contain 34 to 47 hours of Business courses beyond the undergraduate Business Core. No more than 16 hours of these courses may be in any single business discipline. The program shall also contain such nonbusiness electives as will contribute to the academic objectives of the student.

The Master of Business Administration*

The Master of Business Administration degree program is designed to enable persons with diverse backgrounds to develop the skills and insights essential for management personnel in business and not-for-profit organizations. Built into the program is the flexibility to meet the needs of students with backgrounds in engineering, the sciences, and the humanities, as well as those with undergraduate training in administration.

The learning environment blends work in structured situations where students gain command of analytical techniques,

** The course structure in the M.B.A. program is undergoing modifications that could affect some of the courses and length of program. Please correspond with the Director of Graduate Studies, College of Business Administration, for current status.*

together with work in comprehensive unstructured applications which sharpen students' resourcefulness of sorting out complex problems and selecting optimal courses of action. Emphasis throughout the program is on problem-solving skills.

Courses are scheduled to accommodate students already employed who are seeking an opportunity to upgrade and broaden their professional interests, as well as students wishing to pursue full-time studies. The program is designed so that part-time students who can attend classes only in the evening can complete the program in a reasonable period.

Students with a background in business administration complete a minimum of 48 credit hours of 500 and 600 level courses designated by the M.B.A. adviser. Some advanced undergraduate courses in special areas are occasionally included. Generally, these 48 hours are drawn from the following subject areas:

Accounting Theory and Practice
Statistical Theory and Methods
Decision Theory
Production and Control
Financial Management
Managerial Economics
Capital Markets
Economic Conditions Analysis and Forecasting
Capital Budgeting
Marketing Management
Personnel, Industrial, Labor, and Human Relations
Integrative Seminars and Laboratories
Individual or Group Projects in the Private or Public Sector.

Typically, the program of M.B.A. students will include the following core courses. In some instances, other courses may be substituted for one or more of these requirements:

ACC 601, 602
ECN 605, 607
FIN 601, 602
GBA 603, 605, 615
MAN 601, 602
MKT 601, 602

Students with backgrounds other than business administration may be required to take additional foundation courses or otherwise demonstrate competence in relevant subject matter areas.

Undergraduates majoring in areas other than business administration may want to devote some of their elective studies to M.B.A. preparation. The following courses are suggested:

Principles of Accounting
Principles of Economics
Statistics
Financial Management
Principles of Management
Marketing Management

The M.B.A. program prepares students for general management responsibilities. Students may specialize to a limited extent by electing an emphasis in Finance or in Marketing. These program variations allow the student to concentrate on more specific objectives while still acquiring the broad gauge training the M.B.A. program is designed to provide.

M.B.A. with Emphasis in Finance

Students seeking a graduate education with a concentration in the field of Finance should enroll in the Master of Business Administration program. All students will complete the core courses in the M.B.A. program and 9 elective hours of courses in finance or in finance combined with other pertinent courses approved by the adviser. Elective courses in Finance cover a wide range of subject matter including investments, financial intermediaries, financial policy and strategy for existing firns, and advanced theories of finance. Topics of mutual interest to the student and the faculty may also be covered for variable course credit. No thesis is required.

M.B.A. with Emphasis in Marketing

Students wishing to concentrate their studies in Marketing should enroll in the M.B.A. program. The nine credit hours of elective course work can include studies in consumer behavior, physical distribution system and channels, promotion and advanced marketing research. Other areas of marketing can be undertaken on an independent study basis. No thesis is required.

■ ACCOUNTING (ACC)

The Accounting program offers students the opportunity to enter directly into the fields of professional accounting, management accounting, and governmental accounting. The professional accounting option prepares the student for a career in public accountancy, the management accounting option prepares the student for a career in manufacturing, retailing, and/or service organizations, and the governmental option prepares the student for a career in federal, state and/or local government. Departmental advisers will assist student in designing programs to meet specific career objectives.

Requirements for the B.A. degree

Students admitted to this program must complete 24-36 credits in upper level accounting, 53 credits in the Business Core and 10-23 credits in Business electives. Students who are admitted to the program should take either GBA 371, Business Communications or ENG 350, Advanced Expository Writing.

Accounting courses taken by accounting majors on an S/U basis will not be counted toward the 180 hour graduation requirement.

Required Accounting Courses (24-36 credit hours)

ACC 301	(4)	ACC 303	(3)	ACC 421	(4)
ACC 302	(4)				

Plus 9-21 credits from the following:

ACC 401	(3)	ACC 411	(4)	ACC 423	(4)
ACC 402	(3)	ACC 412	(3)	ACC 425	(3)
ACC 405	(4)	ACC 422	(3)		

Accounting majors must earn a 'C' grade in each of the sequential upper-level accounting courses before being allowed to go on to the next course. i.e., ACC 301, 302, 303; ACC 411, 412, etc.

Students wishing to qualify to take the CPA examination in the State of Florida must have earned a minimum of 27 credits in upper-level accounting courses.

Any further questions concerning the CPA examination should be directed to the faculty of the Department of Accounting.

Requirements for the Master of Accountancy Degree (M.Acc.)

The Master of Accountancy Program is designed to meet the increasing needs of business, government, and public accounting for persons who have professional training in accounting as well as background in such areas as quantitative methodology, economic analysis, and management science.

For the student who has the equivalent of an undergraduate major in accounting, the program consists of approximately 48 quarter hours. A minimum of 18 quarter hours (and not more than fifty percent) of the program is devoted to the study of professional accounting. Another 18 quarter hours of the program consists of study in the related areas of financial management, economics, management science, and quantitative decision models. The remaining 12 quarter hours of the program course work is elected by the student in consultation with his graduate school adviser. Elective courses taken in the area of accounting may not exceed six (6) quarter hours.

Admission is open to any student who has a baccalaureate degree and meets the College of Business Administration graduate requirements. Applicants for the Master of Accountancy

Program must submit a score of 475 or higher on the Graduate Management Admission Test (GMAT) *and* at least a 3.0 grade point average (B) in all work attempted while registered as an upper division student working for a baccalaureate degree. Students who do not have the equivalent of an undergraduate degree in accounting will be required to take additional courses. The number of additional courses deemed necessary will depend on the academic background of the individual student.

Required courses are:

Accounting Courses, (18 cr. hrs.)

ACC	605	Development of Accounting Thought	(3)
ACC	606	Contemporary Accounting Theory	(3)
ACC	607	Systems Theory and Quantitative Applications	(3)
ACC	611	Federal Tax Research and Planning	(3)
ACC	621	Managerial Cost Analysis and Control	(3)
ACC	623	Ethics and Responsibility in Professional Accountancy	(3)

Business Courses (18 cr. hrs.)

GBA	603	Quantitative Methods I	(3)
GBA	605	Quantitative Methods II	(3)
MAN	602	Administrative Decision Processes	(3)
ECN	607	Aggregate Economics	(3)
FIN	601	Financial Management	(3)
—	6XX	Economics or Finance Elective	(3)

Electives

(At least six quarter hours must be in non-accounting courses) (12)

■ ECONOMICS (ECN)

Economics is one of the vital disciplines investigating the complex problems and relationships in modern society. Indeed, the very breadth of economics has led to major areas within the discipline, including labor economics, international economics, urban and regional economics, monetary economics, public finance, industrial organization, comparative economic systems, and the like. Students are grounded in economic theory and economic statistics to facilitate the investigation of the problems of human behavior, decision-making, and organizational effectiveness in these problem areas. Students majoring in economics are encouraged to supplement their programs with courses in other business and social science subjects. Management, finance, marketing, accounting, political science, psychology, sociology, and others contribute greatly to an enriched plan of study. A student may plan the best possible program to help him achieve his particular career objectives.

Similarly, a variety of courses in economics are designed to permit students majoring in other disciplines to acquire the skills and insights provided in economics. The department offers students in other colleges the opportunity to take a minor concentration in economics. The only required courses are ECN 201 and 202 and twelve (12) additional hours of economics courses.

Requirements for the B.A. Degree:

A student may earn a Bachelor of Arts degree with a major in Economics by completing satisfactorily the Business Core of 53 hours, 26 to 28 hours of upper level Economics courses, and 6 to 23 hours of Business Electives.

The Economics courses required are:

ECN 323 (5) ECN 401 (5)

Plus 16 to 18 hours of other upper level Economics courses.

Students are encouraged to select 300 level courses in several of the applied areas during their junior year. The remaining Economics electives may be selected from those 300 and 400 level courses that provide the type of program that best suit the student's interests and objectives. Additional flexibility in pursuing these interests is provided by the ECN 481 and ECN 497 courses. However, not more than 10 hours of credit may be earned in ECN 481 and ECN 497.

Students interested in majoring in economics are encouraged to contact the Academic Advisers for more information about the program. In addition, the department maintains a file describing the varied career opportunities for Economists in business, government and education.

Requirements for the M.A. Degree:

Applicants should submit results of the Graduate Record Examination Aptitude Test and meet other University requirements specified on pages 43-44. The primary requisites for success in graduate study are strong motivation, aptitude, and basic intellectual ability. An undergraduate major in economics is not required but a sound background in economic theory, mathematics, and statistics will permit completion of the master's program in the normal time span of one year.

The Master of Arts degree in Economics permits students to select one of three approaches. The first emphasizes terminal professional training to prepare the student for decision making and problem solving roles in business and other organizations. The second approach prepares the student for doctoral work and teaching in secondary and junior college educational institutions. In the third approach, students may emphasize public sector economics. The primary objective here is to provide the skills necessary for the performance of economic analysis and policy formulation in the public sector — particularly at state and local levels. The fields of economics stressed are public economics, urban economics, and industrial organization. Particular attention is devoted to such topics as planning, programming, budgeting, cost-benefit analysis, public revenue sources, issues in fiscal federalism, techniques of income redistribution, models of urban growth and development, intra-urban location patterns, analysis of urban social patterns and problems, anti-trust and other forms of government regulation business.

All three approaches involve preparation in economic theory and quantitative methods. Students in the professional programs then supplement these skills with courses in applied economics. Students preparing for doctoral studies normally take additional courses in economic theory, mathematics and statistics. Students selecting public sector economics emphasize applied economics. Work in other areas, particularly the social sciences, may be an integral part of these programs. Research and the writing of a thesis may be incorporated into any of these approaches. The nature of the thesis subject indicates the area of specialization and interest.

The economics department participates in the Junior College Teaching Program jointly with the College of Education as outlined on page 80.

Students must satisfy all Univesity requirements listed on page 47. In addition, the department requires students to complete 45 hours of graduate credit selected with the approval of the graduate adviser of the department. At least 35 hours must be in economics. Normally, these 35 hours include:

ECN 602 (5), ECN 603 (3), ECN 605 (3), ECN 607 (3). Prior to clearance for the degree, each candidate must perform satisfactorily on a comprehensive examination.

■ FINANCE (FIN)

Undergraduate Program in Finance

The Finance program provides broad-gauged analytical training for students anticipating a career in the management of both large and small organizations. Students seeking a career in business or with financial institutions or careers in the field of insurance and real estate should find the finance major particularly valuable. In addition, the program is designed to provide the flexibility needed by students who seek professional degrees in areas such as law and public administration.

The Finance program offers applied and theoretical courses directed to the identification and solution of such problems as the acquisition of and allocation of scarce funds as employed by economic units under conditions of uncertainty in both the private and public sectors. Finance is an interdisciplinary approach which draws on economic theory, accounting information systems, and the quantitative decision framework of statistics and mathematics.

The required courses for finance majors focus on understanding the analytical tools and institutional environment for decision-makers. It includes capital budgeting, the concepts of asset and liability management, and an examination of the social and regulatory impact upon the decision-making process.

Finance-Pre-Law

A minimum of 20 hours of Finance courses with 14-27 hours of Business electives chosen with consent of adviser to specifically meet the needs of the student.

Requirements for the B.A. Degree:

Students in this program must complete 20-27 credits in upper level Finance, 53 hours of Business Core, and 14-27 hours of Business electives.

Required Finance Courses (20-27 cr. hrs.)

FIN 321 (4) FIN 411 (4) FIN 421 (4)

Plus 8-15 additional credits of upper level Finance courses.

M.B.A. With Emphasis in Finance

Students seeking a graduate education with a concentration in the field of finance should enroll in the Master of Business Administration program. Students take the 39 credit hours of core courses required by the general M.B.A. program. The 9 elective hours will be taken in the area of finance, or a combination of finance and other approved courses. The 9 elective hours are over and above the core courses in finance (FIN 601 and FIN 602.) Although a thesis is not required, graduate research projects are encouraged under FIN 681 or FIN 697. As far as possible, candidates for an M.B.A. with an emphasis in finance should take their integrative seminar (GBA 615) in the special section designated for their emphasis.

■ MANAGEMENT (MAN)

The undergraduate program provided by the Management faculty integrates knowledge in behavioral and social science, industrial relations, and quantitative and computer technology in developing an understanding of organizational theory and research. The aim is to build competence in the practice of managing groups and organizations.

To accomplish this goal, the department offers (a) a mix of lectures, management laboratories, independent research, and team activities in many courses, (b) a flexible curriculum which permits students to select a program of courses most suitable to their needs, and (c) the option of selecting more advanced courses within each area.

To assist students in making realistic course selections, descriptive material for each course is listed in this bulletin. In addition to the catalog descriptions, more specific information is available in the undergraduate advising office, College of Business Administration. Listed descriptions and individual advising describe the background necessary for each course.

Requirements for the B.A. Degree:

Management students must take 27 credits in upper level Management, 53 credits of Business Core, 7-20 credits of Business electives.

It is strongly recommended that students include courses in Calculus, Speech, Psychology, Sociology, and Political Science in their General electives.

Required Management Courses (27 credit hours)

Students are required to take:

(a) at least one course from each of the four course areas listed below:

Area 1—Organization Behavior: MAN 322, MAN 431, MAN 451, MAN 453.

Area 2—Computer and Quantitative Procedures: MAN 312, MAN 421, MAN 471, MAN 472, MAN 473.

Area 3—Industrial Relations: MAN 332, MAN 461, MAN 463, MAN 465.

Area 4—Integrative Policy Course: MAN 499.

(b) Additional upper level Management courses needed to meet the requirements for graduation.

Requirements for the Master of Science Degree in Management

General Description

The M.S. (MAN) Program admits selected students from a variety of educational backgrounds who have demonstrated high motivation and excellence (or the promise of excellence) in the field of management. Participating students are chosen from practicing managers as well as those aspiring for a career in management.

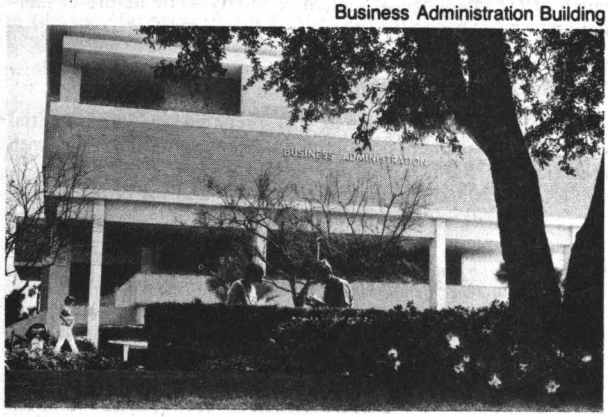
The program requires that students complete the equivalent of the common body of knowledge in one of two ways: through course work in business administration disciplines shown on transcripts which are part of the application for graduate study; or through course work completed prior to the concentration in management at the graduate level.

The M.S. degree in Management is an integrated program with emphasis on special interest "sections" such as urban management or health care management. The courses and projects focus on the problems and constraints commonly examined by such managers. Other students enter a general class and may elect to take parts of their work in a variety of special interest sections.

Courses cover (i) Organizational Behavior, Assessment and Change, Manpower Development and Industrial Relations, Quantitative Methods, Information Systems, (ii) relevant topics in Finance, Accounting and Economics; and (iii) relevant electives from other departments. The normal sequencing for a class or section of students calls for eight (8) credit hours each quarter for six (6) quarters with an option for one quarter off during the last half of the program, as follows:

(i) Courses adding up to a total of six (6) credit hours. The number of different courses will depend on the number of credit hours offered in each; e.g., three (3) credit hours in each of two courses or three (3) hours in one course, two (2) hours in another and one (1) in a third course.

Business Administration Building



(ii) The Management Practicum for two (2) hours in which students work in teams under the direction of a faculty member.

Courses offered within the Management Department will be selected to facilitate integration and application to managerial problems. However, courses elected outside the Department of Management will be taken in the traditional format. Students are required to take at least twelve (12) credit hours outside the Department of Management of which six (6) must be in the College of Business Administration. These electives will be chosen in consultation with the section coordinator.

The normal six (6) quarter sequence would be as follows:

Quarter I	MAN courses 6 hours, MAN Practicum 2 hours	8 hours
Quarter II	MAN courses 3 hours, Elective Course 3 hours, MAN Practicum 2 hours	8 hours
Quarter III	MAN courses 3 hours, Elective Course 3 hours, MAN Practicum 2 hours	8 hours
Quarter IV	MAN courses 3 hours, Elective Course 3 hours, MAN Practicum 2 hours	8 hours
Quarter off here is optional for section.		
Quarter V	MAN courses 3 hours, Elective course 3 hours, Field Res/ or Thesis 2 hours	8 hours
Quarter VI	MAN courses 4 hours, Field Res/or Thesis 4 hours	8 hours
TOTAL	MAN courses 24 hours, Elective Course 12 hours, Practicum/Res. 12 hours	48 hours*

All inquiries should be directed to the Graduate Adviser, Department of Management, University of South Florida.

■ MARKETING (MKT)

Marketing is a dynamic field with many dimensions, including product selection and planning, product distribution, pricing and promotion. Marketing poses many challenges and yields generous rewards for those meeting these challenges. Marketing operations are carried out domestically and internationally in virtually all business organizations offering a product or service. Many marketing concepts are applicable to the operations of non-profit organizations such as governmental, educational and health care institutions as well as charitable and political campaigns.

Marketing operations are the most visible links between the firm or institution and its many publics. Marketing in the end deals with people, people who are constantly changing in their needs, wants and desires; and coupled with these changing tastes is a fiercely competitive environment sustained by all the resoarces of a rapidly evolving technology. These forces lead to much of the challenge—to much of the dynamic nature of marketing.

The Marketing Program

The Marketing program at USF prepares students for initial entry and management positions in many areas of marketing with a curriculum that is concerned with:

1. Understanding consumer behavior and the broader environment within which the firm or institution operates;
2. Collecting, analyzing, and using information about customers, competitors, and the environment for managerial decisions;
3. Distributing products effectively and efficiently from producer to user;
4. Advertising and promoting the offerings of the firm or institution effecively;
5. Creatively and effectively managing a salesforce selling industrial or consumer goods and services; and
6. Managing retail and wholesale operations including the conceptualization, implementation and evaluation of the buying, merchandising and control functions.

Each student is strongly encouraged to set up his own plan of study with the assistance of a Marketing department faculty adviser. Such counseling can lead to a better definition of career objectives and will result in a plan of study that is consistent with each student's career objectives.

Undergraduate students not majoring in marketing are encouraged to take selected offerings from the marketing curriculum to broaden their backgrounds and to prepare for marketing-related positions in business or non-profit organizations.

Requirements for the B.A. Degree:

The Marketing major consists of 26-30 credits in Marketing, 53 credits in Business core, and 4-21 credits in Business electives. A Marketing Curriculum Planning Guide is available in the College of Business Administration Undergraduate Studies Office. It is strongly recommended that students consult this guide before their first quarter of study as Marketing majors.

Required Marketing Courses (26-30 credit hours) including:

Marketing Core (11)

MKT 321 (4) (formerly MKT 411) MKT 419 (4)
MKT 325 (3) (formerly MKT 413)

Plus an additional 15-19 credits in Marketing including a minimum of 9 credits in 400-level Marketing courses other than MKT 419.

The following sequences of courses are recommended for students with interests in Industrial Marketing and Sales Management, Promotion, and Retailing. Other programs are of course possible and students are encouraged to consult with a Marketing Department faculty member to set up a plan of study to accomplish individual objectives.

Industrial/Sales Management (10)

MKT 311 (3)
MKT 402 (4) (formerly MKT 315)
MKT 405 (3)
Plus 5-9 Marketing credits

Promotion (9)

MKT 312 (3) MKT 403 (3) MKT 407 (3)
Plus 6-10 Marketing credits

Retailing (10)

MKT 317 (3) (formerly MKT 417)
MKT 402 (4) (formerly MKT 315)
MKT 483 (1-5) (Advanced Topics in Retailing)
Plus 5-9 Marketing credits

M.B.A. with Emphasis in Marketing

Students in the Master of Business Administration Program may concentrate in the area of Marketing by selecting their nine hours of electives in Marketing. Elective course work can include studies in one or more of the areas outlined above in the description of the Marketing program. An independent research project can serve as part of the elective course work in the Marketing emphasis option; however, no thesis is required. Students electing the MBA with emphasis in Marketing should meet with the chairman of the marketing department at the beginning of their MBA course work.

**Additional hours may be required to satisfy any deficiencies in meeting the common body of knowledge requirements. These include demonstrated fundamental knowledge in operations management, marketing, finance, economics and legal environment, accounting, quantitative methods, information systems, management and administrative processes under conditions of uncertainty including integrating analysis and policy determination.*

COLLEGE OF EDUCATION

The College of Education places an emphasis on each student learning what is relevant for the world of today and on his getting deeply involved in his own educational process. Thus, the emphasis is on the student learning to do his own thinking about himself and his universe.

The College of Education is committed to a continuous and systematic examination of the professional program of teacher education. Promising programs are examined experimentally under controlled conditions, which make possible an objective appraisal of effects in terms of learning outcomes.

The University of South Florida follows a University-wide approach to teacher education. Its programs for the preparation of teachers represent cooperative effort in planning and practice by faculties of all academic areas. Courses needed by teacher candidates but designed also for other students are offered outside the College of Education. Courses in the University which are primarily designed for teacher candidates are taught by the College of Education.

In the total teacher education program there is a special concern for developing in the student a deep interest in intellectual inquiry and the ability to inspire this interest in others. It is the task of the College of Education to give leadership to the instruction in subject matter and process, which means the total teacher education program.

BACCALAUREATE LEVEL DEGREE PROGRAMS

Admission to the College

While students admitted to the University are expected to have the qualifications to graduate, this does not necessarily mean that he has the qualifications to become a teacher.

The College of Education administers the admission policies to all teacher programs of the University. All students who plan to teach must apply for admission to a teacher education program through the Student Personnel Office of the College of Education.

Prospective secondary and K-12 teachers are enrolled in teacher education programs involving both the College of Education and various other colleges of the liberal arts areas.

Admission to an upper level teacher education program is contingent upon meeting the following minimum college requirements:

1. Completion of a College of Education upper level application form.
2. Completion of the General Distribution requirements for Education majors. Provisional admission may be granted if no more than three individual General Distribution courses remain to be taken, provided Freshman English has been completed.
3. Completion of a minimum of 90 quarter hours.
4. An overall grade point average (GPA) of 2.0.
5. Students must submit a score from the American College Test (ACT) that was completed no longer than three years prior to the application deadline. It is recommended that this test be taken not more than one year prior to the application deadline.
6. Additional criteria established by each program. (See Admission to Programs below)

Handicapped students: Application will be reviewed by the admission committee. Acceptance of the application of the student will be determined by the following:

1. The judgment of the committee that the student will be able to carry out the duties of a teacher.
2. An assurance from the public schools that an internship contract will be offered.

Admission to Programs

In addition to college-wide admission standards, each program may have additional admission requirements. Examples of such requirements are English and Mathematics proficiency examinations, personal interviews, and other selective tests. Admission to some programs is limited to a specified number of students, and in these programs admission is on a selective basis. Effective Quarter II, 1978, applications for all programs will be due by the dates specified below. Information regarding admission requirements for the program(s) of your choice may be obtained from the Student Personnel Office, College of Education, USF.

Admission Deadlines to the College

Students who are seeking admission to upper level programs in the College of Education at USF must submit completed application forms by the following deadlines:

Quarter II admission	October 1, 1977
Quarter III admission	January 15, 1978
Quarter IV admission	March 15, 1978
Quarter I, 1978 admission	April 1, 1978

Students are advised that some College of Education programs do not admit students each quarter.

Admission to Internship Experience

The internship experience is a minimum of 12 credits of observation and internship in elementary or secondary schools. Time and sequence of experience may vary among programs. (Refer to the specific program for further information.)

Special requirements for enrollment in the internship and seminar courses are:

1. Admission to the College of Education.
2. Completion of General Distribution Requirements.
3. Completion of an application for internship.
4. Completion of the professional education sequence and a minimum of two-thirds of the specialization, varying with the program, and a minimum 2.0 grade point average.
5. An overall 2.0 grade point average.
6. Successful completion of proficiency exams. Areas of examination vary with programs. See program for specific requirements.

Application for internship should be made two quarters prior to term in which experience is desired, and may be obtained in the Internship & Field Experience Office.

Fall Quarter (I) applications are due by last week of the Winter Quarter (II) of the previous school year.

Winter Quarter (II) applications are due by last week of the Summer Quarter (IV) of the previous school year.

Spring Quarter (III) applications are due by last week of the Fall Quarter (I) of the same school year.

Summer Quarter (IV) applications are due the last week of the Winter Quarter (II) of the same school year.

College Requirements for Graduation

A student to be certified by the College of Education as having completed its requirements must have earned 180 quarter hours credit, including the last 45 credit hours on campus, with a minimum overall grade point average of 2.0. An average of 2.0 or better also must be made in the student's professional education sequence and in his teaching specialization courses. Satisfactory completion of supervised teaching is required. A student must also have completed the major requirements in an approved teaching program (which includes general preparation, teaching specialization, and professional preparation). A minimum of 12 credits in professional courses in addition to internship and 18 credits in specialization courses must have been earned in residence. The student must complete a minimum of 45 hours after admittance to an upper level program.

Specific Requirements

A minimum of 180 credit hours including the following:

General Distribution..... 60 credit hours
Professional Education Core..... 36-44 credit hours
Teaching Specialization..... 41 to 73 credit hours

As part of the 180 credit hour minimum requirement for graduation, students may include elective courses. These courses should be selected in consultation with a faculty advisor. The College of Education permits students to count as part of the 180 hour requirement courses in Elective Physical Education (PEB) and up to 12 hours of USF Army ROTC credits.

The College of Education will not permit either USF lower level students or transfer students to transfer "D" graded course work which is part of the professional core or specialization requirement. However, a "D" grade earned for such work taken after the student has been admitted to the college will be accepted for credit.

Programs Leading to the Baccalaureate Degree

The College of Education has programs leading to the Bachelor of Arts degree in the following fields:

Art Education	(EDA)
Botany Education	(BOE)
Business and Office Education	(VBU)
Chemistry Education	(CHE)
Classics Education*	(CLE)
Distributive Education	(VDE)
Elementary-Early Childhood Education	(EEC)
Elementary Education	(EDE)
English Education	(ENE)
Exceptional Child Education	
Emotional Disturbance	(EMD)
Mental Retardation	(MRD)
Specific Learning Disabilities	(SLD)
Foreign Language Education†	(FOE)
Health Education	(HEN)
Humanities Education	(HUE)
Industrial-Technical Education	(VIT)
Mass Communications-English Education	(MCE)
Mathematics Education	(MAE)
Music Education	(EDM)
Physical Education	(EDP)
Physics Education	(PHE)
Science Education	(SCE)
Social Science Education	(SSE)
Speech Communication-English Education	(SEE)
Zoology Education	(ZOE)

College of Education Student Organizations and Activities

The College of Education Association is the parent organization or umbrella for all student Education organizations. The student activities sponsor and the College of Education Association (CEA) officers make an annual budget and the approved monies are funded by the State. The CEA is responsible for helping organize new College of Education organizations approved by the Student Affairs Committee. They also aid the organizations financially, provide leadership, and distribute information for projects. The College of Education Council is composed of CEA officers, three elementary representatives, four secondary representatives, two special education representatives and the Presidents of the other Education organizations. The Council meets regularly to coordinate and plan for the year.

Student Florida Education Association

The Student Florida Education Association is the professional organization that represents all the prospective teachers on the USF campus. As a member of SFEA, you also become a member of the Florida Education Association and the National Education Association. These organizations comprise the largest such group in the world.

Many benefits are available to you through the organization and, in addition, you are working with a club dealing with your main interest—education. All students in the field of Education, including freshmen, are encouraged to join this professional organization.

**Latin-English Education or Latin-Foreign Language Education.*
†In a single language, two foreign languages, or Foreign Language-English.

Association for Childhood Education International

The Association for Childhood Education is a non-profit professional organization concerned with the education and well-being of children two to twelve years of age. Members are located throughout the United States and other countries.

The USF chapter works directly with children through observation, projects, and programs. In addition, it provides opportunity for students to attend study conferences throughout the state of Florida which allows the student an opportunity for professional growth and exchange of professional ideas. Membership is open to all students, including freshmen, concerned with children two to twelve.

Student Council for Exceptional Children

The Student Council for Exceptional Children is an organization of those members of the University interested in the education of the exceptional—"different"—child. Various exceptionalities included are Gifted, Emotionally Disturbed, Physically Handicapped, Mentally Retarded, and Culturally Different.

Activities of the USF Chapter include field trips to various special education facilities, prominent speakers, seminars, state and national conventions, and social events. The specific activities are determined by the members and the exceptionalities in which they are interested. All interested students are invited to join.

Student Music Educators National Conference

Student Music Educators Conference is an affiliate of the Music Educators National Conference and the Florida Music Educators Association. It is devoted to the furtherance of knowledge and understanding of music education on all levels. Membership is open to any student in the University of South Florida who is interested in the teaching of music.

Phi Beta Lambda

Phi Beta Lambda is a business fraternity open to all students, including freshmen, expressing an interest in Business Education and who are enrolled in a Business Course.

Kappa Delta Pi

Kappa Delta Pi is a national co-educational honor society in Education. The society was founded to recognize and encourage excellence in scholarship, high personal standards, improvement in teacher preparation, and distinction in achievement.

Physical Education Association (PEA)

The Physical Education Association (PEA) is open to all students enrolled in the Physical Education Program. Social and professional meetings are conducted throughout the year to promote interaction within the organization.

Student Guidance Organization (SGO)

The Student Guidance Organization is a Guidance Organization for graduate students presently enrolled in the Guidance Program. Social and professional meetings are conducted throughout the year. Members also participate in annual retreats and attend district and state meetings.

Mathematics Education Clinic

The Mathematics Education Clinic is mission-oriented in a broad sense in that it is primarily concerned with children and youth who evidence learning problems in mathematics. However, an important purpose of the clinic is one of obtaining hypotheses that can be studied to obtain generalizable professional knowledge to improve the teaching and learning of mathematics.

Clinical, corelational, normative, and experimental approaches are used in the study of the etiology and symptomatology of mathematical learning disabilities. General models and specific teaching strategies are provided the classroom teacher and the student-clinician for carrying out effective diagnostic and prescriptive programs.

Close professional relations are maintained between the Mathematics Education faculty and the appropriate faculties in the College of Education whose interests and professional skills are related to the work of the Clinic.

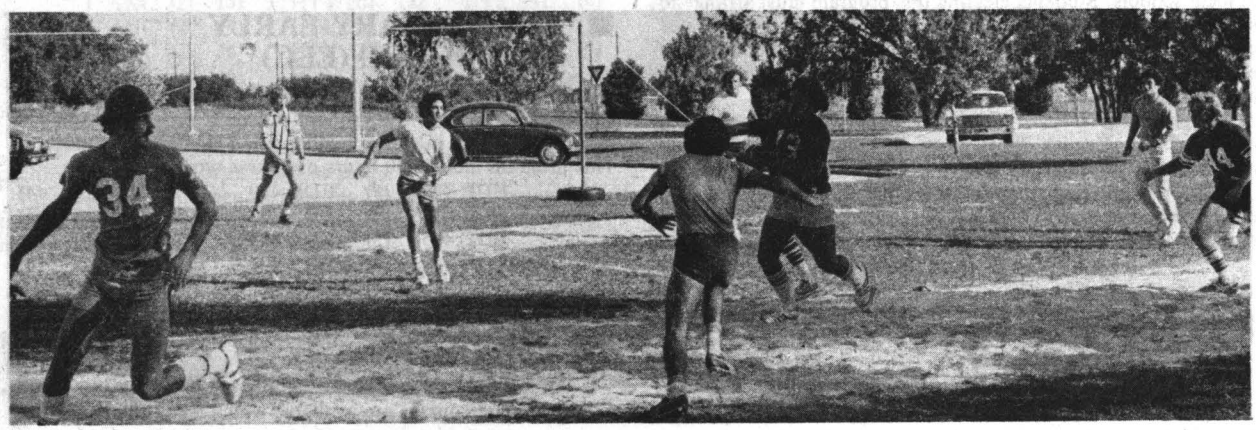
Library Student Association (LSA)

LSA is a professional organization associated with the Library Audiovisual Education Department and is open to all members of the university community interested in librarianship.

The USF group provides programs and guest speakers of interest to the campus community and publishes a newsletter for its members. It is the official voice of students in the department and members of the association are included on faculty-student committees within the department.

The Distributive Education Clubs of America (DECA)

The College Chapter of DECA is an integral part of the Distributive Education Teacher Preparation Program at the University of South Florida and provides Distributive Education majors with leadership opportunities, social experience, learning activities and professional involvement. The participation in the many activities of Collegiate DECA is required of undergraduate majors and is encouraged for graduate students.



Teacher Education Programs and Curricula

There are three distinct areas in the teacher education program, and all teacher candidates must meet certain minimum requirements in each. The three areas and their requirements are as follows:

1. General Distribution Requirements (60 cr. hrs.)

The five areas of General Distribution and the specific requirements are as follows:

Area I **English Composition:** ENG 101-102-103.

Area II **Humanities/Fine Arts:** A minimum of eight hours from at least two of the following prefixes: AMS, ARA, ART, CLS, DAN, ENG (excluding 100, 101-103), FOL, FRE, GER, GRE, HEB, HUM, ITA, MUS, PHI (excluding 303), POR, REL, ROM, RUS, SPA, SPE, TAR.

Area III **Mathematics:** MTH 331-332-333 for any program requiring EDE 415; a minimum of eight hours from any ECN 231, ESC, MTH, and ECN 331, PHI 303, SSI 301 for all other programs.

Area IV **Natural Sciences:** A minimum of eight hours from the following prefixes: AST, BIO, BOT, CHM, GLY, MSC, PHY, ZOO.

Area V **Social and Behavioral Sciences:** (A minimum of 16 hours is required in Area V as specified below)

I. Behavioral Science
   a) For all programs
   PSY 200 and SOC 201

II. Social Science
   a) For programs requiring EDE 419, HTY 211-212.
   b) For all other programs a minimum of eight hours from the following prefixes: AFA, AGE, ANT, CJP, ECN 100, GPY, HTY, POL, PSY (excluding 200, SOC (excluding 201), SSI (excluding 301), WSP.

Courses required for a student's major program will not be counted in the total 60 hours although areas of the general distribution requirements may be waived where appropriate. A student will be limited to 12 hours in a single department toward distribution requirements in any area. None of the above may be taken S/U.

2. Professional Education Core (36-44 credit hours)

The required courses in the professional education core are as follows:

EDC 401 Curriculum & Instruction	(5)
EDF 305 Human Development and Learning	(4)
EDF 307 Social Foundations of Education or EDF 309, Philosophy of Education	(4)
Methods Course(s)	(4-12)
Internship & Seminar	(15)
Reading Requirement (see note below)	(4)

3. Teaching Specialization Preparation (41-73 credit hours)

Course requirements in the area of teaching specialization vary according to subject field of specialization.

Note: State Board of Education regulation (6A-5.25) revised July 10, 1973, was amended to require that all (elementary and secondary) approved programs of teacher education must include information on teaching reading skills. For elementary majors, additional competencies over and above those taught in EDE 409 are required. *This applies to all students graduating after August, 1974.*

Please check with your adviser with respect to the ways and means of meeting these competencies.

ELEMENTARY EDUCATION CERTIFICATION PROGRAMS

Elementary Education majors are prepared to teach in grades one through six. Currently there are two options for completing the elementary coursework and internship requirements.

Students may pursue a program by taking required education courses during their junior and senior year with practical field experiences during their senior year. These experiences include pre-internship as part of EDC 401 and EDE 440 and a full quarter internship assignment in a selected elementary school.

Students may pursue a program of elementary teacher preparation which provides continuous daily laboratory experiences in local schools. Students electing this program must arrange to spend a minimum of two hours daily working in a variety of classroom situations. Pre-internship and internship credit is earned during this field experience which extends over a period of five quarters.

Beginning Quarter I, 1977, all Elementary Education majors must pass an English Proficiency Examination prior to admission to the program.

Students entering an elementary education program must be eligible for admission to the College of Education (see admission requirements) and maintain a 2.0 average.

■ ELEMENTARY SPECIALIZATION (EDE)

The major consists of an elementary specialization sequence. The 41 hours of elementary specialization courses include:

EDE 409	(5)	EDE 417	(5)	EDE 424	(3)
EDE 411	(4)	EDE 419	(5)	EDE 425	(4)
EDE 413	(4)	EDE 421	(4)		
EDE 415	(5)	EDE 423	(2)		

Students are encouraged to choose a concentration in a subject taught in the elementary school. With careful planning, a student may receive dual certification in elementary education and a junior high subject area.

■ ELEMENTARY-EARLY CHILDHOOD (EEC)

Students interested in early childhood teaching, which includes children ages 3-8, should pursue a program leading to certification both in early childhood and elementary education. This program include 50 hours of course work as follows:

EDE 409	(5)	EDE 419	(5)	EDE 425	(4)
EDE 413	(4)	EDE 421	(4)	EDE 426	(4)
EDE 415	(5)	EDE 423	(2)	EDE 429	(5)
EDE 417	(5)	EDE 424	(3)	EDE 435	(4)

■ ELEMENTARY-MIDDLE SCHOOL EDUCATION

For the student with a special interest in youngsters in the middle grades, courses are available which lead to both elemen-

tary and middle school certification. The courses are grouped in two segments: (1) Elementary Education—consisting of 42 hours of course work in elementary education, (2) Middle School Teaching—consisting of between 28 and 32 hours of liberal arts and education courses related to one of the following special areas; Reading, Language arts education, Science education, Social Science education, Mathematics education. Further information can be obtained by contacting advisers in the respective areas.

SECONDARY EDUCATION CERTIFICATION PROGRAMS

Candidates are required to meet specialization requirements in broad subject fields or in subject combinations. It is also possible for prospective secondary school teachers to add elementary school certification by following an approved program. The secondary school specialization requirements can be satisfied in more than 15 subject areas in eight broad fields.

■ CLASSICS EDUCATION (CLE)

Latin-English Education:

Specialization Requirements (80 cr. hrs.)
Latin (40 cr. hrs.)

Select four courses from the following five categories. Do not select more than one course from any single category.

1. ANC 321	(5)	3. HTY 201	(4)	HTY 381	(4)
ANC 427	(4)	HTY 202	(4)	4. PHI 415	(4)
ANC 429	(4)	HTY 321	(4)	PHI 416	(4)
2. CLS 310	(4)	HTY 322	(4)	5. CLS 351*	(4)
CLS 311	(4)	HTY 325	(4)		
CLS 312	(4)	HTY 326	(4)		

Select six additional upper level Latin courses (4 qtr. hrs. each) in consultation with Latin advisers.

English (40 cr. hrs.)

ENG 302	(5)	ENG 475	(5)	SPE 201	(5)
ENG 310	(5)				
One of the following:					
ENG 300	(5)	ENG 301	(5)		
One of the following:					
ENG 316	(5)	ENG 436	(5)	ENG 441	(5)
ENG 317	(5)	ENG 437	(5)	ENG 442	(5)
ENG 332	(5)	ENG 438	(5)		
One of the following:					
ENG 340	(5)	ENG 342	(5)	CLS 351*	(4)
ENG 341	(5)				
One of the following:					
ENG 350	(5)	ENG 351	(5)		

Latin-Modern Foreign Language Education:

Specialization Requirements (76 cr. hrs.)
Latin (40 cr. hrs.)

Select four courses from the following five categories. Do not select more than one course from any single category.

1. ANC 321	(5)	3. HTY 201	(4)	HTY 381	(4)
ANC 427	(4)	HTY 202	(4)	4. PHI 415	(4)
ANC 429	(4)	HTY 321	(4)	PHI 416	(4)
2. CLS 310	(4)	HTY 322	(4)	5. CLS 351*	(4)
CLS 311	(4)	HTY 325	(4)		
CLS 312	(4)	HTY 326	(4)		

Select six additional upper level Latin courses (4 qtr. hrs. each) in consultation with Latin advisers.

Modern foreign language requires 25 credit hours beyond introductory courses. Modern foreign language course requirements are (36 hrs):

(——) 301	(4)	(——) 403	(4)	(——) 406	(4)
(——) 303	(4)	(——) 405	(4)		
(——) 401	(4)	or			

ROM 517 and 518 may be among the selected courses.

** CLS 351—If CLS 351 taken, the hours will count in only one area of requirements (i.e. English/Latin) not in both.*

Two special methods courses (EDX 449 and EDX 465) are included in the professional education sequence.

■ ENGLISH EDUCATION (ENE)

Specialization Requirements (61-64 cr. hrs.)

SPE 201	(5)	SPE 321	(5)	ENG 475	(5)
One of the following:					
ENG 350	(5)	ENG 351	(5)		
One of the following:					
ENG 476	(5)	LIN 321	(4)	LIN 431	(4)
ENG 477	(5)				
One of the following:					
COM 300	(3)	COM 301	(4)	COM 351	(3)
Two of the following:					
ENG 300	(5)	ENG 311	(5)	ENG 314	(5)
ENG 301	(5)	ENG 312	(5)	ENG 315	(5)
ENG 310	(5)	ENG 313	(5)	ENG 316	(5)
One of the following:					
ENG 302	(5)	ENG 331	(5)	ENG 332	(5)
ENG 330	(5)				
One of the following:					
ENG 307	(5)	ENG 437	(5)	ENG 446	(5)
ENG 308	(5)	ENG 438	(5)		
ENG 317	(5)	ENG 442	(5)		

Two 300 level or 400 level ENGLISH courses in literature.

Also, one elective from one of the following areas: English, Speech-Communication, Mass Communications, Theatre, Language-Literature Interdisciplinary, Philosophy, Classics, Education, or American Studies: (4).

The English Education major is sufficiently flexible that by careful planning students can organize their studies to include any one option from I, II, IV, V, VI explained on pages 51-52 for the English department in the College of Arts and Letters section of this Catalog.

Two special methods courses EDT 447 and EDT 431 are included in the professional education sequence.

■ FOREIGN LANGUAGE EDUCATION (FOE)

Foreign Language-English Education:

Specialization Requirements (76 cr. hrs.)
English (40 cr. hrs.)

ENG 300	(5)	ENG 310	(5)	ENG 475	(5)
or		ENG 350	(5)	SPE 201	(5)
ENG 301	(5)	or			
ENG 302	(5)	ENG 351	(5)		
One of the following:					
ENG 317	(5)	ENG 437	(5)	ENG 442	(5)
ENG 435	(5)	ENG 438	(5)		
ENG 436	(5)	ENG 441	(5)		
One of the following:					
ENG 340	(5)	ENG 342	(5)	CLS 351	(4)
ENG 341	(5)				

If an elective is needed, SPE 321 is recommended. *Foreign Language* requires a minimum of 36 credit hours beyond in-

termediate courses. Foreign language course requirements are:

(——) 301	(4)	(——) 403	(4)	(——) 406	(4)
(——) 303	(4)	(——) 405	(4)		
(——) 401	(4)	or			

Student and adviser will select the additional foreign language courses to total a minimum of 36 credit hours in foreign language. ROM 517 and 518 may be among the selected courses.

Two special methods courses (EDT 447 and EDX 449) are included in the professional education sequence.

Two Foreign Language Education:

Specialization Requirements (61 credit hours)

Beginning and intermediate foreign language requirements (or equivalents) must be completed. In the major language (French, German, Italian, Russian, or Spanish), the student must earn a minimum of 36 credit hours, and in the minor language 27 credit hours. The required upper level foreign language courses for the major language are:

(——) 301	(4)	(——) 401	(4)	(——) 405	(4)
(——) 303	(4)	(——) 403	(4)	(——) 406	(4)

Plus a minimum of 11 additional selected hours of upper level courses in the major language: (11)

For the minor language the required upper level foreign language courses are:

(——) 301	(4)	(——) 403	(4)	(——) 406	(4)
(——) 303	(4)	(——) 405	(4)		
(——) 401	(4)	or			

Plus a minimum of six additional selected hours of upper level courses in the minor language: (6)

Single Foreign Language Education:

After consultation with a foreign language education adviser, the Dean may give permission for a student to elect a single foreign language major. A minimum of 45 credit hours beyond intermediate course requirements must be earned in the single foreign language. Among the 45 hours must be the following:

French (45 credit hours)

FRE 301	(4)	FRE 401	(4)	FRE 405	(4)
FRE 303	(4)	FRE 403	(4)	FRE 406	(4)

Plus a minimum of 21 additional selected hours of upper level courses.

German (45 credit hours)

GER 301	(4)	GER 401	(4)	GER 405	(4)
GER 303	(4)	GER 403	(4)	GER 406	(4)

Plus a minimum of 21 additional selected hours of upper level courses.

Italian or **Russian** (45 credit hours)

(——) 301	(4)	(——) 401	(4)	(——) 405	(4)
(——) 303	(4)	(——) 403	(4)	(——) 406	(4)

Plus a minimum of 21 additional selected hours of upper level courses.

Spanish (45 credit hours)

SPA 301	(4)	SPA 403	(4)	SPA 407	(4)
SPA 303	(4)	SPA 405	(4)		
SPA 401	(4)	SPA 406	(4)		

Plus a minimum of 17 additional selected hours of upper level courses.

ROM 517 and ROM 518 may be used to satisfy selected course requirements in any of the modern foreign languages.

■ HEALTH EDUCATION (HEN)

The two-year Health Education program is designed to prepare health educators for the public schools or community health programs through combined course work and field work/internship in public schools and community health programs. This program is a competency based curriculum with an S (Satisfactory) /U (Unsatisfactory) grading system. Prerequisites for entering the program include admission to the College of Education, a survey course in health science (HEN 201 or equivalent), and an interview for program guidance.

The application deadline is on or before August 1. Direct request to:

Coordinator
Health Education Program
College of Education

The following are courses required in the Health Education Program (57 hours):

EDP 255	(3)	HEN 331	(4)	HEN 422	(5)
HEN 310	(3)	HEN 332	(5)	HEN 431	(4)
HEN 311	(6)	HEN 411	(4)	HEN 432	(5)
HEN 321	(4)	HEN 412	(5)		
HEN 322	(5)	HEN 421	(4)		

In addition to the College of Education requirements in the Process Core, the Health Education program requires EDF 303.

■ HUMANITIES EDUCATION (HUE)

Specialization Requirements (4 cr. hrs. in HUM 491 Selected Topics in Humanities; and 42 cr. hrs. from the following):

HUM 411, 412. Twentieth Century Arts and Letters (5,5)
HUM 415, 416. Arts and Letters of the Romantic Period (4,4)
HUM 417, 418. Nineteenth-Century Arts and Letters (4,4)
HUM 419, 420. The Enlightenment (4,4)
HUM 423, 424. Renaissance Arts and Letters (4,4)
HUM 427, 428. Medieval Arts and Letters (4,4)
HUM 431, 432. Classical Arts and Letters (4,4)
HUM 481. Directed Study (1-5)
HUM 535, 536, 537. Humanities in America (4,4,4)
HUM 539, 540. Selected Non-Western Humanities (4,4)
HUM 541. Humanities in the Orient; India (4)
HUM 542. Humanities in the Orient; China (4)
HUM 543. Humanities in the Orient; Japan (4)
HUM 545. Latin American Arts and Letters (4)

Also required (a minimum of 9 cr. hrs. in the creative or performing arts from the following areas: TAR, ART, MUS, DAN, and ENG.) Academic work in these areas taken prior to entering the College of Education will be considered toward the satisfaction of this requirement.

■ MASS COMMUNICATIONS—ENGLISH EDUCATION (MCE)

Specialization Requirements (63 cr. hrs.):

Mass Communications (23 cr. hrs.)

COM 300	(3)	COM 483	(4)	COM 301	(4)
COM 330	(4)			or	
				ENG 308	(5)

Two of the following or one of the following plus a more advanced course in that area.

COM 311	(4)	COM 351	(3)	COM 371	(4)
COM 320	(4)	COM 361	(4)	COM 375	(4)
COM 341	(4)	COM 370	(4)	COM 453	(4)

Two special methods courses EDT 447 and EDT 431 are included in the professional education sequence.

English (40 cr, hrs.)

SPE 201	(5)	ENG 475	(5)		
Two of the following:					
ENG 300	(5)	ENG 311	(5)	ENG 314	(5)
ENG 301	(5)	ENG 312	(5)	ENG 315	(5)
ENG 310	(5)	ENG 313	(5)	ENG 316	(5)
One of the following:					
ENG 302	(5)	ENG 331	(5)	ENG 332	(5)
ENG 330	(5)				

One of the following:

ENG 307	(5)	ENG 437	(5)	ENG 442	(5)
ENG 317	(5)	ENG 438	(5)	ENG 446	(5)

Two additional ENG courses in literature or one ENG course and SPE 321.

■ MATHEMATICS (MAE)

The typical program for prospective mathematics teachers consists of a minimum of 47 credit hours in mathematics above the 200 level. The specialization requirements are:

MTH 302	(5)	MTH 305	(4)	MTH 423	(3)
MTH 303	(4)	MTH 309	(3)	MTH 424	(3)
MTH 304	(4)	MTH 323	(4)		

Upper level mathematics electives (MTH 345 and 420 are strongly recommended) (17)

The student has the option of completing a Natural Science major with a concentration in mathematics. This requires a minimum of 36 credit hours in mathematics and a minimum of 24 credit hours in the College of Natural Sciences outside of mathematics. These latter 24 hours must be approved by the student's adviser and must include a minimum of three courses at the 300 level or above.

■ SCIENCE

Botany (BOE), Chemistry (CHE), Physics (PHE), Zoology (ZOE):

A student planning to teach science at the secondary level should complete the departmental major in the corresponding science area (in Botany, Chemistry, Physics, or Zoology). Requirements for these programs are listed in the catalog under the science departments of the College of Natural Sciences. EDN 427 is recommended for biology teachers, EDN 425 is recommended for physical science (chemistry and physics) teachers.

Science Education (SCE):

An alternate program is available in which the prospective teacher must meet the minimum requirements of the interdisciplinary major in the Natural Sciences. This requires a minimum of 36 credit hours in the discipline of major concentration and a minimum of 24 credit hours within the Natural Sciences and outside the concentration area. These latter 24-32 hours must be approved by the student's adviser and include at least three 300 level courses. (Total program, 68 credit hours minimum). Concentrations are available in biology, physics, and chemistry. A typical program for a biology concentration includes:

Minimum credit within concentration (36-44 credit hours)

BIO 201	(4)	BIO 203	(4)	BIO 331	(4)
BIO 202	(4)				

Additional selections from:

BIO 401	(5)	BIO 445	(4)	ZOO 311	(6)
or		BOT 311	(5)	ZOO 313	(5)
BIO 510	(4)	MIC 351	(4)		

Minimum credits outside of concentration (24-32 hours)

Courses outside biology would normally include:

CHM 211	(3)	CHM 217	(1)	CHM 331	(3)
CHM 212	(3)	CHM 218	(1)	CHM 332	(2)
CHM 213	(3)	CHM 219	(1)	CHM 333	(3)

Electives (0-8)

Additional courses selected from Chemistry, Mathematics, Physics, and Geology are recommended.

The student with either a departmental or interdisciplinary major must earn a grade of C or higher in all courses required in the program, both in the major concentration and in supporting courses of the major.

■ SOCIAL SCIENCE (SSE)

The College of Education provides a program of study which enables students to attain a degree in secondary social science education (7-12). To teach at the secondary level the minimum requirements of a social science education major must be met. All programs in the social science education major specify 64 credits or more in the social sciences. A teaching emphasis requires a minimum of 24 credits in one discipline within an approved specialization which will lead to certification in the broad area of social sciences. However, a student may concentrate his study in one of the separate subject areas (political science, history, geography, American history). Each program contains both required and elective courses which each student in consultation with his adviser will select.

■ SPEECH COMMUNICATION—ENGLISH EDUCATION (SEE)

Specialization Requirements (70 cr. hrs.)

SPE 201	(5)	SPE 361	(5)	SPE 491	(5)
SPE 203	(5)	or			
SPE 321	(5)	SPE 365	(5)		

Two 5-hour upper division Speech Com. Electives (10)

ENG 475	(5)	TAR 303	(5)

Two of the following: (10)

ENG 300	ENG 311	ENG 314
ENG 301	ENG 312	ENG 315
ENG 310	ENG 313	ENG 316

One of the following: (5)

ENG 302	ENG 331	ENG 332
ENG 330		

One of the following: (5)

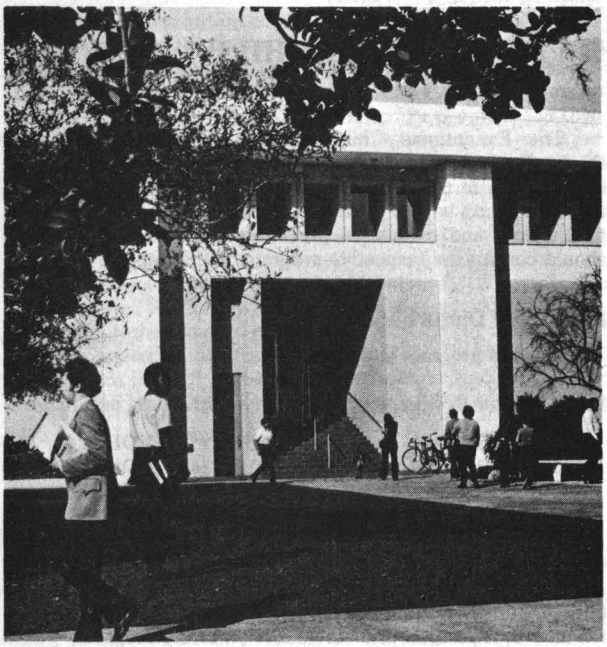
ENG 307	ENG 437	ENG 446
ENG 308	ENG 438	
ENG 317	ENG 442	

One of the following: (5)

ENG 350	ENG 351

The following special methods courses are included in the professional education sequence: EDT 447, EDT 423, EDT 424 (2) and EDR 407 (2).

Education Building



KINDERGARTEN THROUGH TWELFTH GRADE CERTIFICATION PROGRAMS

Candidates meet teaching requirements for all grade levels from Kindergarten through the senior year of high school.

■ ART EDUCATION (EDA)

At the time of application to upper level, each Art Education student must submit slides or portfolio to the head of the department. To assist transfer students in selection of courses, they must submit work prior to or during registration.

After completing studio requirements for state certification each student may elect to emphasize painting, sculpture, graphics, ceramics, or photography/cinematography for the remaining studio electives.

The following courses constitute a program of study:

Art Education (25 Credit hours)

EDA 308	(4)	EDA 408	(2)	EDA 412	(5)
EDA 310	(5)	EDA 410	(5)	EDA 450	(4)

In these courses students will have the opportunity to work at the elementary school and high school levels.

Specialization (52 cr. hrs.)

ART 201	(4)	ART 202	(4)	ART 301	(2)

28 cr. hrs. from the following courses as approved by the adviser:

ART 304	ART 421	ART 521
ART 311	ART 431	ART 531
ART 321	ART 441	ART 541
ART 331	ART 442	ART 542
ART 340	ART 443	ART 543
ART 361	ART 461	ART 561
ART 365	ART 465	ART 565
ART 401	ART 501	ART 591
ART 411	ART 511	

Plus the following:

ART 476	(4)
ART (Art History Elective)	(4)
Six hours from any MUS, DAN, TAR	(6)

■ EXCEPTIONAL CHILD EDUCATION

The Exceptional Child Education Baccalaureate Level Degree Program offers students three tracks leading to Rank III Certification in that specific area of emphasis. Enrollments in the three tracks will be limited with admission based upon selective testing and evaluative procedures. Prospective students should contact the respective program coordinators.

Emotional Disturbance (EMD)

The planned program includes:

Specialization Requirements (65-67 cr. hrs.)

CLY 201	(3)	EDE 419	(5)	EDE 424	(3)
EDE 409	(5)	EDE 421	(4)	EDS 411	(4)
EDE 413	(4)	EDE 423	(2)	EDS 431	(4)
EDE 415	(5)	EDE 425	(4)	EDS 432	(5)
EDE 417	(5)	EDS 311	(4)	EDS 439	(1-10)

Beginning Quarter I, 1977, all students majoring in the Emotional Disturbance Education Program must pass an English Proficiency Examination prior to admission to the program.

Mental Retardation (MRD)

The planned program includes:

Specialization Requirements (72 cr. hrs.)

CLY 201	(3)	EDF 379	(5)	EDS 424	(4)
EDE 409	(5)	EDS 311	(4)	EDS 425	(4)
EDE 413	(4)	EDS 322	(4)	EDS 431	(4)
EDE 415	(5)	EDS 329	(6)	EDS 481	(4)
EDE 425	(4)	EDS 411	(4)		
EDE 445	(4)	EDS 423	(4)		

Elective: four credit hours agreed upon jointly by student and adviser. Internship may be taken only after all other requirements have been satisfied.

Specific Learning Disabilities (SLD)

The planned program includes:

Specialization Requirements (68 cr. hrs.)

CLY 201	(3)	EDE 445	(4)	EDS 411	(4)
EDE 409	(5)	EDF 379	(5)	EDS 431	(4)
EDE 413	(4)	EDS 311	(4)	EDS 481	(4)
EDE 415	(5)	EDS 322	(4)	EDS 482	(4)
EDE 425	(4)	EDS 350	(4)		
EDE 435	(4)	EDS 489	(6)		

■ MUSIC EDUCATION (EDM)

All students seeking a degree in music education are required to take a placement examination in music theory-history and to pass an audition in their respective performance area. Students must obtain the dates for these examinations from the Music Office; completion of the examinations is required before registration in music courses can be permitted.

Special requirements for all music education majors: successful completion of the piano proficiency requirement as defined by the music and music education faculties; participation in a performing ensemble each quarter the student is enrolled in applied music; and the presentation of a one-half hour recital in the major performing medium during the senior year.

Students are encouraged to attend on-campus musical events (i.e., student recitals, Music Forum events, faculty recitals, and Artist Series concerts).

A. Instrumental Specialization (18 cr. hrs.)

Music Education courses (24 hrs.)

EDM 215	(2)	EDM 415	(4)	EDM 418	(4)
EDM 370	(3)	EDM 416	(4)		
EDM 390	(3)	EDM 417	(4)		

Music courses (96 cr. hrs.)

MUS 201, 202, 203	(9)
MUS 221, 222, 223, 231, 232, 233	(12)
MUS 301, 302, 303	(9)
MUS 321, 322, 323	(6)
MUS 326	(2)
MUS 401, 402, 403	(9)
MUS 207	(8)
MUS 204, 304, 404, 454*	(33)
ART, DAN, TAR (to be selected from any 2 prefixes)	(8)
Performing Ensemble (minimum of one per quarter with applied music)	
Piano proficiency requirement	
Graduating recital	

** MUS 454 minimum of 6 hrs.*

B. Vocal Specialization (107 cr. hrs.)

Music Education courses (21 cr. hrs.)

EDM 215	(2)	EDM 415	(4)	EDM 417	(4)
EDM 380	(3)	EDM 416	(4)	EDM 419	(4)

Music Courses (88 cr. hrs.)

MUS 201, 202, 203	(9)
MUS 221, 222, 223, 231, 232, 233	(12)
MUS 301, 302, 303	(9)
MUS 321, 322, 323	(6)
MUS 326	(2)
MUS 401, 402, 403	(9)
MUS 204, 304, 404, 454*	(33)
ART, DAN, TAR (to be selected from any 2 prefixes)	(8)
Performing ensemble (minimum of one per quarter of applied music)	
Piano proficiency requirement	
Graduating recital	

**MUS 454 minimum of 6 hrs.*

■ PHYSICAL EDUCATION (EDP)

A two-year program is offered at the junior and senior year level which provides a daily internship experience in the local schools for prospective physical education teachers. In order to be considered for program admission, all students must participate in a selective admissions procedure which includes an on-campus conference, as enrollment in this program is limited. During each of the three quarters of the junior year, students should be prepared to spend a minimum of two hours per day in an elementary school physical education situation in addition to their on-campus study. In the senior year students participate in both part day and whole day teaching experiences at the secondary level. Those requirements (see admission to internship experience) which are necessary for admission to supervised teaching experience must be met before a student will be allowed to register in "Seminar and Internship in Physical Education."

After applying for admission to the University, all students must apply directly to the department on or before April 1. No student will be admitted to the program unless application has been made prior to this date. Direct requests to:

Coordinator
Professional Physical Education Program
College of Education

The following are the required courses in the physical education program of study (71 cr. hrs.):

EDP 255	(3)	EDP 322	(4)	EDP 411	(5)
EDP 311	(5)	EDP 323	(3)	EDP 412	(4)
EDP 312	(4)	EDP 331	(5)	EDP 421	(5)
EDP 313	(3)	EDP 332	(4)	EDP 422	(4)
EDP 314	(2)	EDP 333	(3)	EDP 431	(5)
EDP 321	(5)	EDP 365	(3)	EDP 432	(4)

VOCATIONAL AND ADULT EDUCATION CERTIFICATION PROGRAMS

Candidates planning to teach in county-wide adult and secondary education programs, junior college associate of arts and area vocational schools, continuing education centers, model cities programs, and other vocational, adult and technical schools may pursue one or more of the following specializations.

■ BUSINESS AND OFFICE EDUCATION (VBU)

Prior to being admitted to upper level all students must demonstrate proficiency in English skills to include grammar, composition, and verbal communication. These proficiencies are demonstrated by successfully passing an examination during the quarter a student makes application to upper level.

Prior to enrolling in the two business methods courses, which are a part of the pre-internship block, a student must demonstrate proficiencies in the office skills to include typewriting, shorthand, and office machines. Office skill competency examinations are administered prior to preregistration for Quarters I and II. Only students who have demonstrated successful performance in the office skills will be eligible to register for the pre-internship block which includes EDV 443, EDV 445, and EDC 401.

Specialization Requirements (73 cr. hrs.)

ACC 201	(3)	GBA 361	(5)	GBA 371	(4)
ACC 202	(3)				

Three hours of advanced typing (3), three hours of advanced shorthand (3).

EDV 353	(5)	EDV 407	(4)	EDV 461	(5)
EDV 361	(5)	EDV 431*	(1-8)		

Two of the following:

ECN 100	(5)	ECN 201	(4)	ECN 202	(4)

Electives in Education and/or Business Administration courses to bring total to 73.

Recommendations include:

FIN 201	(5)	MAN 301	(5)	MKT 301	(5)
GBA 333	(3)				

**Required only if student lacks sufficient office work experience.*

■ DISTRIBUTIVE EDUCATION (VDE)

Specialization (62 cr. hrs.)

Distributive (22 cr. hrs.)

EDV 406	(4)	EDV 431	(1-8)	EDV 445	(4)
EDV 407	(4)	EDV 443	(5)		

Business (21 cr. hrs.)

ACC 201	(3)	MKT 301	(5)	MKT 312	(3)
ECN 100	(5)	MKT 311	(3)	MKT 402	(4)
or					
ECN 201	(4)				

Electives, as approved by adviser, in Education and/or Business Administration courses to bring total to 62 hours.

Distributive Education undergraduates are required to accumulate a total of eight hours of credit in EDV 431—Supervised Field Experience. Students will enroll for a minimum of two quarter hours the first quarter they enter the program and for at least one quarter hour each subsequent quarter they are in attendance as a Distributive Education major, not to exceed a total of eight hours. Students may not enroll in more than four credit hours of field experience in any one quarter. The eight credit hours of field experience will be used for individual and group assignments and projects to round out and broaden the vocational background of the student to properly fulfill certification requirements. Students will also be able to receive credit for participation in the required professional activities of the USF Collegiate Chapter of the Distributive Education Clubs of America, which is an integral part of the Distributive Education teacher preparation curriculum.

■ INDUSTRIAL-TECHNICAL EDUCATION (VIT)

Enrollment in the Industrial-Technical Education program is restricted to persons with employment experiences qualifying them to teach Industrial, Technical, or Health Occupations.

Special provision is made for students to satisfy four (4) of the six (6) years of work experience by completing an Associate of Science degree program in a Technological specialty from one of the State Community Colleges.

Acceptability of work experience will be determined by the State Department of Education, Division of Certification, Tallahassee, Florida.

Students may validate up to 45 quarter hours of credit through the Occupational Competency Testing Program.

In addition to the professional core requirements, students must complete 29 quarter hours in Adult & Vocational Education selected from the following courses:

EDV 207	(4)	EDV 480	(4)	EDV 406	(4)
EDV 431	(8)	EDV 503	(4)	EDV 407	(4)
EDV 443	(5)	EDV 504	(4)	EDV 511	(4)
EDV 445	(4)	EDV 505	(4)	EDG 503	(4)

In addition, students must meet the General Distribution Requirements of 60 credit hours and SPE 201.

Acceptability of work experiences will be determined by the Adult and Vocational staff at the University of South Florida.

MASTER'S LEVEL DEGREE PROGRAMS

Admission

Candidates for admission to graduate study must present satisfactory evidence of:

1. Undergraduate grade point average of 3.0 (B) minimum on the last half of the baccalaureate degree; or GRE aptitude score—1000 minimum.
2. Any additional requirements specified by the program.
3. Receive favorable recommendation from program chairperson.

Filing of Program

During the first term of graduate study the candidate for the master's degree must file a planned program of studies. This report of Graduate Advisory Conference is to be completed in consultation with the adviser. The completed report should be filed with the Coordinator of Graduate Studies in the College of Education.

Quality of Work

Candidates for the master's degree must maintain a 3.0 GPA. If at any time the student's GPA falls below the minimum, the student will be placed on probation. During the probationary status the student's academic progress will be reviewed to determine: 1) removal from probation. 2) continuation on probation, 3) drop from graduate program.

Residency

The candidate for the master's degree will be required to meet the residency requirement established by each program area. Consult the appropriate program area for details.

Comprehensive Examination

During the last term of enrollment, prior to completion of degree requirements, the candidate must perform satisfactorily on a comprehensive examination.

Process Core Examination

Graduate students with sufficient undergraduate background may take the Process Core Examinations after consultation with their advisers. Successful performance on the examination enables a student to waive the course requirement, but he must take elective courses in lieu of the hours required. The Process Core Examinations are in the Foundations of Measurement, Psychological Foundations and Social Foundations of Education. Graduate students on a Plan II Master's Program (see below) are not eligible to take the Process Core Examinations unless they have had a comparable course at the undergraduate level.

Master of Arts Programs

Qualified persons may pursue graduate study in the following majors:

Art Education	(EDA)
Elementary Education	(EDE)
English Education	(ENE)
Exceptional Child Education tracks in:	
Emotional Disturbance	(EMD)
Gifted	(GIF)
Mental Retardation	(MRD)
Specific Learning Disabilities	(SLD)
Foreign Language*	(FOE)
Guidance	(EDG)
Humanities Education	(HUE)
Library-Audiovisual Education	(EDL)
Mathematics Education	(MAE)
Music Education	(EDM)
Physical Education	(EDP)
Reading Education	(EDR)
School Psychology	(PSE)
Science Education†	(SCE)
Social Science Education	(SSE)
Speech Communication Education	(SPH)
Vocational Education with tracks in:	
Adult Education	(VAD)
Distributive Education	(VDE)
Business and Office Education	(VBU)
Industrial-Technical Education	(VIT)
Junior Collge Teaching:	
Astronomy	(AST90)
Biology	(BIO90)
Business	(BUS90)
Chemistry	(CHM90)
Economics	(ECN90)
Engineering‡	(EGP90)
English	(ENG90)
French	(FRE90)
Geography	(GPY90)
Geology	(GLY90)
History	(HTY90)
Mathematics	(MTH90)
Physics	(PHY90)
Political Science	(POL90)
Psychology	(PSY90)
Sociology	(SOC90)
Spanish	(SPA90)
Speech Communication	(SPE90)

French, German, or Spanish.
†With concentrations in Biology, Chemistry, or Physics.
‡Engineering bachelor's degree required.

Master of Education Programs

Qualified persons may pursue graduate study in the following majors:

Administration and Supervision	(ESA)
Curriculum and Instruction	(CUR)

Program Plans of Study

Plan I

Plan I is a program of graduate studies designed for those with appropriate certification who desire to increase their competence in a subject specialization or receive professional preparation in one of the service areas of education.

A. Process Core (4-16 hours)
Students will take a minimum of one Process Core (Foundations) course. Substitution for the remaining courses may occur upon the advice of the Degree Program and concurrence of the College Program Policy Committee, Process Core:

a. EDF 605 Foundations of Measurement
b. EDF 607 Foundations of Educational Research
c. EDF 611 Psychological Foundations of Education
or
EDF 613 Principles of Learning
d. EDF 621 Socio-Economic Foundations of American Education
or
EDF 623 Historical Foundations of American Education
or
EDF 625 Philosophical Foundations of American Education

B. Current Trends Course in Teaching Specialization (4 hours)

C. Specialization (27 hours minimum)
The areas of specialization beginning below are suggested programs of study. Individual programs will vary with background, experience, and specific interest.

Plan II

Plan II is a program of graduate studies designed for the holder of a non-education baccalaureate degree who desires to meet initial certification requirements as part of a planned program leading to the Master of Arts degree. (This program is not available in the area of elementary education.)

A. Process Core (21 hours)
EDC 501, Curriculum and Instruction: Secondary;
EDF 605, Foundations of Measurement;
EDF 607, Foundations of Educational Research;
EDF 611, Psychological Foundations of Education; and
EDF 621, Socio-Economic Foundations of American Education; or
EDF 623, Historical Foundations of American Education; or
EDF 625, Philosophical Foundations of American Education.

B. Current Trends Course in Teaching Specialization (4 hours)

C. Specialization (27 hours minimum)
This is an individually planned graduate major in the teaching field or in an appropriate College of Education program for K-12 specialists.

D. Internship (9 hours)
Enrollment will be in EDC 691 which involves planned observation and supervision by a member of the University faculty and a secondary school staff member. In-service teachers are required to complete this assignment over two quarters. Students should have completed the professional requirement *and* 2/3 of the requirements in the area of specialization at the graduate level or an equivalency (using hours taken in the field of specialization taken at the undergraduate level to complete the 2/3 requirement).

Plan III

Plan III is a program of graduate studies for holders of a non-education baccalaureate degree who do not wish to meet teacher certification requirements in the State of Florida. The primary difference in this plan from Plan II is that students will not be required to take EDC 501, Curriculum & Instruction and EDC 691, Internship.

A. Process Core (16 hours)
EDF 605, Foundations of Measurement;
EDF 607, Foundations of Educational Research;
EDF 611, Psychological Foundations of Education; and
EDF 621, Socio-Economic Foundations of American Education; or
EDF 623, Historical Foundations of American Education; or
EDF 625, Philosophical Foundations of American Education.

B. Current Trends Course in Teaching Specialization (4 hours)

C. Specialization (27 hours minimum)
This is an individually planned graduate major in the teaching field or in an appropriate College of Education program for K-12 specialists.

ELEMENTARY EDUCATION PROGRAMS

■ ELEMENTARY EDUCATION (EDE)

This program requires full certification as an elementary teacher for admission. Students pursuing the master's degree in elementary education are required to present credit in the following courses: EDE 603, 609, and 613. A minimum of 48 hours is required. The student will choose from one of the following areas of emphasis:

a. **Elementary Curriculum Emphasis:** At least three courses must be selected from EDE 611, 615, 617, 619, and 621. Additional work is available through consent of the adviser as part of a planned program.
b. **Reading Emphasis:** Three courses from EDE 611, EDR 630, EDR 631, EDR 632, and EDE 631 or EDL 605 are required.

c. **Supervision Emphasis:** EDC 661, 671, and EDE 641 are required.
d. **Early Childhood Emphasis:** Prerequisites are EDE 429, 435, or equivalent certification. Courses in the program include EDE 519, 527, 539, 629, and 639.
e. **Elementary School Mathematics Emphasis:** Individually planned emphasis to include four courses from the following: EDE 615, 645, 646; EDN 515, 616, 621, 622. Additional work in related areas may be planned with the adviser.
f. **Social Studies Emphasis:** EDE 619 and any four courses from: EDW 547, 549, 553, 645, 655, 659.

SECONDARY EDUCATION PROGRAMS

■ ENGLISH EDUCATION (ENE)

Plan I—*Requirements for admission:* A bachelor's degree in English Education from a recognized institution, or Rank II certification in Secondary English from the State of Florida or other equivalent certification.

Course Sequence: Process Core (4-16 hours), English Education (4-16 hours), English courses (6 courses selected under advisement as preparation for terminal examination over a reading list including selected works from most periods of English and American literature; students may select one course each in linguistics and advanced composition for teachers), Education Electives (selected under advisement to bring the program to a total of 48 hours).

Plan II—*Requirements for admission:* A bachelor's degree in English from a recognized Liberal Arts Institution of higher learning.

Course Sequence: Process Core (16 hours), Curriculum (5 hours), English Education (4 hours), English courses (28 hours selected as for Plan I, above), Internship (9 hours).

■ FOREIGN LANGUAGE EDUCATION (FRENCH, GERMAN, SPANISH) (FOE)

Candidates for the M.A. degree in foreign language education must present satisfactory evidence of:

1. Undergraduate grade point average of 3.0 or better on the last half of the B.A., or
   GRE aptitude score of 1000.
2. Baccalaureate degree in chosen foreign language, or in foreign language education from an accredited institution of higher learning, or equivalent.
3. Favorable recommendation from program chairperson.

Each candidate will be assigned his major adviser in the College of Education and, to facilitate selection of appropriate foreign language courses, a co-adviser in the Foreign Language department of the College of Arts and Letters. Since identical lists of foreign language courses are not prescribed for each candidate, and since each candidate's program is designed to meet the individual's needs, the specific foreign language courses are selected in consultation with the advisers. Candidates should meet with both advisers before registering for each quarter.

The M.A. in Foreign Language Education requires 20 to 25 quarter hours in Education courses: EDF 605 and 607, EDF 611 or 613, EDF 621 or 623 or 625 and EDX 649. In addition, Plan II requires an internship in the Foreign Language. A minimum of 27 quarter hours are required in the Foreign Language courses on the 500 and 600 levels. However, depending upon the candidate's background and strengths, Foreign Language course requirements can go as high as 36 quarter hours. Unless otherwise approved by adviser, at least 21 hours in French should be on the 600 level; in Spanish at least 18 hours should be on the 600 level.

■ HUMANITIES EDUCATION (HUE)

In order to fulfill the degree requirements, a graduate student must take a minimum of twenty-seven (27) credit hours in Humanities and five required courses in Education. A student should have the following minimum credit structure:

1. EDF 605 and 607, EDF 611 or 613, EDF 621 or 623 or 625, and EDY 433.
2. At least four courses on the HUM 600 level — 16 credit hours
3. HUM 681, Directed Research — 3 credit hours
4. The remaining eight credit hours may be chosen from appropriate courses on either the 500 or 600 level. In exceptional cases, the student may substitute up to four hours in a non-Humanities graduate area: — 8 credit hours

HUM 535	HUM 541	HUM 603	HUM 681
HUM 536	HUM 542	HUM 605	HUM 683
HUM 537	HUM 543	HUM 607	
HUM 539	HUM 545	HUM 609	
HUM 540	HUM 601	HUM 611	

■ MATHEMATICS EDUCATION (MAE)

This program requires a minimum of 51 quarter hours. MTH 405, 406, 407 and any MTH courses from the 500 and 600 levels may be included in the planned program.

Education courses include EDF 605 and 607; 611 or 613; 621 or 623 or 625, and EDN 637.

■ SCIENCE EDUCATION (SCE)

Concentrations in Biology, Chemistry, or Physics are available in a cooperative program with the College of Natural Sciences. In each instance, before admission to the degree program, the student must satisfy the Biology, Physics, or Chemistry adviser that he has the competence to undertake the program. Education courses include: EDF 605 and 607, EDF 611 or 613, EDF 621 or 623 or 625, and EDN 639. Specialization shall consist of at least 27 credit hours, approved by the adviser in the discipline. Satisfactory completion of the program must be certified by both the College of Natural Sciences and the College of Education.

■ SOCIAL SCIENCE EDUCATION (SSE)

Advanced training for the purpose of becoming better teachers in grades 7-12. Plan I is for certified teachers, and Plan II for those with a social science baccalaureate degree but not certified to teach.

Plan I—For teachers who are certified to teach general secondary social studies or one of the separate subject areas.

Education courses include: EDF 605, EDW 643, and 9-12 hours of electives.

Each student in consultation with his adviser will select at least seven courses at the 500 or 600 level from courses offered in the College of Social and Behavioral Sciences. Three or more of these courses must be at the 600 level.

Plan II—Students will complete all of the Plan I requirements, take EDW 461, EDC 501, and EDC 691, plus any other social science courses which the Social Science Education de-

partment deems necessary for fulfilling minimum state certification requirements.

■ SPEECH COMMUNICATION EDUCATION (SPH)

Admission requires a bachelor's degree from a recognized institution; and approval by the Speech Communication Education faculty.

Course Requirements range from 60 to 61 hours and include: 10 hours in speech communication education; 35 hours in speech communication divided as follows: 3 courses in rhetoric and communication, 2 courses in oral interpretation, 1 course in speech science, and the introductory graduate seminar in speech communication; EDF 605, Foundations of Measurement, plus 1 additional Foundations course; and 2 electives in Education (11-12 hours) approved by the adviser.

Each candidate for the M.A. degree in Speech Communication Education must complete a written and oral comprehensive examination successfully.

KINDERGARTEN THROUGH TWELFTH GRADE PROGRAMS

■ ART EDUCATION (EDA)

In consultation with a graduate adviser, a student may develop a program in art education with a specialization in one of three areas:

a. Studio/new media
b. Art Administration, Supervision & Curriculum Innovation
c. Research Methods for Art Education

A portfolio or slides of recent creative work must be submitted prior to admission into the program. The departmental requirements for all degree-seeking candidates are:

Art Education (12 credits: EDA 660, 661, 682)
Art Studio (12 credits minimum)
Art History (3 credits minimum)

The remainder of the credit hours, totaling a minimum of 54, may relate to one of the three areas of specialization. An innovative master's paper or project developed under the guidance of a faculty committee is required before graduation.

■ EXCEPTIONAL CHILD EDUCATION

The Exceptional Child Education offers four tracks at the Master's Degree Program Level. Students must select their area of emphasis.

Emotional Disturbance (EMD)

The purpose of this program is to train educators for emotionally disturbed children. An individualized program is available under both Plan I, for certified and experienced teachers, and Plan II, for those with a non-education baccalaureate degree.

Plan I—Through a Plan I program, a certified, experienced teacher may satisfy the requirements for graduation within four quarters. Of the minimum 49 hours, at least 32 hours are allocated to the area of specialization. The following or equivalents are required:

EDS 610	EDS 631	EDS 633	EDS 639
EDS 611	EDS 632	EDS 634	

Additional courses, including electives, are planned jointly by the student and his adviser. Students who have not completed an undergraduate Elementary or Exceptional Child Education degree or the following courses *must* take:

EDE 409 EDE 415 EDR 430

Plan II—The student with a non-education baccalaureate degree may meet initial certification through a Plan II program. The individually designed course of study will include the minimum 32 hours of specialization (as outlined above) plus:

EDE 409 EDR 430 EDC 501 EDC 691
EDE 415

and any other courses necessary to meet certification requirements.

Gifted (GIF)

The Gifted Child Teacher Training program provides advanced training for experienced teachers to work with gifted and talented children and to work with other teachers on a consultant or teacher-leader basis. An inexperienced teacher-training program is also provided which is designed to prepare non-certified, liberal arts majors to work with classrooms of gifted children.

Emphasis is on the development of subject matter specialization and specific skills to:

1. identify the gifted,
2. make an individual diagnosis of cognitive and affective strengths and weaknesses, and
3. modify the educational program to develop the gifted child's potential.

Plan I—Through a Plan I type of program an experienced, certified teacher can anticipate preparing for teacher-consultant roles in the area of the gifted in four quarters.

A minimum of 28 credit hours in the area of specialization is required. Included among the courses required are courses such as:

EDC 552	EDS 551	EDS 611	EDS 653
EDS 550	EDS 559	EDS 643	EDS 654

Education courses to include EDF 605 and 607, EDF 611 or 613, and EDF 621 or 623 or 625.

An individually tailored liberal arts sequence of 14 quarter hours is also provided in the gifted teacher training program.

Plan II—An individual with a non-education undergraduate major may prepare as a teacher-consultant of the gifted through Plan II.

The student will be expected to take a minimum of 28 quarter hours in the area of specialization. In consultation with his adviser, he will choose from the following:

EDC 552	EDS 551	EDS 611	EDS 653
EDS 550	EDS 559	EDS 643	EDS 654

An individual may meet certification by taking the process core courses, EDC 501, an appropriate methods of teaching course, and completion of an internship in a liberal arts area.

Mental Retardation (MRD)

The course of study is designed to prepare the student to become a more effective teacher or supervisor of teachers for the retarded.

It is highly recommended by the Mental Retardation Program that any student who is about to apply for Graduate work in the area of Mental Retardation contact that office for advising purposes before any courses are taken or application made for admission.

Plan I—Through a Plan I program, a certified teacher may satisfy the requirements for graduation within four quarters.

Education courses to include EDF 605 and 607, EDF 611 or 613, and EDF 621 or 623 or 625.

At least 28 hours are allocated to the area of specialization with an emphasis on Mental Retardation.

Basic Course Requirement: EDS 610, or the equivalent.

Courses required:

CLY 683	EDL 613	EDS 611	EDS 622
EDF 635	or	EDS 620	EDS 623
	EDE 631	EDS 621	

Two electives, chosen from the following (8):

EDC 699	(8)	EDS 561	(4)	EDS 680	(4)
EDS 511	(4)	EDS 612	(4)		
EDS 631	(4)	EDS 613	(4)		

Plan II—Process Core Requirements (21-22 hours)

At least 40 hours are allocated to the area of specialization with an emphasis on Mental Retardation.

Prerequisites:

EDE 409	EDV 207	EDS 423	EDS 424
EDE 415	or	or	
	EDP 640	EDS 425	
	EDS 322		

Basic Course Requirements:

EDE 631	EDS 610		
or	or		
EDL 613	equivalent		

Courses required:

CLY 683	EDS 529	EDS 620	EDS 622
EDC 691	EDS 611	EDS 621	EDS 623
EDF 635			

Specific Learning Disabilities (SLD)

The course of study is designed to prepare the student to become a more effective learning disabilities specialist.

Plan I—Process Core Requirements (21-22 hours)

At least 40 hours are allocated to the area of specialization with an emphasis on Specific Learning Disabilities.

Basic Course Requirement: EDS 610, or equivalent.

Courses required:

CLY 683	EDF 635	EDS 611
or EDE 631	EDR 631	EDS 623
or EDL 613	EDR 632	EDS 680
or EDL 625	EDS 631	EDS 682
EDE 646	or EDS 651	

Plan II—Process Core Requirements (16-17 hours)

At least 48 hours are allocated to the area of specialization with an emphasis on Specific Learning Disabilities.

Prerequisites: EDE 409. EDE 415, EDS 411

Basic Course Requirements:

EDE 631	EDE 645	EDS 610
or EDL 613		
or EDL 625		

Courses required:

CLY 683	EDR 631	EDS 611
EDC 691	EDR 632	EDS 623
EDE 646	EDS 631	EDS 680
EDF 635	or EDS 561	EDS 682

One Elective, chosen from the following:

EDE 417	EDE 421	EDE 425
EDE 419	**EDE 424**	

■ GUIDANCE (EDG)

In addition to meeting the University and College requirements, applicants to the Guidance program must present three (3) letters of recommendation, a personal statement of professional goals, and have personal interviews with at least two (2) members of the Guidance faculty. Applications for admission are processed once each quarter. The deadline for all requirements to be met is usually four weeks before the quarter ends. Applications are processed in the quarter preceding the one in which the applicant expects to begin the program. The applicant should contact the Guidance program to ascertain the deadline dates for specific quarters and to obtain instructions regarding the transmission of letters of recommendation and the arrangements for the personal interviews.

Plan I

A. Process Core Requirements: (minimum of 16 hours)
   1. EDF 605 or EDQ 702
   2. One of the following: EDF 502, 612, 613, 615, 635
   3. EDF 631
   4. One additional Foundations course

B. Specialization Requirements:

Elementary School Guidance Emphasis (38 hours)

EDG 601	EDG 621
EDG 603	EDG 625
EDG 609	EDG 633 (2 credits)
EDG 613	Five hours elective credits
EDG 617	

Secondary and Adult Guidance Emphasis (38 hours)

EDG 601	EDG 623
EDG 603	EDG 627
EDG 609	EDG 633 (2 credits)
EDG 619	Eight hours elective credits

Plan II

A. Process Core Requirements: (minimum of 16 hours)
   1. EDF 605 or EDQ 702
   2. One of the following: EDF 502, 612, 613, 615, 635
   3. EDF 631
   4. One of the following: EDF 621, 623, 625

B. Specialization Requirements:
   (Same as Plan I)

C. Additional Requirements: (14 hours)
   EDC 501 and EDC 691

The Guidance program has no full-time residency requirement. Students who are employed on a full-time basis are limited to 8 hours per quarter. Exceptions are made only with permission of the Guidance Program Committee.

■ LIBRARY-AUDIOVISUAL (MEDIA) EDUCATION (EDL)

See EDUCATION FOR LIBRARIANSHIP, page 80.

■ MUSIC EDUCATION (EDM)

Plans in both instrumental and vocal music are offered. A placement examination is required of all new registrants in musical styles. Each candidate must meet the undergraduate level of piano proficiency before the quarter in which he expects to graduate. Participation in ensembles is required for at least three quarters. Three plans are available to the candidate: 48 hours plus thesis, 51 hours plus recital, or 54 hours without thesis or recital.

Vocal Majors: *11 credits* in music education, including EDM 601, 614, and 635; *12 credits* in music theory-literature, and at least 4 credits in applied music.

Instrumental Majors: *14 credits* in music education, including EDM 601, 603, 617, and 633; *17 credits* in music theory-literature, including MUS 618; and at least 4 credits in applied music.

■ PHYSICAL EDUCATION (EDP)

Areas within the program in which a student may focus study are Elementary Physical Education, Secondary Physical Education, or Physical Education for the Handicapped.

Enrollment in EDP 600, Professional Assessment, is required of all students. Preferably this course will be completed during the first quarter of study in the program and not later than the completion of eight quarter hours of credit in the physical education curriculum area.

■ READING EDUCATION (EDR)

The Master's degree in Reading Education is designed to prepare special reading teachers, reading clinicians, and supervisors-directors-coordinators of reading for school systems.

In addition to meeting the University and college requirements, applicants to the Reading program must present three (3) letters of recommendation, and a personal statement of professional background, experience and goals. Applications for admission are processed once each quarter. The deadline for all requirements to be met and all materials to be in the Reading Department office is usually 4-5 weeks before the quarter ends. Applications are processed in the quarter preceding the one in which the applicant expects to begin the program. The applicant should contact the Reading program to ascertain the deadline dates for specific quarters and to obtain instructions regarding the transmission of letters of recommendation and statements of goals.

Education courses include: Plan I-EDF 605 and 607 and one of EDF 611, 613, 621, 623, 625, or EDC 501. Plan II requires all of the process core.

Specialization in Reading Education shall include a minimum of 28 credit hours:

EDE 609	EDR 631	EDR 633	EDR 635
EDR 610	EDR 632	EDR 634	

Students entering the program with an undergraduate major outside elementary education should substitute EDE 409 and EDR 430 for EDE 609.

Electives must be chosen by conference with adviser.

Residency requirements may be met by enrolling for two courses, at least eight credits, during a quarter when the student is not engaged in full-time work assignment.

Selective retention policies require that the student maintain a "B" average and receive no more than two "C's", only one of which can be in the major area.* If this criterion is not met the student will be immediately dropped from the program. The student may be reinstated by petitioning the faculty. Reinstatement will occur when the student retakes one of the courses in which he/she received a "C" and makes an "A" grade in said course.

■ SCHOOL PSYCHOLOGY (PSE)

The School Psychology program is offered jointly with the Department of Psychology in the College of Social and Behavioral Sciences.

Plan I—Course Requirements—except where equivalent courses are transferred into the program, the student must complete the following minimum quarter hours: 8 hrs. in Statistics and Research Design; 26 hrs. in Educational and Psychological Foundations; 9 hrs. in Assessment Techniques; 4 hrs. in Consultation Techniques; 4 hrs. in Field Experience. Specific courses may be obtained from the School Psychology program.

Research Competency—Each student must show competency through the planning, execution and write-up of a piece of research resulting in either a thesis or colloquium paper.

Internship—A full-time internship of two academic quarters is required.

Plan II—Students without educational certification are required to take EDC 501. For the School Psychology program, the internship requirement for Plan II is the same as that for Plan I.

** Major area courses are EDE 409, EDE 609 and all EDR courses.*

■ VOCATIONAL AND ADULT EDUCATION PROGRAMS

Adult Education (VAD)

1. In consultation with the graduate adviser, a program will be planned which will include a minimum of 48 credit hours. The process core requirements consist of 16 credit hours in EDF 605 and 607, EDF 611 or 613, and one of the following, EDF 621, 623 or 625. Specialization requirements of 24 credit hours in Adult Education are designed to provide competencies in organization and administration, supervision, adult learning characteristics, curriculum development, program planning, methods of teaching, and research techniques as each of these relate to adult education programs. Generally, specialization courses will be selected from the following, depending upon the individual's background of experience:

EDV 407	EDV 505	EDV 631	EDV 671
EDV 445	EDV 506	EDV 661	EDV 687
EDV 503			

2. Requirements in a related area may include a concentration of courses in one of the following areas: psychology, sociology, guidance, administration, complementary basic, or a vocational field.

Business and Office Education (VBU)

1. In consultation with the graduate adviser, a program will be planned which will include a minimum of 45 credit hours. Process core requirements include EDF 605 and 607, EDF 611 or 613 and one of the following, EDF 621, 623 or 625.
2. A minimum of 12 credit hours in the specialization area of Business and Office Education. Individualized programs will include courses to be taken from the following:

EDV 407	EDV 506	EDV 631	EDV 687
EDV 503	EDV 621		

   Any deficiencies needed for business teacher certification must be included in the Master's candidate's program.
3. Selected courses from which to choose in Vocational and Adult Education:

EDV 407	EDV 504	EDV 605	EDV 651
EDV 431	EDV 505	EDV 621	EDV 661
EDV 445	EDV 506	EDV 631	EDV 671
EDV 480	EDV 511	EDV 641	EDV 687
EDV 503			

4. Selected courses in one related area such as Guidance, Exceptional Child Education, Business Administration, Junior College, Administration or Supervision (4-12 credit hours).

Distributive Education (VDE)

1. In consultation with the graduate adviser, a program will be planned which will include a minimum of 45 credit hours. Required courses are: EDF 605 and 607, EDF 611 or 613, and one of the following, EDF 621, 623 or 625.
2. Appropriate College of Business Administration courses in marketing, management, economics, finance, and accounting for Distributive Education teacher certification (23 credit hours maximum).

3. Distributive Education (minimum of 16 credit hours)

EDV 407	EDV 504	EDV 511	EDV 651
EDV 431	EDV 505	EDV 621	EDV 661
EDV 445	EDV 506	EDV 641	EDV 671
EDV 503			

4. EDV 687 Seminar in Distributive Education Research.
5. Selected courses in a related area such as Business Administration, Administration, Supervision, Guidance, Exceptional Child Education (4-12 credit hours).

Industrial-Technical Education (VIT)

Plan I—Before being admitted to the degree program, a prospective student must have met the work experience requirements for certification in Industrial, Technical, or Health occupations. In addition to the process core requirements of EDF 605 and 607, EDF 611 or 613, and one of the following EDF 621, 623 or 625, specialization requirements must include EDV 651 and EDV 687. Courses totaling a minimum of 45 credit hours will be a part of the student's program which he will plan with the graduate adviser for industrial education.

Related electives (0-16 credit hours). See areas of specialization listed above.

The **Plan II** program in Vocational and Adult Education is designed primarily for non-certified teachers. The candidate is required to complete additional professional education courses EDC 501 and EDC 691, which are in excess of the normal Process Core requirements. A student will be advised of other courses which he must complete. Master's degree candidates wishing to be certified must meet the state's minimum certification requirements in the area of specialization.

■ JUNIOR COLLEGE TEACHING PROGRAM

Plan II—The Univesity of South Florida has developed a program for junior college teachers which leads to the Master of Arts degree and Florida State Department of Education certification at this level. The College of Education, in close cooperation with the other colleges on campus, has formulated the program.

The Junior College program includes:

Astronomy	Geology
Biology	History
Business	Mathematics
Chemistry	Physics
English	Politcal Science
Engineering*	Sociology
Economics	Spanish
French	Speech
Geography	Communication

**Engineering bachelor's degree required.*

Admission and Advising

Because of the unique character of the Junior College Program which integrally involves two colleges of the University, there are admission and advisory regulations which go beyond those listed in the section dealing with Graduate Study.

Application for admission to the program is made in the Office of Admissions. Action on all applications is the joint responsibility of the two colleges. Admission to the program requires a minimum score of 1000 on the combined verbal and quantitative aptitude tests of the Graduate Record Examination. Duplicate sets of the student's complete record will be on file in both offices, with the College of Education charged with the responsibility of making official recommendations for the granting of the degree to the Vice President for Academic Affairs and to the Registrar.

The Program

Consists of a minimum of 45 credit hours, plus an internship of 1-9 hours if deemed necessary.

1. Specialization (36-45 hours)

Typically, the student's program will include 36-45 credit hours of graduate work in a field of specialization. The specialization sequence to be completed will be worked out in consultation with a designated major field adviser. This "typical" program is based on the assumption that the student has an undergraduate background in his specialization area which is roughly equivalent to the pattern of the appropriate University of South Florida major. Students admitted without such preparation may be required to correct deficiencies. By the same token, the unusually well prepared student may be permitted to take fewer courses in his specialization area, substituting approved electives from other fields of study.

2. Professional Education (9-18 hours)

a. Courses in Higher Education (9 hours)
   EDH 651, The Junior College in American Higher Education (4)
   EDH 653, Seminar in College Teaching (5)
b. EDC 691, Internship (1-9 hours)

Those students who have not met the internship requirement for certification (up to nine hours credit in Junior College internship or two years or more of successful full-time teaching experience) must complete EDC 691, Internship. Typically, the internship will consist of full-time supervised teaching for one quarter or part-time teaching for two quarters. At least one-half of the internship must be in the junior college, the other half being left to the discretion of the student's adviser.

Those students who have met an internship requirement or who have had two years or more of successful full-time teaching experience) prior to admission to the program will not normally be required to take EDC 691, Internship. This does not preclude the possibility of an internship for less than 9 credit hours if the advisers deem it to be desirable.

EDUCATION FOR LIBRARIANSHIP

■ LIBRARY-AUDIOVISUAL (MEDIA) EDUCATION (EDL)

Goals and Objectives

The Library-Audiovisual department prepares students to assume a wide variety of service and leadership roles in academic, public, school, and special libraries, and assists them to develop the professional attitudes necessary for their involvement in the social, intellectual, cultural, economic, and scientific interests of the community where they will work, regardless of the type of library in which they will be employed. The programs of the Library-Audiovisual department are designed to encourage students and graduates to establish high standards of intellectual inquiry through scholarship and research and to provide an intellectual environment in which the student may develop creative self-direction. The faculty of the department attempts to impress upon students the social significance of libraries in a democratic society and the importance of maintaining freedom of expression as guaranteed by the First Amendment to the Constitution of the United States.

The goals are supported by the following departmental objectives:

1. Providing a common core curriculum as well as specific

learning experiences to enable students to meet the needs of groups they will serve in libraries.

2. Preparing students to apply the benefits of technology in the rapidly changing field of librarianship.

3. Establishing conditions and providing opportunities for students to make choices, solve problems, and arrive at appropriate judgments and decisions relating to their future roles as librarians and media specialists.

4. Teaching students to make maximum use of the resources and facilities of libraries in the development of programs to support the goals, interests, and needs of the clientele their libraries will serve.

5. Combining practical with theoretical knowledge through experiences.

6. Working cooperatively with students in organizing and conducting workshops, institutes, and symposia to provide new and/or continuing educational experiences.

7. Provide a system for the continuous evaluation of the total program of education for librarianship by students as well as faculty members and the restructuring of the program's curriculum when changes must be made to meet the needs of libraries.

8. Helping students to understand the concept that education is a continuing process.

9. Promoting professionalism among faculty and students by encouraging participation in the activities of professional organizations.

Admission and Graduation Requirements

Criteria for admission and graduation include those general criteria specified by the College of Education for admission into master's level degree programs. In addition, the Library-Audiovisual department asks for three letters of recommendation to be sent to the director of the department, and an interview with the program chairperson, the program's admission committee, or an individual designated by the chairperson. The department also requests that each applicant submit a typewritten statement expressing personal reason(s) for wanting to pursue graduate study in librarianship. Graduation requirements include the completion of six core courses — EDL 500 [illegible], 603, 606, 608, and 614, plus a planned program of electives developed individually for each student in conjunction with his/her adviser. The minimum length of a program is 55 quarter hours.

Accreditation and Certification

The Library-Audiovisual department master's degree program is fully accredited by the American Library Association. In addition, completion of the required program of studies for the school media librarianship specialization results in Florida certification as an Educational Media Specialist. Students may also plan electives to meet the certification requirements of other states, if they wish to do so.

Additional Information

Even though degree-oriented undergraduate study is not offered by the department, the faculty will counsel those undergraduates interested in exploring the kind of program most appropriate as a basis for graduate study in librarianship at USF. Details concerning the graduate program, including information on the profession, are available from the chairperson, Library-Audiovisual Department, University of South Florida, Tampa, Florida, 33620.

MASTER OF EDUCATION PROGRAMS

■ ADMINISTRATION AND SUPERVISION

This Master of Education (M.Ed.) degree is to prepare administrators and supervisors with organizational, management, and instructional leadership skills. Admission requirements include: (1) certification in a teaching field, (2) at least two years of successful teaching experience or Rank II certification in an instructional area, (3) current USF graduate admission requirements, (4) College of Education requirements for admission to graduate study. Successful completion of the program leads to both the M.Ed. degree and Florida Rank II certification in Administration and Supervision.

■ CURRICULUM AND INSTRUCTION

This Master of Education (M.Ed.) degree program is to prepare certified teachers who have at least two years of successful teaching experience and want to improve their teaching skills and/or become team leaders, department heads, program coordinators, directors of instruction, and assistant principals of curriculum. The degree requires at least 50 quarter hours with 60 percent or more at the 600 level. No specific research and thesis is required. Successful completion of the program will lead to both the Master of Education degree and Florida Rank II certification.

ED.S. PROGRAM

The Education Specialist (Ed.S.) program has been developed to provide for state approved Rank I-A certification. The program offers specialization in Elementary Education, with emphasis on urban education. In addition, there are tracks under the elementary specialization available in (1) Early Childhood Education, (2) Exceptional Child Education, (3) Mathematics Education, and (4) Reading/Language Arts Education.

Candidates for admission to Ed.S. study must present satisfactory evidence of:

1. Undergraduate grade point average of 3.0 (B) minimum on the last half of the bacalaureate degree; *or* GRE aptitude score—1000 minimum.
2. Three letters of recommendation.
3. Favorable recommendation from program chairperson.
4. Any additional requirements specified by the program.

Application deadlines for admission to Ed.S. study are May 15 (for Quarters IV and I) and November 15 (for Quarters II and III).

PH.D. PROGRAM

The Doctor of Philosophy degree is available in Education. Specialization is in Elementary Education with research emphasis on problems of urban education. In addition, there are tracks available under the elementary specialization in (1) Early Childhood Education, (2) Exceptional Child Education, (3) Mathematics Education, and (4) Reading/Language Arts Education.

Candidates for admission to Ph.D. study must present satisfactory evidence of:

1. Undergraduate grade point average of 3.0 (B) minimum on the last half of the baccalaureate degree; *and* GRE aptitude score—1000 minimum.
2. Three letters of recommendation.
3. Favorable recommendation from program chairperson.
4. Any additional requirements specified by the program.

Although classroom teaching experience is not required, the candidate must present evidence that would indicate a commitment or interest in education. Also, internships are required of candidates who do not have school experience.

Application deadlines for admission to Ph.D. study are May 15 (for Quarters IV and I) and November 15 (for Quarters II and III).

COLLEGE OF ENGINEERING

Have you ever felt you would like to be the "somebody" who will do "something" about the many problems we face? Our modern society requires new, practical solutions to its many complex technological problems. Spearheading this action will be the engineer and the engineering profession. The engineer, as always, will continue to be responsible and obliged to use his/her knowledge for the benefit of mankind.

The increasingly rapid changes in our life style place an ever stronger responsibility to society and our future on both those who are providing the engineering education as well as those who are being educated. The College of Engineering recognizes this in its approach to the education of tomorrow's engineers as well as in the content of the other programs under its direction which are vital to the technological progress of our society. Its curricula provide for an individual's development in both technical competency and human values.

The programs offered by the College of Engineering to meet the diverse requirements of the future can be broadly divided into two areas: PROFESSIONAL ENGINEERING and APPLIED SCIENCE AND TECHNOLOGY. The degrees and services associated with these areas are as follows:

Professional Engineering Degree Programs

Bachelor of Science in Engineering degree (Professional Program)—various options
Master of Science in Engineering degree (Thesis or Project)
Master of Engineering degree (Non-Thesis)

Applied Science and Technology Degree Programs

Bachelor of Science in Engineering Science degree—Computer Science Option
Bachelor of Science in Engineering Science degree—other options
Master of Science in Engineering Science degree—Computer Science Concentration
Master of Science in Engineering Science degree—other concentrations
Doctor of Philosophy in Engineering Science degree
Bachelor of Engineering Technology degree
Computer Service Courses (Undergraduate and Graduate)

The above spectrum of program offerings provides the prospective student with a choice of avenues depending upon individual interests and capabilities for a significant technological contribution. These programs are described in more detail under their respective catalog headings.

Laboratory experience as well as real-world participation in technological problem-solving is a key aspect of a professional engineer's or a technologist's college education. The College of Engineering, in implementing this need, augments its own modern laboratory and research facilities by close contact with the professional societies and the many industries in the metropolitan Tampa Bay area.

Students interested in particular programs offered by the College of Engineering should address their inquiries to the College of Engineering marked for the attention of the following:

Area of Interest	*Contact*
Engineering Professional Program	Specific department or Office of the Dean
Engineering Science	Office of the Dean
Computer Science	Coordinator for Computer Science, Department of Electrical and Electronic Systems
Engineering Technology	Coordinator for Engineering Technology
Teachers—Engineering Concepts	Regional Center-Engineering Concepts Curriculum Project
Computer Service Courses	Department of Industrial Systems

PROFESSIONAL ENGINEERING

The Engineering programs of the College have been developed with an emphasis on three broad aspects of engineering activity —design, research, and the operation of complex technological systems. Students who are interested in advanced design or research should pursue the Five-Year Program leading to the Master of Science in Engineering degree. Other students interested more in operational responsibilities may wish to complete their initial engineering education at the baccalaureate level. For this purpose a Bachelor of Science in Engineering degree is offered which provides the student a broad education with sufficient technical background to effectively contribute in many phases of Engineering not requiring the depth of knowledge needed for advanced design or research.

The College of Engineering recognizes that modern engineering solutions draw on knowledge of several branches of engineering. It also recognizes that future technological and societal developments will lead to shifting of the relative emphasis on various branches of engineering, triggered by new needs or a reassessment of national goals. For this reason the College's program includes a strong engineering foundation (core) portion, designed to equip the prospective engineer with a broad base of fundamental, technical knowledge. To this foundation is added the student's specialization (option) of sufficient depth to prepare him/her to successfully embark on a professional career.

While the baccalaureate degree is considered the minimum educational experience for participating in the Engineering profession, and as such the first professional degree, students are strongly encouraged to pursue advanced work beyond the baccalaureate either at this or other institutions. It is becoming increasingly evident that a large segment of today's engineering profession is involved in some form of post baccalaureate study. Engineers are earning advanced degrees in ever increasing numbers in order to obtain the information and training necessary to meet tomorrow's technological challenges. All are faced with the continuous problem of refurbishing and updating their information skills and most are obtaining advanced information by

means of seminars, special institutes and other such systems designed for this purpose.

The Bachelor of Science in Engineering degree program, which requires 201 quarter hours, and the five year program leading to the Master of Science in Engineering degree, which is an integrated program of 246 quarter hours, are the programs specifically designed to prepare an individual for a professional career as an engineer. Both programs have as their foundations a 152 quarter hour core of subject material encompassing Humanities, Social Science, Mathematics, Science, and Engineering which is required of all students. In addition to the core subject material each student will complete a specialization option under the direction of one of the administrative departments of the College. Those options which are available and the administrative unit responsible for the options are as follows:

Option	*Department*
General	All Departments
Chemical	Energy Conversion & Mechanical Design
Electrical	Electrical & Electronic Systems
Industrial	Industrial Systems
Mechanical	Energy Conversion & Mechanical Design
Structures, Materials & Fluids	Structures, Materials & Fluids

The Engineers' Joint Council for Professional Development has inspected and accredited the curricula of the College of Engineering defined by the Chemical, Electrical, Industrial, Mechanical, and Structures, Materials & Fluids options.

Preparation for Engineering

The high school student anticipating a career in engineering should elect the strongest academic program that is available while in high school. Four years each of English, mathematics and science (preferably including Chemistry and Physics), as well as full programs in the social sciences and humanities, are most important to success in any engineering college. A foreign language, while not a necessity, provides a desirable background for students, many of whom will continue for advanced study.

Prospective students who are considering engineering at the University of South Florida who lack certain preparation in high school should elect to follow a program which will assist them in overcoming their deficiencies. One alternative might be that such a student select a summer program at the University of South Florida to update knowledge in mathematics and the physical sciences. Another alternative might be for the prospective Engineering student to take some remedial work and a less accelerated program at the University of South Florida. For financial or other reasons, students may wish to avail themselves of the state's system of junior/community colleges which offer a wide range of remedial course work, and many of which also offer full programs in pre-engineering (first two years' course work). The University of South Florida offers all required pre-engineering courses every quarter. Therefore, every student can start the program at that point where his/her prior education terminated, and can proceed from that point at a rate commensurate with the student's capability and time availability.

Junior/community college students planning to transfer to the University of South Florida's engineering program at the junior level from a State of Florida operated college or university should plan to graduate with an A.A. degree, thus completing their general education requirements. All transfer students should also complete as much of the mathematics, science and engineering core course work as is available to them. The University's College of Engineering is available to assist junior/community colleges in the development of course material and in the training of staff for their offering of applicable core pre-engineering course work. Junior/community college transfer students should note that in addition to freshman and sophomore level courses, all required junior level courses are given each quarter, thus permitting full continuity in studies for the student at all times.

The College of Engineering can assist students who are planning to obtain an Engineering degree from the University of South Florida and who have started their studies elsewhere in formulating a sound total program. Interested students should contact the Dean's Office furnishing sufficient detail to permit meaningful response.

Admission to the College

Freshmen and transfer students may elect to enter the College of Engineering's professional engineering program upon initial entry into the University by declaring the Bachelor of Science in Engineering degree program as their major. If not declared on initial entry, a student can at any time declare his/her intent to pursue the Bachelor of Science in Engineering degree program by applying in person in the Advising Office of the College.

To qualify for admission a student must have been accepted by the University as a degree-seeking student, must be in good academic standing, and must be otherwise acceptable to the College. More stringent requirements may be invoked by the college to limit enrollment to a level which is compatible with available resources. For information on supplementary admissions requirements contact the Office of the Dean, College of Engineering.

Students whose native language is other than English entering the College of Engineering must have taken, during the last year, the Test of English as a Foreign Language (TOEFL), and have the score sent to the University's Admissions Office. A score of 550 or better is required.

Potential engineering students should note that the critical course structure of the engineering program makes it desirable to enter the program as soon as the interest in and potential ability for engineering is recognized. Students should note that the characteristics of the engineering program do not require an identification of the area of engineering specialization (option) at the time of declaring engineering as a major. Students need to make this decision no later than their junior year.

Engineering coursework identified as 300 level or higher is considered professional level work and students enrolling for this work must have been admitted to the college or have received prior permission from the Office of the Dean or the department chairman sponsoring the coursework.

Engineering Advising

Effective pursuit of engineering studies requires careful attention to both the sequence and the type of courses taken. The engineering curriculum differs in key respects from the study plans of other majors—even in the freshman year. It is therefore important, and the college requires, that each student plan a curriculum with, and has it approved by, a faculty adviser in the College of Engineering.

Students transferring from other colleges within the University must contact the Coordinator of Engineering Advising in the Dean's Office for a faculty adviser assignment prior to acceptance into the college. New students must attend the University's Orientation program. They are assigned an engineering adviser during this program and receive advisement for their first quarter at that time.

Students who have made a decision regarding the engineering option they plan to follow are assigned a faculty adviser in the department corresponding to their interest. Students who have decided to follow a program of engineering studies but who are undecided on the specialty are advised in the Dean's Office.

The student and adviser jointly work out a plan of study which meets both the student's career objectives and the College

of Engineering's degree requirements. A student may change advisers with the concurrence of the new adviser and the Dean's Office. The advisers maintain the College of Engineering's student records. A student transferring within the University must declare the desire to change majors in the advising office of the College where the new major is housed.

Departments & Programs

The supervision of the academic programs for the College is the function of the four administrative departments together with several coordinators. The departments are responsible for the professional program in engineering with the coordinators responsible for the special programs in Engineering Science, Engineering Technology, and Engineering Concepts. Each department is responsible for programs, faculty, laboratories and students assigned to it.

Electrical and Electronic Systems

This department offers study in all areas fundamental to Electrical Engineering and the electrical sciences: circuit analysis and design, electronics, communications, electromagnetics, control, solid state, systems analysis, electronic computer design, software engineering, etc. Basic concepts are augmented with well-equipped laboratories in networks, electronics, automatic control, digital systems, electromechanics, microwave techniques and communications. In addition, a small general purpose computer facility, a microprocessor laboratory, and a microelectronics fabrication laboratory are available to undergraduate and graduate students. The department administers the *Electrical Option* of the Bachelor of Science in Engineering (B.S.E.) degree program, the Master of Engineering (M.E.) degree program in Electrical Engineering, and the area of Electrical Engineering for the Master of Science in Engineering (M.S.E.) degree. This department also administers the bachelor's level Computer Science Option and the master's level Computer Science Concentration in Engineering Science.

Energy Conversion and Mechanical Design

This department offers study pertinent to the analysis and design of machines and systems needed by our modern society, through courses dealing with the classical Mechanical and Chemical Engineering subjects of lubrication, vibration and fatigue analysis, machine design, thermodynamics, heat transfer, environmental control, transport phenomena and reactor dynamics. In addition, it provides instruction in other fields of increased importance to the engineers of the future. Some of these fields are computer simulation, instrumentation, automatic control, power utilization, acoustics, and nuclear processes and the design and evaluation of innovative systems for energy utilization and pollution control. This department administers the *Chemical and the Mechanical Options* of the Bachelor of Science in Engineering (B.S.E.) degree program, as well as the area of Mechanical and Chemical Engineering for the Master of Science in Engineering (M.S.E.) degree.

Industrial Systems

This department offers study pertinent to the design, evaluation and operation of a variety of industrial systems ranging from service areas, such as data processing, to manufacturing plants. Topics include production control, inventory control, data processing systems design, statistics and operations research models. The department administers the Industrial Option of the Bachelor of Science in Engineering (B.S.E.) degree program, the Master of Engineering (M.E.) degree program in Engineering Administration, the area of Industrial Engineering for the Master of Science in Engineering (M.S.E.) degree and instructs students in Computer Service courses offered by the University of South Florida.

Structures, Materials, and Fluids

This department offers course work and study pertinent to Civil Engineering, Engineering Mechanics, and Materials Science. Topics included are structural analysis, design and optimization; metals, polymers, ceramics; solid and fluid mechanics, stress analysis, vibrations, continuum mechanics, aerodynamics, gas dynamics, wave propagation, numerical methods; water resources, waste treatment, environmental engineering, and hydrospace engineering. The department administers the Structures, Materials and Fluids option of the Bachelor of Science in Engineering (B.S.E.) degree program, and offers several concentrations within this option. It also administers the area of Structures, Materials and Fluids for the Master of Science in Engineering (M.S.E.) degree.

Engineering Core

Both the four-year and five-year curricula of the College of Engineering are founded on a common core of course work which is required of all students. This course work is designed to give each student a thorough foundation of knowledge on which specialization studies and a professional career can be based.

Emphasis is placed on three key elements; a solid foundation in science and mathematics, a basic understanding in all major engineering disciplines, and familiarity with Social Science and Humanities—to develop the whole individual.

This common foundation of 152 minimum quarter hours breaks down as follows:

Social Science and Humanities Core	47 credit hrs min
Mathematics and Science Core	49 credit hrs min
Engineering Core	56 credit hrs min

Special requirements exist for the Chemical option. Students selecting this field should make sure they familiarize themselves with these. Detailed information can be obtained from the Energy Conversion and Mechanical Design department or the College's Advising Office.

1. Social Science and Humanities Core Requirements (47 credit hours minimum)

Prospective Engineering majors must take 9 credit hours of Freshman English (ENG 101, 102, 103).

An additional 38 credit hours of course work is required in this core area, of which at least 34 hours must be selected from the current "Approved Social Science and Humanities Courses" list for Engineering and Engineering Science students. A minimum of 12 credit hours of this course work must be of 200 level or higher. At least 8 credit hours must be taken in each in the Humanities/Fine Arts area and the Behavioral and Social Sciences area (to meet the University's General Distribution Requirements). It is recommended that the student pursue specific subject areas to some depth, since this develops areas of knowledge and interests which aid fuller development of the individual and later assist in relating a professional career to non-technical environments and situations.

It is desirable that at least 35 hours of this course work be taken in the first two years. Students are responsible for checking with their advisers to be sure that the specific courses they are taking meet the requirements of the Bachelor of Science in Engineering degree program.

Students who transfer from a State of Florida community college with an Associate of Arts degree and who have met that college's General Education Requirement will normally find that their General Education course work satisfies the major portion —but not all—of the Social Science and Humanities Core requirement.

Credit by Examination can be obtained for some of this course work. CLEP General Examination credit is accepted for the areas of English Composition, Humanities and Social Science. Credit for CLEP Subject Examinations and CEEB Advanced Placement Tests can be accepted when the subject covered is recognized to be equivalent to USF course(s) on the "Approved Social Science and Humanities Courses" list. Questions in this area should be addressed to the Coordinator of Engineering Advising in the Dean's Office.

2. Mathematics and Science Core Requirements (49 credit hours minimum)

The student with a satisfactory high school preparation must take 49 credit hours of mathematics and science course work. (Some credit towards this core requirement can be obtained by passing applicable CEEB Advanced Placement Tests or CLEP Subject Examinations.)

In mathematics this course work consists of a Calculus for Engineers sequence (or a calculus sequence of equivalent level), differential equations, and six hours of advanced mathematics courses supportive of the student's selected field of specialization (option).

In science the course work consists of one year of General Chemistry and one year of Physics (with calculus), and normally one additional advanced science course supportive of the student's area of specialization (option). Chemical option students should contact their department for special advanced chemistry requirements in this area.

Students whose high school preparation is insufficient to enter the Calculus for Engineers and/or the General Chemistry sequence are required to take supplementary mathematical (algebra and trigonometry) and/or chemical foundation course work.

3. Engineering Core Requirements (56 credit hours minimum)

The prospective engineering major must take 56 credit hours of engineering foundation course work drawn from the major disciplines. This course work is designed to equip the student with a sound technical foundation for later more advanced specialized course work and the eventual formation of professional judgment. This course work includes introductory studies in such areas as engineering analysis and computation, electrical engineering principles, thermodynamics, statics, dynamics and fluids, and properties of materials.

All but 10 credit hours of the engineering core are common to all areas of specialization (option) of the Bachelor of Science in Engineering program. The remaining 10 credit hours of course work must be chosen with concurrence of the departmental adviser to fit the option selection of the student. Details on this selection are available in the departmental office of the option selected, or in the College's Advising Office.

■ FOUR-YEAR PROGRAM— BACHELOR OF SCIENCE IN ENGINEERING DEGREE (EGU)

The Bachelor of Science in Engineering degree is awarded upon successful completion of a program consisting of the required three areas of core course work—minimum of 152 credit hours—which is described above, and an additional 49 credit hours of course work in a designated area of specialization (option). Details covering the options are available on request from the responsible department, or from the College's Advising Office.

Options are offered in the following disciplines of engineering:

1. General Option (49 credit hours)

All professional departments may offer the general option which consists of 49 credit hours of course work individually arranged by the student with the approval of the student's adviser. This option is used where a student wishes to deviate from a prescribed disciplinary option utilizing course work from several different disciplines both within and without the College of Engineering.

Under this option a program in Biomedical Engineering includes course work in Biology (6 to 9 hrs.), Zoology (5 hrs.), Organic Chemistry (5 to 10 hrs.), Biomedical Systems Engineering (9 hrs.), an approved Senior Project in the biomedical area, and electives to complete the 49 credit hours specialization.

Pre-medical students follow a slight modification of this program which permits them to meet normal admissions requirements of medical schools.

Pre-law students find this option permits a strong technical and legal academic preparation.

2. Option in Chemical (49 credit hours)

Students pursuing the *Chemical Option* take designated, specialized course work in advanced chemistry, thermodynamics, energy conversion, separation processes, transport phenomena, heat and mass transfer, reacting systems, process control systems, as well as approximately 15 credit hours of chemistry and technical electives. Students must also satisfactorily complete a design and/or case study as part of their program. Special characteristics of the *chemical* option make it imperative that students retain constant close contact with their adviser.

Students completing this option normally pursue careers in chemical process industries, in public service (regulatory, planning and/or environmental), or in consulting or research. Products covered include paper and pulp, petroleum and petrochemicals, polymers and fibers, synthetics, pharmaceuticals, foods, fertilizers, etc. Such modern societal problems as controlling pollution, handling wastes, advancing medical technology, providing food and energy more efficiently, etc. depend on the chemical engineer, among others, for their solutions.

3. Option in Electrical (49 credit hours)

Students pursuing the *Electrical Option* take designated, specialized course work in network analysis, electronics, communications, electromagnetic theory, linear system and control system analysis, and microelectronics. This course work is supplemented by electives in logic, sequential circuits, digital system design and microprocessors; distributed networks and UHF principles; and/or electromechanics and power system analysis. Students must also complete a Design Project prior to graduation.

Students completing this option normally pursue industrial careers in the power, electrical, electronic, or information industries or in related governmental laboratories and public service agencies. The *electrical* graduate may apply his/her knowledge to such diverse areas as television, communications, remote guidance, sensing (of people, vehicles, weather, crops, etc.), automation, computer and information systems, electric power generation and transmission, electrically propelled transportation, etc. The graduate may do this by performing needed engineering functions related to the research and development (often requires also an advanced degree), design, production, operation, sales, or management of these products/services.

4. Option in Industrial (49 credit hours)

Students pursuing the *Industrial Option* take designated, specialized course work in industrial processes and production control; engineering valuation; network modeling, computer simulation and systems analysis; operations research; design of experiments and engineering statistics. This course work is supplemented by courses in production and facilities design; computer languages, systems, and projects; and quality control.

Students completing this option enter careers in a broad range of industries, businesses and governmental and public

service areas. Their preparation covers activities common to all types of organizations; planning, analysis, implementation, and evaluation. In addition to traditional career opportunities in production and process areas of high-volume industries, the industrial graduate nowadays finds challenging careers in hospitals, transportation and service industries, and in municipal, county, state and federal administration.

5. Option in Mechanical (49 credit hours)

Students pursuing the *Mechanical Option* take designated, specialized course work in thermodynamics and heat transfer; physical measurements and energy conversion; machine analysis and design; mechanical design and controls; and fluid machinery. This is supplemented by elective coursework in such areas as power plant analysis, nuclear and reactor engineering; refrigeration and air conditioning; acoustics; lubrication; and vibration and balancing.

Students completing this option normally enter careers as design, consulting, research and development, or sales engineers in a wide range of industries which either turn out mechanical products or rely on mechanical machines, devices and systems for their production. Thus, *mechanical* graduates follow careers in such industries as vehicles and transportation, energy generation and conversion, instrumentation and automatic control, machinery, and heating and refrigeration. In industries which process their products mechanically (foods, some chemical, paper, waste, etc.) *mechanical* graduates also have career opportunities as plant or construction engineers, being responsible for the installation, operation, and maintenance of major mechanical system complexes.

6. Option in Structures, Materials and Fluids (49 credit hours)

Students pursuing the *Structures, Materials and Fluids Option* take designated coursework in solid mechanics, stress analysis, and structures; materials; fluid mechanics; engineering analysis applied to this discipline and a senior research/design project. This course work is supplemented by courses in one of the following areas of concentration, plus electives.

a. *Materials* concentration—courses in engineering materials, polymers, corrosion, and materials processes.
b. *Civil Engineering* concentration—courses in structural design, transportation, water resources and soil mechanics.
c. *Water Resources* concentration (designated by Board of Regents as a "Program of Distinction")—courses in water resources, hydrology, and urban water systems.
d. *Applied Mechanics* concentration—courses in fluid mechanics, vibrations, continuum, and experimental mechanics.

Students completing this option enter careers as engineers in the civil, structural, sanitary, environmental, hydraulics, materials, engineering mechanics, aeronautical, etc. disciplines. All of these fields share the need for knowledge in the areas of engineering mechanics, civil engineering, and materials science. Through choice of the proper area of concentration the student has the opportunity to channel his academic studies specifically towards his/her career choice. *Structures, Materials and Fluids* students commence their engineering careers in either industry, with engineering consulting firms, or in public service at the federal, state or local level. Initial assignments include planning, design, and implementation of water resources, transportation and housing systems; regional planning, design and management for abatement of air, water and solid waste pollution problems; research and development of new materials, material processes and testing procedures; design of bridges, single and multistory structures; supervision of construction projects.

■ FIVE-YEAR PROGRAM—MASTER OF SCIENCE IN ENGINEERING DEGREE (EGG)

This program consists of a minimum of 152 credit hours of core course material plus 94 credit hours of specialization including a maximum of 18 hours of research or design project. Students are admitted to this program early in the beginning of their fourth year of study based on an evaluation by the faculty of their department. Unlike the traditional master's degree, which is attempted as a fifth year after completion of the baccalaureate degree, in this program both the fourth and fifth years are open to graduate level course work and additional calendar time is available for design or research projects.

The program leads concurrently to both the Master of Science in Engineering degree and the Bachelor of Science in Engineering degree with the specialization phase of the program being individually arranged and involving course work, design, research and/or operational experience. Should the student be unable to complete the full five years, the baccalaureate can be awarded provided the requirements for that degree have been met. Either an engineering report or a research thesis is required. See later section relative to master's program for additional information.

OTHER REQUIREMENTS FOR ENGINEERS

1. Humanities and Social Science Requirements

While the engineering undergraduate student is expected to complete certain requirements during the first two years of study which are directed toward the humanities and social sciences, and which are fulfilled by the completion of the Distribution requirements of the University (or general education requirements at other institutions), the University of South Florida expects more of its prospective engineering graduates than this minimum. The engineer must not only be a technically competent individual, but must also be a person who can understand, adjust and contribute to the social environment. The undergraduate engineering program at the University requires, in addition to the

minimum Distribution requirement of the University, an additional 22 credit hours of Humanities and Social Science course work.

Florida community college transfer students who have completed their General Education Requirements will not have to meet USF's General Distribution requirements. However, as is the case with USF students who have to take more than the minimum Distribution Requirements coursework in this area, the community college transfer student must expect to take some additional carefully selected upper level coursework in this area to meet the education standards for professional engineering programs in the SOCIAL SCIENCE AND HUMANITIES area.

2. English Requirement

Students who have been admitted to the College of Engineering may be required to take an examination in order to evaluate their preparedness in the use and understanding of the English language. The examination will be administered by the faculty of the University's English program.

Students evidencing an English deficiency will be required to initiate the necessary corrective programs, with the assistance of their advisers. It is recognized that such deficiencies can exist even though a student has met the University's minimum English requirements. Correction of any deficiency must be effected prior to recommendation of the student for graduation by the faculty of the College.

3. Mathematics Requirement

Students who are pursuing an engineering program are expected to acquire a facility for the rapid and accurate solution of problems requiring the use of mathematics. This requirement includes the ability to translate physical situations into mathematical models. Students evidencing a lack of manipulative ability or the ability to apply mathematics will be required to take remedial course work in engineering analysis and problem solving that is over and above their regular degree requirements. Faculty of the College who encounter students who are deficient in their mathematical ability will refer such cases to the Office of the Dean.

4. Continuation Requirements

All undergraduate students registered in the College of Engineering are expected to maintain the minimum of 2.0 average ("C" average) for all work attempted while registered in the College, as well as a minimum 2.0 average for all Engineering course work attempted of 300 level or above. Students who do not maintain this requirement will be declared ineligible for further registration for course work and degree programs in the College unless individually designed continuation programs are recommended and have been prepared by the student's adviser and approved by the academic committee of the College.

Key courses, including but not limited to Calculus, Physics, and Engineering courses in the student's area of specialization, must be passed with a grade of "C" or better before taking the next course in the sequence.

Students pursuing an engineering degree program are expected to take their courses on a graded (ABCDF) basis. (Exceptions are required courses not available on a graded basis.)

Students receiving "I" grades must remove this deficiency at the first opportunity in accordance with a written agreement between student and instructor.

Continuation in the program after 3 withdrawals and/or failures in a specific engineering course of 300 level or higher, requires specific approval from the college.

5. Requirements for Graduation

In addition to the completion of the course work and/or project requirements of the respective programs of the College, students must be recommended for their degrees by the faculty of the College. It is expected that students completing their master's program would have completed their advanced work with a minimum average of 3.0 or "B." The awarding of a baccalaureate degree requires a minimum average of 2.0 or "C" for all engineering coursework of 300 level or above attempted while registered in the College. Students attempting but not completing their master's requirements may elect to request the awarding of the bachelor's degree, provided they have met that degree's requirements.

In addition to the College requirements listed above, degree candidates are expected to meet applicable special departmental requirements.

Engineering Master's Degree Programs

The College of Engineering offers three professionally oriented programs leading to a degree at the master's level. These are the post-baccalaureate Master of Science in Engineering degree program, Master of Engineering degree program, and the Five-Year Master of Science in Engineering degree program. Each professional department may elect to award one of these degrees depending upon prior arrangements with the student. Admission to the master's program is dependent upon a favorable evaluation by the department concerned. Applicants are expected to meet the minimum requirements of the University and those outlined below and in addition any special requirements specified by the departments and reported to the Dean of the College. Other requirements may be considered.

■ POST-BACCALAUREATE MASTER OF SCIENCE IN ENGINEERING DEGREE (EGP)

This graduate program of the College is designed for those students wishing advanced study which is research or design oriented.

Entrance Requirements

1. A baccalaureate degree in Engineering from an approved institution is required. Degrees in Mathematics, Physics, Chemistry and other fields may be accepted on an individual basis to meet this requirement. In such cases it is probable that supplemental remedial work in engineering will be necessary.
2. A minimum total score of 1000 on the verbal and quantitative portions of the Graduate Record Examination and/or a minimum grade point average of 3.0 out of a possible 4.0 for all work attempted during the last two years of undergraduate work is required.
3. Those who do not meet the regular entrance requirements may attempt a trial program as a Special (non-degree seeking) Student. Up to 18 hours of work attempted on this basis may be accepted into a graduate program upon satisfactory completion. Before attempting such a trial program the student should determine from the departmental adviser a list of courses and performance criteria for admission.

Program Requirements

1. A minimum of 45 credits of approved course work is required.
2. An overall grade point average of 3.0 is required for all work attempted in the program. No grade below "C" may be accepted in a graduate program. In the event that a student's average drops below 3.0 the student will be

placed on a probationary status and must obtain a directed program from his/her adviser approved by the Dean, prior to continuing course work toward the degree.
3. All students are required to pass a final comprehensive examination which may be written or oral prior to awarding the degree. These examinations are arranged and administered by the student's graduate committee.
4. Students in this program must complete a design or research project on which up to 9 credits may be used to fulfill degree requirements. The course 699 with the appropriate departmental prefix is to be used.
5. If a thesis is submitted it must be in accordance with the *Handbook for Graduate Theses and Dissertations*, University Graduate Council. For design projects a comprehensive report must be filed with the Office of the Dean of Engineering following, where practical, the guidelines of the handbook.

The students working on design and research projects must register for a minimum of 3 credits of course 699 with the appropriate departmental prefix each quarter the staff, facilities and laboratories of the University are used whether or not the student has accumulated the maximum credit allowed for research or design toward the degree. All students must register for 3 credits of course 699 with the appropriate departmental prefix during the quarter in which they submit their thesis or project report.

■ MASTER OF ENGINEERING DEGREE PROGRAM (EGM)

This non-thesis degree program is designed primarily to meet the needs of engineers actively engaged in the profession who wish to pursue graduate study at the master's level.

Entrance Requirements

Entrance requirements for the Master of Engineering program are the same as those for the post-baccalaureate Master of Science in Enginering degree program. It is expected that those applying to this program will be experienced or actively engaged in the engineering profession.

Program Requirements

1. A minimum of 45 credits of approved course work is required.
2. Students must maintain overall grade point average of 3.0 out of possible 4.0. No grade below "C" will be accepted in a graduate program. In the event that a student's average falls below 3.0 the student will be placed on probationary status and must obtain a directed program from his/her adviser and approved by the Dean prior to continuing further course work toward the degree.
3. All students are required to pass a final comprehensive examination which may be written or oral prior to awarding the degree. These examinations are arranged and administered by the student's department.
4. Students in this program must register for course 699 with the appropriate departmental prefix during the quarter in which they apply for the degree. This will be used as preparation for and administration of the final examination. This credit may not be used as part of the course work requirement.

■ THE ENGINEERING FIVE-YEAR MASTER'S DEGREE PROGRAM (EGG)

This program consists of a minimum of 246 credits of course work and results in concurrent awards of the Bachelor of Science and Master of Science in Engineering degrees. Unlike traditional master's programs following the baccalaureate degree, in this program both the fourth and fifth years are open to graduate level study and additional calendar time is available for research or design projects.

Entrance Requirements

1. Students who have senior standing (135 credits) with at least 24 credits completed at the University of South Florida in the engineering curriculum may apply for admission to the Five-Year Program.
2. A minimum total score of 1000 on the verbal and quantitative portions of the Graduate Record Examination is expected.
3. Above-average performance in the engineering program is expected.

Students apply for admission to this program through their department. They should consult their adviser when they need additional information.

Program Requirements

1. A minimum of 246 credits of approved course work must be compiled. Of this total 152 credits must comprise the engineering central core with an additional 94 credits of specialization. A maximum of 18 credits may be allowed for design and research.
2. Students admitted to the five-year program are expected to maintain a superior level of academic performance. A 3.0 out of a possible 4.0 grade point average is expected in the courses in the student's graduate course of study. A student in the Five-Year Program who fails to maintain the required academic standards will be placed on probation. Failure to comply with the terms of the probation will result in the student being dropped from the program.
3. Students in this program must complete a design or research project for which up to 9 credits of course 499 with appropriate departmental prefix and up to 9 credits of course 699 with appropriate departmental prefix may be used to fulfill degree requirements.
4. If a thesis is submitted it must be in accordance with the *Handbook for Graduate Theses and Dissertations*, University Graduate Council. For design projects a comprehensive report must be filed with the Office of the Dean of Engineering, following where practical the guidelines of the handbook.
5. All students are required to pass a final comprehensive examination which may be written or oral prior to awarding the degree. These examinations are arranged and administered by the student's graduate committee.

APPLIED SCIENCE AND TECHNOLOGY

Several degree programs and a series of courses are offered by the College of Engineering which are designed for students who do not wish to pursue professionally oriented degree programs in engineering but who wish to obtain a technical background coupled with other interests. The programs available can be broadly divided into two areas: ENGINEERING SCIENCE and ENGINEERING TECHNOLOGY and are discussed in more detail below.

Engineering Science

Engineering Science is an applied science discipline which relates to new and innovative areas of endeavor at the frontiers of technological development and research. It represents a marriage between basic science and its utilization in such varied fields as computer science, biology, social and environmental sciences, applied mathematics, ocean engineering, and energetics. The common denominator to this wide range of subjects is a strong foundation in rigorous scientific and engineering principles and practices.

This training provides a most desirable background for graduate study in the areas of concentration mentioned and in other professional areas such as law, medicine, and business.

Preparation for Engineering Science

Students anticipating pursuit of studies in Engineering Science should follow the guidelines given for Engineering in this bulletin when planning their high school and/or community college studies.

Admission to Engineering Science

Admissions requirements and procedures are the same as for Engineering.

Engineering Science Advising

Students pursuing a course of study in Engineering Science are assigned to an adviser who is familiar with the requirements of this program and whose special interests match the student's specialization objectives. Comments and requirements spelled out in the section on Engineering Advising in this bulletin are applicable to this program.

■ FOUR-YEAR PROGRAM—BACHELOR OF SCIENCE IN ENGINEERING SCIENCE DEGREE (EGC)

The College of Engineering offers a curriculum leading to the Bachelor of Science in Engineering Science degree which stresses the scientific aspects of engineering. The curriculum is a four year program with a minimum requirement of 180 quarter hours, providing the student with an unusual depth of study in mathematics, science, and engineering without limiting the opportunities to broaden one's education in humanities and social sciences. The exact composition of the curriculum followed by a given student is determined by the student with the advice and consent of the academic adviser, and based on the option chosen.

An option in *Computer Science* provides a continuum of training and knowledge in the foundations of information processing. Courses range from studies in software and programming, data structures, operating systems, and systems analysis to the analysis of computer architecture and organization, logic design, automata theory, hardware simulation, microprocessors and reliability considerations. Finally a number of specialized electives allows concentration on applications of computers to a variety of activities such as scientific computation, computer-aided design, business systems, biomedical research, and pattern recognition.

Graduates from this program follow fruitful careers in either scientific or business applications of computers. They are often involved in the systems level definition of information processing complexes for both manufacturers of computers and for users. A wide and expanding variety of design and applications opportunities characterize this field. This is the reason for requiring a broad function in applied mathematics and the physical sciences, and also to develop communications abilities and clear perceptions in the social sciences and the humanities. Research and development opportunities as a computer scientist, often following graduate training, are present in the areas of artificial intelligence, software engineering, digital data communications, data base management, fault-tolerant computing and testing, microprogramming and simulation.

This program is administered through the Coordinator for Computer Science Program, Department of Electrical and Electronic Systems.

An option in *Applied Mathematics* covers applied analytical techniques to establish a more fundamental understanding of basic physical phenomena leading to engineering applications. Areas of mathematics considered from an applied viewpoint include modern algebra, theory of algorithms, classical advanced calculus, complex variables, probability and statistics, numerical procedures, approximation theory, operations research, and applied mathematical programming. The use of computers is emphasized. This program provides the student with an opportunity that is not available in either a pure mathematics curriculum or in a design-oriented engineering program.

An option in *Environmental Science* is designed for students who desire to develop the broad interdisciplinary background necessary for careers in environmental protection with industry and government. Training is provided in the sociological sciences of politics, government, and social science; the communication arts (speaking and writing); and the scientific and technological aspects of air, water, and noise pollution.

Other options are designed for such areas as *Ocean* and *Energetics*.

Baccalaureate Requirements (minimum 180 credit hours)

The Bachelor of Science in Engineering Science degree program requires a strong foundation in mathematics and science, foundation course work in the humanities, social sciences, and other non-technical areas, a basic knowledge of engineering fundamentals, and culminates in approximately one year of specialized—often interdisciplinary—studies. These basic requirements are further listed below.

1. Humanities, social science, and other non-technical areas requirement (42)
2. Mathematics and science requirements (45)
3. Engineering Science core requirement (41)
4. Specialization requirement (52)

(There may be minor variations from these numbers in a defined option.)

Other Requirements for Engineering Science

The English, Mathematics, Continuation, and Graduation requirements for the Engineering degree program are applicable to the Engineering Science degree program.

Students with a Computer Science option will not be given credit towards their degree for Computer Service Courses (ESC) taken without prior consent of their adviser.

■ FIVE-YEAR PROGRAM—MASTER OF SCIENCE IN ENGINEERING SCIENCE DEGREE (EGF)

Students who at the beginning of their senior year are clearly interested in graduate study are invited to pursue a five-year

program of study leading simultaneously to the Bachelor of Science in Engineering Science and Master of Science in Engineering Science degrees. The keys to this program are:

1. A two-year research project extending through the fourth and fifth years.
2. The opportunity of taking graduate courses during the fourth year and deferring the taking of senior courses to the fifth year. The requirements for the combined degrees do not differ from those for the two degrees pursued separately.

Students apply for admission to this program through their adviser, and he should be consulted when additional information is needed. General requirements include:

1. Senior standing (135 credits) with at least 24 credits completed at the University of South Florida in the engineering science curriculum.
2. A minimum score of 1000 on the verbal and quantitative portions of the Graduate Record Examination is expected.
3. Above-average performance in the engineering science program is expected.

Students following the *Computer Science* option can obtain through this program the deeper specialization required of those engaged in advanced research and development.

■ POST-BACCALAUREATE—MASTER OF SCIENCE IN ENGINEERING SCIENCE DEGREE (EGC)

The admission and program requirements (minimum 45 credit hours) for this degree are essentially the same as those itemized for the Master of Science in Engineering degree page 86.

Students entering the *Computer Science* concentration of this program without a baccalaureate degree in Computer Science may have to take supplemental remedial coursework.

■ DOCTOR OF PHILOSOPHY DEGREE IN ENGINEERING SCIENCE (EGC)

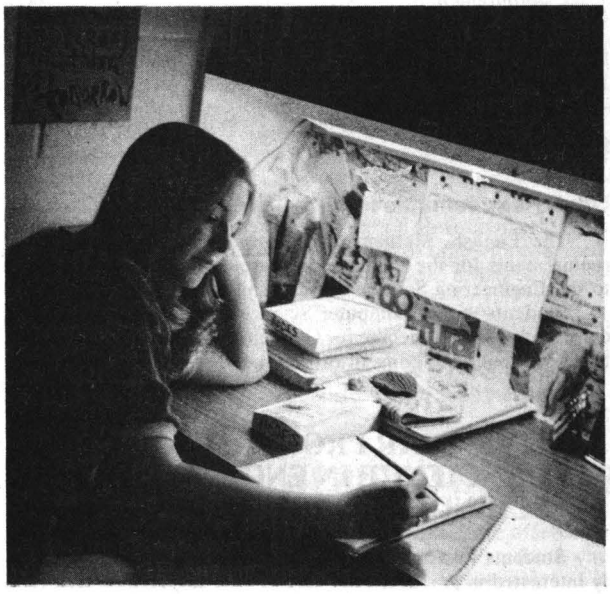
Effective January, 1977, the College of Engineering was authorized by the Board of Regents to continue the Doctor of Philosophy degree in Engineering Science, transferred from Florida State University. Prospective students interested in pursuing this program should contact the Office of the Dean, College of Engineering, University of South Florida.

Engineering Technology

The College of Engineering offers a program leading to the degree of Bachelor of Engineering Technology to serve educational needs in engineering-related areas. The program normally provides for two years (90 min. credit hours) of study at the University of South Florida following two years (90 credit hours) of successful study in an engineering technology program which has lead to an Associate of Science degree. Many programs of the State System of Community Colleges uniquely mate with this program.

■ BACHELOR OF ENGINEERING TECHNOLOGY (ETK)

Upon completion of their full four years of study leading to the award of the Bachelor of Engineering Technology degree, students will have gained a well-rounded background concentrated in the following areas: Engineering Technology, Mathematics and Science, Liberal Arts and Social Science, and Management and related areas (including Computers). A student who has completed this program should be adequately prepared to assume career responsibilities in technical, technical supervisory, or technical executive positions. Prospective students should note, however, that this program is not intended to be an engineering program. Rather, its function is to bridge the gap between design or research professional engineers, technicians, and management. It is for this reason that the program consists of a balance of course work in technical, management, and Liberal Arts and Social Science areas.



A typical student pursues the bulk of the Engineering Technology course work, together with much of the mathematics and science course work within the framework of a junior college Associate of Science degree engineering technology program. Most of the Liberal Arts and Social Science course work, Management and Computer-oriented studies, and some additional engineering technology course work is taken by the student at USF during the junior and senior year. The typical four years of study thus exhibit approximately the following course work distribution (in credit hours):

Engineering Technology	80
Management & related studies	30
Liberal Arts, Social Science and Electives	48
Mathematics and Science	22
Total	180

Specific students' programs may deviate from this balance to some extent due to the differences in the students' first two years' program contents.

At USF a portion of each student's program may be used for one of the areas of concentration listed below.

Computer Systems Technology
Construction Technology
Electronics Technology
Industrial Engineering Technology
Management Engineering Technology

These areas are designed to complement the technical work received at the community colleges and need not necessarily be in the same field in which the A.S. degree is awarded.

Students entering this program will have their transcript annotated as to the institution from which their technical training was received as well as their technical specialization as designated by that institution.

Admission

In general, students are expected to have successfully completed an Associate of Science degree in Engineering Technology at a community college or to have accomplished equivalent work. Normally, the student should have completed a minimum of mathematics through applied integral calculus and a non-calculus physics sequence. If the student's performance in his community college program indicates a reasonable probability of success in the Bachelor of Engineering Technology program, the student will be admitted to USF. Students are required to complete a minimum of 90 additional quarter hours to receive the Bachelor of Engineering Technology degree. Because this evaluation procedure is unique to the Bachelor of Engineering Technology program, the application for admission should clearly indicate the desired major field as "Engineering Technology." This application should be filed through the Office of Admissions.

Students who are currently following a program other than that of an Associate of Science degree in Engineering Technology at a community college and who are interested in pursuit of studies in this field should contact the College of Engineering for further guidance.

Further information is available from:
Director of Engineering Technology
USF St. Petersburg Campus
830 First Street, South
St. Petersburg, Florida 33701
or
Director of Engineering Technology
College of Engineering
University of South Florida
Tampa, Florida 33620

Other Requirements

The following supplemental requirements listed on page 87 are applicable to this program:

English Requirement
Mathematics Requirement
Continuation Requirement

In addition to the completion of the course work of the College, students must be recommended for their degrees by the faculty of the College. The awarding of a baccalaureate degree requires a minimum average of 2.0 or "C" for all engineering course work of 300 level or above attempted while registered in the College.

Location

The course work for this program is offered on both the Tampa campus and the St. Petersburg campus. On occasion, it may be necessary for a student at the St. Petersburg campus to go to the Tampa campus for a specific course, or vice versa. It should be noted that the St. Petersburg campus does not have dormitory facilities and students must arrange to live off campus. The Center Administrator of the St. Petersburg campus will assist where possible in locating housing.

Computer Service Courses (ESC)

Recognizing that the general purpose digital computer has made significant contributions to the advancement of all elements of the academic community and that it will have an even greater impact in the future, the College of Engineering offers several levels of credit course work, undergraduate and graduate, to serve students of all colleges in order that they may be prepared to meet the computer challenge.

Computer-oriented courses are offered in two broad categories: (1) those courses which are concerned with the operation, organization and programming of computers and computer systems from the viewpoint of examining the fundamental principles involved in computer usage; and (2) those courses which are concerned with computer applications to a variety of different disciplines, by means of user-oriented-languages such as FORTRAN, PL/1 and COBOL.

In order that the students may derive maximum benefit from the courses, according to their interests, the courses are further divided into two groups: (1) those courses of general interest to a wide variety of disciplines (ESC courses); and (2) those courses of particular interest to students in engineering and the physical sciences.

COLLEGE OF FINE ARTS

The College of Fine Arts serves the three-fold purpose of providing programs of study, theatres of practice, and programs of events for the University family, the surrounding community, and the citizens of the State of Florida.

Its prime objectives are: (1) to provide a broad but thorough education dedicated to the development of professional excellence in those who are highly talented in the fine arts, (2) to foster this feeling and commitment to aesthetic excellence in those preparing for teaching, and (3) to provide curricular studies and extracurricular activities designed to enrich the life of the general University student and contribute to the overall human environment of the University community.

In addition to offering degree programs in the departments of Art, Dance, Music, and Theatre, the college is the home of the Florida Center for the Arts, and SYCOM.

Programs in art education and music education are offered jointly by the College of Fine Arts and the College of Education. Studio and history courses in art, vocal and instrumental music for these programs are offered by the College of Fine Arts. (See programs under the College of Education.)

Florida Center for the Arts

In 1968, the University of South Florida created the Florida Center for the Arts as a unit within the College of Fine Arts. The various personnel and fine arts programs on campus were consolidated into one administrative structure to more efficiently concentrate on all three areas of the university's responsibility—education, research, and community service.

The functions of the Florida Center for the Arts are as follows:

1. To initiate and conduct programs which will bring students and the general public into contact with the highest level of professional activity in all the arts.
2. To offer opportunities for students and public to have direct contact with professional artists.
3. To conduct programs which will allow opportunity for specialized professional study or training in areas not covered by the regular academic structure of the University.
4. To develop programs which can relate the public school system to professional cultural activity.
5. To sponsor research and develop research facilities relative to the development of the arts.
6. To create exhibition and performance programs available for use on campus and throughout the state.
7. To plan and develop physical facilities for the Florida Center.
8. To conduct conferences, seminars and symposiums in the arts for general public exposure.
9. To make available professional consultant services.
10. To provide a technical and design center for the performance areas in the College of Fine Arts.

Through its program of exhibitions, visiting artists in all performance areas, films, and residencies of professionals, including companies, ensembles and individuals all of the highest quality available, the Florida Center enhances the quality of the cultural life of the whole University and Civic Communities as well as providing an enriching supplement to the work of the academic departments of the College. In addition, the Florida Center provides management and production support to the performance programs generated by the various departments of the College. The activities of the Center allow personal exposure of students to important creative talents and offer the serious Fine Arts major an invaluable educational opportunity.

Visiting Artists and Artists-in-Residence Programs:

The remarkable extent, the wide diversity, and the superlative quality of the programs initiated and conducted by the Florida Center for the Arts reflects the desire of a major university and its College of Fine Arts to use its resources for the broadest possible educational and cultural advantages.

Only a partial listing of individual artists and performing groups of outstanding caliber sponsored by the Florida Center for the Arts includes: John Cage; The Guarneri String Quartet; Lorin Hollander; The Juilliard String Quartet; The New York Pro-Musica; Elizabeth Schwartzkopf.

More extensive lists of professional artists and performing organizations appear in this Bulletin under the sections of the specific units in the College of Fine Arts in which research, demonstration, teaching and other educational activities have directly instructed and otherwise benefited students. See Visiting Artists and Artists-in-Residence: under Art on page 95; under Dance on page 96; under Music on page 96; under Theatre on page 97.

SYCOM

The Systems Complex for the Studio and Performing Arts—SYCOM—provides staff, courses of study, service and facilities to encourage active participation in ongoing art research by faculty and students in the College, members of the University community, citizens in the Tampa Bay area and distinguished artists and scientists in residence.

The facilities, already equipped and operating in SYCOM, are: Digital Studio—The PDP 11/10 computer provides an advanced, state-of-the-art system for innovative teaching and research in computer assisted music composition, graphic, spatial, kinetic, and filmic arts. Digital-to-analog as well as analog-to-digital converters interface the computer with various voltage controlled devices. Analog Studio—Two Moog-10 synthesizers, a 100-series Buchla Electronic Music System, multi-channel tape machines and a master console for 16-channel quad-mixing are the heart of the analog system for SYCOM. Each unit is capable of being controlled by the PDP 11/10. Real-Time Applications is a small recording studio and workshop for electronic music performance experiments. Systems Research Lab maintains, coordinates and interfaces the various studies of SYCOM.

In SYCOM, individual or group projects, sponsored by SYCOM or by extramural granting agencies are highly appropriate. Project results are manifest in public lectures, performances, reports, publications, exhibits, or in large theatrical events and special workshops, often in contexts such as Sound Gallery, the Event/Complex Series, the summer teaching program, Art-Tech Workshop, and the new music/media festival, INTERMUSE.

BACCALAUREATE LEVEL DEGREE PROGRAMS

Admission to the College

A freshman student may elect to enter the College of Fine Arts as a potential major in one of the four departments as early as his initial entry into the University, provided that he has completed his first advisory period with the Division of University Studies. At that time, the new freshman has to correctly indicate his College and major choice. However, any student in the University in good standing, at whatever level, at any time (even in the middle of a quarter), can apply to change from another major or Undecided to a major in the College of Fine Arts irrespective of and without affecting course work in progress. The student desiring to make this change must acquire his advising records from his present adviser and take them to the College of Fine Art's advising office, where new records will be initiated and maintained upon acceptance.

Transfer students and students from other units of this University with previous college or university fine arts course credits (art, dance, music, theatre) must have such courses evaluated by meeting the appropriate portfolio or audition requirements when they seek admission to the College of Fine Arts. These students are urged to make early arrangements for any necessary portfolio reviews or auditions, as well as advising appointments, since these must take place prior to course scheduling and registration. Further, students are required to take their own copies of their transcripts showing all previous college or university course work to advising, portfolio review and/or audition appointments. Additional information may be obtained and appointments may be made by telephoning or writing the College's advising office or the office of the department of particular interest.

Advising in the College

The College of Fine Arts operates a central advising office located in the Fine Arts Building, staffed full time by the Coordinator, his assistants, and two secretaries. This central advising facility is open daily from 8:00 a.m. to 12:00 noon and 1:00 p.m. to 5:00 p.m. throughout the University work year. It maintains the records of all major students in the College (art, dance, music, theatre) and provides on-going day-to-day academic advising and assistance to all students who seek it whether they are majors in the College or are potential new students or transfers from outside the University or from within.

Upon admission to the College of Fine Arts, undergraduate students with a declared major will be counseled in their selection of courses by an adviser from the major field. Students will then plan the remainder of their college program to fulfill their educational needs and to satisfy requirements for the Bachelor of Arts degree.

Degree-seeking graduate students accepted into the M.F.A. program in art or into the M.M. program in music will be counseled on program completion requirements and in their selection of courses by the Graduate Art Adviser or by the Graduate Music Adviser.

Any student in the University, regardless of the student's departmental, college or major affiliation, may take any course in any one of the various programs in any one of the four departments in the College of Fine Arts for elective credit as well as for the General Distribution Requirement when the course is appropriate to the student's level, when the student has the established prerequisites for the course, and when there is a vacancy in the course at the time of the student's registration.

In all cases, the responsibility for meeting all graduation requirements rests entirely upon the student.

Special Assistance to the Student:

Student academic problems of an unusual or extraordinary nature, even seemingly unsolvable problems needing particular attention and personalized clarification and/or resolution, may be directed to the Coordinator of Advising and Graduate Studies in the College of Fine Arts.

Graduation Requirements

The College of Fine Arts currently offers one undergraduate degree, the Bachelor of Arts (B.A.), attainable in the Departments of Art, Dance, Music and Theatre. These requirements are referred to on page 33 of this catalog, but are briefly summarized here:

1. 180 credits with at least a "C" average (2.0) in work done at the University of South Florida. At least 60 of the 180 credits must be in courses numbered 300 or above.
2. Departmental Requirements: Completion of a major in a subject or an integrated major involving several subjects with a minimum of 63 credit hours (except for music majors—see item #6 and except for theatre, see item #7). Waiver for credit of up to 18 credit hours is possible by demonstration of competence. Review is by Faculty Committee.
3. Free Electives: To allow the student the opportunity to choose between a greater breadth and a greater depth of experience. 35 credit hours of free electives (except for music and theatre majors) are permitted, only 28 hours of which may be taken in the department of the student's major.
4. Special Requirements: Except for students majoring in music and theatre, at the discretion of the other departments of the College, students may be required to take up to 22 hours of courses outside the major department which are deemed necessary to meet the particular needs of individual students engaged in special areas of study in that department. *All* majors must take at least 9 hours in one or more of the other departments of the College.
5. General Distribution Requirements: The remaining 60 credits of the student's 180 credit hour degree requirement may be satisfied by completing the University's General Distribution Requirement as explained on page 32 of this catalog. This requirement may also be satisfied by the A.A. degree holder from a Florida Junior or Community College or from another State University with General Education requirements met, the General Education requirements being broadly acceptable as the equivalent of the General Distribution requirements. (In this case, the College of Fine Arts will accept a total of 90 quarter transfer hours from the A.A. degree holder.) The A.A. degree is in no way a requirement for acceptance into the College of Fine Arts (or into any one of its upper level degree programs), or a requirement for graduation from the University.
6. Music Departmental Requirements: Students majoring in music must complete 96 specified departmental credits, 7 credits of Free Electives, 8 credits in the Special Requirement area, plus 9 credits in one or more of the other departments of the College.
7. Theatre Departmental Requirements: Students majoring in theatre following the design and technology track must complete 74 specified departmental credits, 24 credits of Free Electives, 13 credits in the Special Requirement area, plus 9 credits in one or more of the other departments of the College. Students following the performance track must complete 75 specified departmental credits, with 23 Free Electives, 13 Special Electives and 9 credits in one or more of the other departments of the College. Students majoring in professional theatre must complete 96 specified departmental credits, 2 credits of Free Electives, 13 credits in the Special Requirement area, plus 9

credits in one or more of the other departments of the College.

8. To be eligible for graduation, a student must earn 45 of the last 90 hours of credits in residence at the University of South Florida. However, any course work to be taken and any credits to be earned outside of the University to be applied toward graduation from the University must have prior specific approval in writing from the student's academic major adviser, from the Chairman of the student's major department, from the Coordinator of Advising for the College, and from the Dean of the College.
9. Specific questions concerning program requirements for the B.A. degrees in the College, or any other problems needing particular personalized clarification, should be directed to the Coordinator of Advising and Direcor of Graduate Studies, College of Fine Arts, University of South Florida 33620.
10. The responsibility for seeing that all graduation requirements are met rests with the student.

B.A. Degree Requirements in the College of Fine Arts (Art, Dance, Music, Theatre):

Briefly summarized here, are the 180 minimum hour requirements for the B.A. degree in the College of Fine Arts:

1. In Art and in Dance, a minimum of 63 hours in the major.
2. In Theatre, a minimum of 74 hours for the design and technology track; a minimum of 75 hours for the performance track; and 96 hours for the professional track in the major.
3. In Music, a minimum of 96 hours in the major.
4. For all majors, 60 hours in General Distribution Courses.
5. For Art, Dance, 35 hours of Free Electives (of which 28 hours may be taken in the major).
6. For Music majors, 7 hours of Free Electives (none of which may be taken in the major).
7. For Theatre majors, 24 hours of Free Electives for Design and Technology track; 23 hours of Free Electives for Performance track; and 2 hours of Free Electives for the Professional track (none of which may be taken in the major).
8. For Art and Dance majors, 22 hours of Special Requirements outside the major department.
9. For Theatre majors, 22 hours of Special Requirements outside the major department.
10. For Music majors, 17 hours of Special Requirements outside the major department.

Courses for General Distribution Requirements:

Courses in the College of Fine Arts with the departmental prefixes ART, DAN, MUS and TAR fall within Area II of the University's General Distribution Requirements. This means that any student in the University may utilize art, dance, music, and theatre courses toward the partial satisfaction of the University's 60-hour General Distribution Requirements. (See page 32 of the University Bulletin for a complete description of General Distribution Requirements and their satisfaction by AA degree holders and other transfer students with "General Education Requirements" met.) However, a major in any one of the four departments in the College of Fine Arts may utilize only those courses in the other three departments of the College for Area II General Distribution Requirements.

Contracts and Permission Slips

All Directed Studies courses in the College and all variable credit courses in the College require *contracts* between students and instructors describing the work to be undertaken by the students and specifying the credit hours. These contracts are to be completed with 4 copies and signed by the student, the instructor and the Department Chairman. The student and the instructor each retain a copy, with one copy going to the College Advising Office. It is the student's responsibility to obtain the necessary signatures and make the required distribution of all copies. *Important:* the student *must* have his/her signed copy of a contract at the time of registration.

Permission Slips: Admission into some courses is possible only by consent of instructor (CI), consent of chairman (CC), or by audition or portfolio review. When such special permission is required, it will be the student's responsibility to obtain any required "Permission Slip" for presentation at registration.

Additional Contracts: The College of Fine Arts requires that any *S/U* grading agreement entered into between student and instructor be formalized by a contract in quadruplicate signed by the student and the instructor. Distribution: one copy retained by the instructor, one copy for the student, one copy delivered to the department office and one copy delivered to the College Advising Office.

I Grades (Incompletes) must be contracted for by mutual agreement between student and instructor, with the contract describing specifically the amount and nature of the work to be completed for the removal of the incomplete grade. This contract additionally clearly specifies the date that the work will be due (within legal limits) for grading. Both the student and the instructor must sign this contract and the distribution of the four copies will be the same as with S/U contracts. A student must not register for a course again to remove an "I" grade.

S/U Grading in the College

1. Non-majors enrolled in college major courses may undertake such courses on an S/U basis with instructor approval.
2. S/U grading agreements between instructors and students must be carried out in the form of written contracts.
3. The timetable for the completion of an S/U contractual agreement between instructor and student in any given Quarter will be determined solely by the instructor.
4. Credits earned by a non-major student with an "S" grade will not count toward the student's minimum major course graduation requirement should that student ultimately decide to become a major student in one of the four departments in the College. Instead, such credits earned with an "S" grade will be assigned to the student's required-for-graduation 35 hour Free Elective category (with the exception of music).
5. Although Fine Arts major students may take up to 28 hours of course work in their major to be used as Free Electives, (with the exception of music majors), Fine Arts students are not entitled to the S/U grading option in courses taken in their major subject area, even when specifically used or intended to be used as Free Electives.
6. In the College of Fine Arts, the only S/U graded courses available to a major student in his major subject area are those curriculum allowable courses *designated* S/U (that is, S/U only).
7. With the exception of such courses as may be *specifically* required under the College's "Special Requirements" regulations, and such specific courses that may be *required* in the General Distribution area, there will be no limitation whatsoever placed on student majors in the College as to the number of courses taken S/U outside of his major department, nor upon the number of hours that may be taken S/U outside of the major department, nor upon the number of courses or hours that may be taken S/U outside the major department during any given Quarter of study.

Dean's List Honors

See Academic Policies and Procedures, Programs and Services, page 31.

Programs Leading to the Baccalaureate Degree

The College of Fine Arts has programs leading to the Bachelor of Arts degree in the following fields:

Art	Music
Dance	Theatre

Interdisciplinary Study

In spite of the fact that an undergraduate interdisciplinary degree program is not formally offered in the College of Fine Arts, it is nevertheless possible for a student to pursue what amounts to an interdisciplinary program of study in the College when the student is able (or when he sees fit) to utilize the 35 hours of Free Electives allowed him toward that end.

To suggest an example, an arts-oriented student may be equally (or almost equally) interested in two of the four undergraduate degree disciplines offered by the respective departments in the College of Fine Arts—Art, Dance, Music, Theatre (the Bachelor of Arts degree, in each case). To further extend the example, the student might complete the major course requirements in the Art department (and, with other requirements met, receive the B.A. degree in Art) and at the same time utilize all of his 35 Free Elective hours for course work in the Music department. A student majoring in Art might also divide his 35 Free Elective hours between the Departments of Music, Theatre, and Dance for an even broader interdisciplinary approach. A student wishing to be involved in more than one area in the College should consult with his major department adviser or with the Coordinator of Advising in the College to determine if an interdisciplinary sequence of study might be tailored to suit his particular needs.

Programs and Curricula

■ ART (ART)

Departmental Requirements for the B.A. Degree

The art curriculum is designed to develop the student's consciousness of aesthetic and ideological aspects of art and its relationship to life and to assist students in the realization of personal ideas and imagery. Most B.A. recipients interested in college teaching, museum or gallery work, fine or commercial studio work pursue the extended discipline and experience offered at the graduate level.

Although the program allows many possible courses of study, most students will select one or two areas of emphasis chosen from the offerings in studio (painting, sculpture, graphics, ceramics, photography, film, drawing), history or theory.

The listing of courses in the Art Department (page 141) are in a numerical sequence, by level, and are not topically grouped by subject matter-related areas or sequentially organized by specified disciplines in such a manner as to suggest the various major concentration options available to the art major.

Although the Art Program allows many possible courses of study, most art major students will select one or two areas of emphasis chosen from the course offerings listed.

The major concentrations, or areas of emphasis, available to undergraduate (B.A. seeking) art students are:

DRAWING
PAINTING
SCULPTURE
CERAMICS
GRAPHICS
(LITHOGRAPHY and/or INTAGLIO and/or SILKSCREEN)
PHOTOGRAPHY
CINEMATOGRAPHY
ART HISTORY and THEORY

Art Studio Concentration

The following are the 63 quarter hour minimum requirements for a studio major (each course requiring a grade of "C" or better):

1. Each of Visual Concepts I (two-dimensional), Visual Concepts II (three-dimensional) and Basic Seminar, each with a grade of "C" or better, for a total of 10 credit hours.
2. Minimum of 12 credit hours of 300-level studio courses exclusive of Technique Seminars (from drawing, painting, sculpture, ceramics, printmaking I, photography, cinematography).
3. Minimum of 12 credit hours of 400 and/or 500-level studio courses exclusive of Technique Seminars (from drawing, painting, sculpture, ceramics, lithography, intaglio, silkscreen, photography, cinematography, video arts).
4. Minimum of 12 credit hours in Idea Seminars and/or art history courses.
5. Art Senior Seminar for 3 credit hours.
6. Fourteen credit hours of additional art courses (which may include Technique Seminars), for a total of 63 quarter hours in art.

Art History Concentration

The following are the 63 quarter hour minimum requirements for an art history major (each course requiring a grade of "C" or better):

The following are the 63 quarter hour minimum requirements for an art history major:

1. Visual Concepts I (two-dimensional), Visual Concepts II (three-dimensional) and Basic Seminar, totaling 10 credit hours.
2. Minimum of 20 credit hours of 400-level art history courses (of this, Twentieth Century art history, 4 credit hours, is required).
3. Seminar in the History of Art History for 4 credit hours.
4. A minimum of 16 credit hours in Idea Seminar (2 quarter hours each) and/or Directed Readings (1 to 6 quarter hours each) and/or Critical Studies in Art History (4 quarter hours each).
5. Art Senior Seminar, 3 credit hours.
6. Ten additional credit hours of art courses, to total a minimum of 63 quarter hours.
7. A proficiency in at least one foreign language, with either French or German being strongly recommended. In lieu of some considerable direct living experience with another language, it is suggested that a minimum of two years of college-level study of a language be undertaken.

For more specific information as to the satisfaction of this requirement, the student should consult with the faculty of the art history area of the art department.

Special Requirements for All Art Majors

At the discretion of the Art Department, major students may be required to take up to 22 hours of courses outside the Art Department which are deemed necessary to meet the particular needs of individual students engaged in special areas of study in that department. Of these, at least 9 hours must be taken in the other departments of the College of Fine Arts.

Transfer credit will be given on the basis of portfolio and transcript evaluation.

The requirements for the bachelor's degree in Art Education are listed under the College of Education.

Visiting Artists and Artists-in-Residence:

The Art department is widely known for the consistent level of excellence of its programs. Aside from the obvious attribution to the overall excellence of quality of its permanent in-residence artist teaching staff, in order to insure the continuing expansion of learning opportunities available to students, the art department regularly brings to the campus' studios established professional working artists as supporting resources for its art-teaching activities. Such artists provide a unique supplemental extra-dimension to the arts studies programs of particular value to students.

Among those artists who have articulated to students valuable first-hand information about, and who have convincingly on-the-spot demonstrated direct experience with, current developments in the arts: *Scott Bartlett, Larry Bell, Friedl Dzubas, Allen Jones, Nicholas Krushenick, Daniel Lang, Paul Sarkisian Lucas Samaras, Robert Irwin, James Rosenquist, Robert Rauschenberg, Phillip Perlstein.*

■ DANCE (DAN)

The dance curriculum is designed for students interested in dance as an art form. Their objectives may be to continue their education in graduate school, to teach in a college or a private school, or to pursue a career as a performer and/or choreographer.

Major concerts are given during each quarter as well as workshop performances. Through the Florida Center for the Arts, major dance companies are brought to the campus giving students the opportunity of taking classes with the professional dancers.

Requirements for the B.A. Degree:

Modern majors are required to take, for a total of 63 hours:

DAN 201	(3)	DAN 305	(3)	DAN 403	(3)
DAN 202	(3)	DAN 311	(1)	DAN 413	(3)
DAN 203	(3)	(three credits)		DAN 453	(3)
DAN 301	(4)	DAN 313	(3)	DAN 463	(3)
(eight credits)		DAN 401	(5)	DAN 464	(3)
DAN 302	(4)	(15 credits)			
DAN 303	(3)				

Ballet majors are required to take, for a total of 63 hours:

DAN 201	(3)	DAN 303	(3)	DAN 313	(3)
DAN 202	(3)	DAN 305	(3)	DAN 402	(5)
DAN 203	(3)	DAN 311	(1)	(15 credits)	
DAN 301	(4)	(three credits)		DAN 413	(3)
DAN 302	(4)	*DAN 312	(1)	DAN 453	(3)
(eight credits)		(six credits)		DAN 464	(3)

Entrance to all technique courses will be by jury examination.

Dance majors are also required to take 35 hours of free electives. Of this time, a maximum of 28 hours may be in the Dance department.

Special requirements for dance majors come to 22 hours. Nine hours must be taken in the other departments of the College of Fine Arts. The remaining 13 hours will be assigned to the student based on his individual needs as determined by the department.

The University's General Distribution requirement consisting of 60 hours may be found on page 32. The above requirements total 180 hours. Junior dance majors are required to do a dance project.

Senior dance majors are required to choreograph and perform in a senior dance program.

Prospective students must contact the Dance department to arrange for an audition prior to registration. Beginning courses may only be repeated three times. A student must audition each quarter to stay at his present level or to advance to a higher level.

Until students are accepted into Intermediate Modern or Intermediate Ballet they will be considered probationary Dance majors.

A dance major is expected to keep his/her weight at a level that is aesthetically acceptable to the Dance faculty for classroom training and for performances.

In pursuit of the degree, a student must abide by the following regulations:

A. *Students must not use classroom facilities* without permission of faculty. "Classroom" refers to studio space, theatre space, or any other space designated for dance practice, rehearsal, or performance. "Facilities" refers to all technical equipment associated with either dance practice, rehearsal, performance (such as pianos, other musical instruments, tape recorders, stereo equipment, and any other equipment or sets).

B. Each student utilizing a piece of equipment which is the property of the Dance department as mentioned above is held liable for any loss or damage to equipment.

C. *Students may not remove any facilities from designated classroom areas.*

Students should refer to page 93 for graduation requirements.

Visiting Artists and Artists-In-Residence:

By supplementing its excellent on-going regular staff-instructed dance curriculum with other professional resources made available through the Visiting Artist and Artist-in-Residence programs, the Dance department provides for dance students an overall dynamic program for practice, study and learning.

An impressively lengthy list of the extraordinary individual dance and dance company participation in one or more programs includes:

Murray Louis Dance Co.
First Chamber Dance Co.
Claude Kipnis Mime Theatre
Louis Falco Dance Co.
Nikolais Dance Theatre
Kerela Kalamandalam Co.
Dance Theatre of Harlem
Merce Cunningham Dance Co.
Alvin Ailey American Dance Theatre
Don Redlich Dance Co.
Polish Mime Ballet Theatre
Viola Farber Dance Co.
Paul Taylor Dance Co.
The Phakavali Dancers of Thailand
Royes Fernandez
Jacques D'Amboise
Lucas Hoving Dance Co.
New Caledonia Singers and Dancers
Norman Walker Dance Team
Ballet Marjo
Luis Rivera Co.
Utah Repertory Dance Theater
Cliff Keuter Dance Co.
Kelly Hogan
Jose Limon Co.
James Cunningham Co.
Lar Lubovitch Dance Co.
Dena Madole
Meredith Monk
Luigi
Carolyn Brown
Susanna Hayman Chaffey
Sandra Neels
Betty Jones
Barton Mumaw
Twyly Tharp Dance Company
George Faison Dance Company
Pilobolus Dance Theatre

■ MUSIC

The Departmental Major:

The music curriculum is designed for those students gifted in the performance and/or composition of music. Candidates for a major in music are required to pass an entrance examination

** Six quarters of Pointe Technique (women), or six quarters of Partner of Men's classes.*

(audition) in their respective performance area. Composition candidates are required to submit appropriate scores and/or tapes of their compositions for faculty appraisal. All new registrants are also required to take a placement examination in music theory and literature. Students may obtain dates and times for these examinations from the music department office. Completion of those examinations is required before registration in music courses can be permitted.

Academic Programs Offered Include:

Bachelor of Arts degree with areas in
Performance (voice, piano and orchestral instruments)
Composition.

Requirements for the B.A. Degree:

All students seeking a degree in music are rquired to (1) complete successfully the secondary piano requirements as defined by the music faculty, (2) present a partial public recital during their junior year, (3) present a complete public recital during their senior year, (4) present a record of satisfactory recital attendance during each of the quarters of study at the university. The specific requirements for satisfactory attendance is set by the music faculty. These requirements are in addition to the actual course requirements listed below.

A total of 96 hours is required as follows:

MUSIC THEORY (30)

MUS 201	(3)	MUS 222	(2)	MUS 303	(3)
MUS 202	(3)	MUS 223	(2)	MUS 321	(2)
MUS 203	(3)	MUS 301	(3)	MUS 322	(2)
MUS 221	(2)	MUS 302	(3)	MUS 323	(2)

MUSIC LITERATURE (6)

MUS 231	(2)	MUS 232	(2)	MUS 233	(2)

MUSIC HISTORY (9)

MUS 401	(3)	MUS 402	(3)	MUS 403	(3)

For applied majors, 36 hours of applied music is required:

MUS 204	(9)	MUS 404	(9)	MUS 454	(9)
MUS 304	(9)				

One ensemble per quarter is required in conjunction with applied music enrollment.

Promotion to the next higher level in applied music is made upon the recommendation of the faculty in the student's respective performance area based upon a jury examination conducted by that area faculty.

One ensemble per quarter is required in conjunction with applied music enrollment.

For Composition Majors:

Undergraduates majoring in composition must complete a minimum of 36 credit hours from among the following sequence of courses including MUS 307 and at least one quarter of MUS 458, satisfying all necessary prerequisites for all courses:

MUS 205	Introduction to Electronic Music (3)
MUS 208	Composition (3)
MUS 305, 306, 307	Electronic Music—Analog Synthesis (3,3,3)
MUS 308	Composition (3)
MUS 309, 310, 311	Contemporary Techniques of Composition (3,3,3)
MUS 405, 406, 407	Electronic Music—Digital Synthesis (3,3,3)
MUS 408	Composition (3)
MUS 455, 456, 457	Electronic Music—Real-Time Performance (3,3,3)
MUS 458	Composition (3)
MUS 459	Seminar in New Musical Systems (3)
MUS 410, 411	Orchestration (3,3)

In consultation with, and with the approval of the entire composition faculty, the senior requirement for composition majors is to be satisfied in any of the following three ways, or in other ways so designated by the composition faculty: (1) a complete public concert of works by the student composer, (2) the public performance of several compositions in various concerts throughout the composer's senior year, (3) the formal presentation to the composition faculty of an extensive portfolio of compositions plus the public performance of at least one of these works during the senior year.

The Faculty:

USF's superior music faculty has been carefully chosen for its training, performing ability, and ability to teach. It is in every sense a team. This achievement has been demonstrated by such fine musical ensembles as the Faculty String Quartet, the Faculty Brass Quintet, the Ars Nova (faculty) Woodwind Quintet and the Faculty Chamber Players.

Unique Learning Opportunities:

The music department at the University of South Florida offers the student the opportunity to study with a distinguished faculty, work with the newest in creative equipment, and to be in the company of other superior music students for an extensive, exciting and exacting period of study.

SYCOM — The Systems Complex for the Studio and Performing Arts offers the student the opportunity to work with an unusually well developed electronic facility for creative research and compositional opportunity.

Visiting Artists and Artists-In-Residence:

The Department of Music utilizes guest composers, conductors, and performing musicians to enhance its offerings in terms of teaching faculty, forum appearances, and the conducting of musical programs, symposia, and clinics. Prominent musicians who have appeared in the past are Howard Hanson, Norman Dello Joio, Randall Thompson, Virgil Thomson, David Ward-Steinman, Walter Trampler, Fred Hemke, Eleazar de Carvahlo, Thomas Nee, Lucas Foss, Maurice Andre, John Haynie, Jean Pierre Rampal, and Julius Baker.

Student Organizations:

Sigma Alpha Iota, national professional music fraternity for women, and Phi Mu Alpha Sinfonia, a professional music fraternity for men, are dedicated to serve the cause of music in America. Student Music Educators National Conference is an affiliate of the Music Educators National Conference and is open to all interested students.

Financial Aid:

The University has made available to highly qualified undergraduate students a number of music service awards. Usually these awards cover in-state tuition fees, and are distributed following open auditions held in January and February. The award is made for the following year for three of the four quarters. Available to graduate students who show special potential for creative contribution to the profession are the University Scholar Awards and graduate assistantships and fellowships. Additionally, loans, grants and work programs are available to qualified University of South Florida students. Financial aid is granted on need, academic promise and character.

■ THEATRE (TAR)

The Departmental Major:

Through its curriculum and production program, the Theatre department offers to seriously interested students the

opportunity to prepare themselves for the beginning of a professional career in the Theatre or to continue their studies at the graduate level. In addition, students from other departments and colleges have the opportunity to study and participate in the work of the department, thereby allowing them to gain insight into the creative experience of Theatre.

After a thorough orientation to all facets of the art gained in the basic courses, the Theatre major may begin to concentrate in the areas either of Performance or of Design and Technology. Throughout the student's course of study, contact is encouraged by the faculty in the student's chosen area of concentration to help the student realize his/her full potential and to help maintain awareness of progress.

To earn a major in theatre, the student following the Design and Technology track must take a minimum of 74 quarter hours; the student following a Performance track must take a minimum of 75 quarter hours. In addition to these, 18 or 19 hours of electives in the theatre department may be taken to broaden the general program or to pursue a particular interest in more depth.

For the student preparing to enter the theatre on a professional basis, a 96-hour emphasis in either Design-Technology and/or Performance is advised.

Through the production program, which includes various performances for general audiences, children and department faculty and students, the student has the opportunity to participate in many different ways, thereby gaining practical experience that is essential to his/her development as an artist. For the more advanced acting student, opportunities sometimes arise for participation with other companies in the area. The Design/Technology area of the Florida Center (see description elsewhere in this section) offers to the advanced Tech and Design student opportunities to work with the professional companies (Dance, Theatre and Music) that come to the campus as a part of the University Artist Series and Dance Residency Program. For all students, a broad involvement in all facets of their field of concentration is encouraged.

Visiting Artists and Artists in Residence:

Despite the fact that the University is relatively young the Theatre department has had in residence artists from many kinds of theatre and many countries including: London's West End, The Actor's Studio, Dublin's Abbey Theatre, Broadway, Washington's Arena Stage, The American Shakespeare Festival, The Welsh National Theatre, the BBC, the London Academy of Music and Dramatic Art, Coventry's Belgrade Theatre, Paris, Hollywood, East Berlin's Deutsches Teater, Taiwan, the Socialist Republic of Armenia, and Poland. A partial, alphabetized list would include Martin Esslin, Miriam Goldina, Boris Goldovsky, Henry Hewes, Mesrop Kesdekian, Marcel Marceau, Paul Massie, Siobhan McKenna, Olga Petrovna, Ben Piazza, Alan Schneider, and Doug Watson.

Requirements for the B.A. degree. Total 180 credit hours.

TAR MAJOR REQUIREMENTS:

All students must take:

TAR 201 (2) TAR 211 (3)

Select two: TAR 212, 213, 214, 215 (3 hours each)

TAR 225 (1) TAR 339-340 (6) TAR 403 (5)
TAR 311 (4) TAR 453 (3)
TAR 321 (4) TAR 375 (3)

TAR 400 level Theatre Studies (4)

Total 41 hours

Students may choose either Performance Track or Design and Technology Track.

Requirements for the Performance Track in addition to the 41 hour core:

TAR 410 (4) TAR 412 (4) TAR 414 (4)
TAR 411 (4)

Either TAR 438 (4) or TAR 439 (1-4)

TAR 312 (3) TAR 314 (3) TAR 491-492 (8)

Total - 34 hours

Additional requirements for special 96-hour emphasis in Performance:

1 TAR 400 level Theatre Studies course 4 hours
plus
TAR 423
plus
1 additional course in Tech Design Track
Total - 10 hours
Plus - 11 hours as stipulated at the discretion of the performance faculty

Total - 21 hours

Requirements for the Design and Technology Track in addition to the 41 hours core:

TAR 423	(2)
TAR 421	(3)
TAR 461	(4)
TAR 462	(4)
Performance Course as specified by department	(4)
Additional section of TAR 461 from related area	(4)
In area of emphasis—4 hours: Either TAR 427 (4) or TAR 425 (4) or 4 hours from TAR 424 (2), TAR 466 (2), TAR 474 (2).	(4)
In related area — 4 hours from TAR 427 (4) or TAR 425 (4) or four hours from TAR 424 (2), TAR 466 (2), TAR 474 (2).	(4)
Four credits from skills courses: TAR 417 (2) TAR 420 (2) TAR 419 (2) TAR 428 (2) TAR 474 (2)	(4)
Total	33 hours

Additional requirements for special 96-hour emphasis in Design and Technology:

1 TAR 400 level Theatre Studies course	(4)
PLUS	
Area of concentration in design, puppetry, performance for special audiences or other program that the Faculty determines appropriate for that student.	(18)
Total	22 hours

Special Requirements:

Students majoring in Theatre may be expected to take courses inside or outside TAR Department as suggested by TAR Faculty or advisers as necessary for individual student's progress. (See restriction on page 93..... up to 10 hours.

University and College of Fine Arts Requirements:

A) General Distribution requirements.....	60 hours
B) Free Electives (16 hours may be taken in TAR courses beyond major requirement for Bachelor of Arts Degree with 75 hours).....	23 hours
C) Special Requirements—courses in other departments in the College of Fine Arts.....	9 hours
D) Special Emphasis-additional courses beyond 75 hour requirement giving student preprofessional emphasis (96 hours total: See above for specific course requirement in performance and design and technology).....	21 hours

MASTER'S LEVEL DEGREE PROGRAMS

The College of Fine Arts offers two master's level degree programs, the Master of Fine Arts (M.F.A.) in the Art department and the Master of Music (M.M.) in the Music department. The general University admissions requirements for graduate degree-seeking status and the regulations of the University governing graduate study are described beginning on page 43 in this bulletin. The general University application procedures are explained on page 10. When all of the information required for general acceptability into the University is received in the Graduate Admissions Office, the information gathered by that office will be forwarded to the appropriate department in the College of Fine Arts where the applicant's final acceptance or rejection is actually determined.

Master of Fine Arts Degree (Art)

The major concentrations, or areas of emphasis, available to graduate (M.F.A. seeking) art students are:

DRAWING
PAINTING
SCULPTURE
CERAMICS
GRAPHICS
(LITHOGRAPHY and/or INTAGLIO and/or SILKSCREEN)
PHOTOGRAPHY
CINEMATOGRAPHY

Procedure for Applying

For consideration of acceptance into the Master of Fine Arts degree program, it is required that the applicant submit a portfolio of his work directly to the Director of Graduate Studies in the College of Fine Arts. The portfolio usually consists of 33 mm slides for convenience in shipping, handling and presentation. Legitimate exceptions to this "rule" are naturally acceptable, such as when the applicant's work is comprised of film, or in such other obvious cases when the nature of the work does not lend itself to slides, or when the work can be displayed or presented more conveniently and/or more effectively by delivering it personally (with prior permission), to the Director of Graduate Studies in the College of Fine Arts, or when the work itself and/or additional work is requested by the Director to be sent or brought in. The "portfolio" should indicate a competent level of involvement in an area (or areas) of visual exploration and, when mailed, must be posted directly to the Director of Graduate Studies, College of Fine Arts, University of South Florida, Tampa, Florida 33620, with return postage in stamps, (please, no cash, checks or money orders!) in the amount deemed necessary for the return of all materials.

A personal interview with an applicant is sometimes (though infrequently) requested by the Art department when it is considered necessary (and reasonable) in order to arrive at a final decision regarding the applicant's acceptability into the graduate program. Travel in connection with any interview, requested by the Art department or by the applicant, is naturally at the applicant's own expense. An applicant who would seek consultation with the Director of Graduate Studies, with the Art Graduate Committee, or with any other member of the Art department for whatever reason and for whatever date or time would do well to write or telephone for an appointment in advance of his/her arrival on campus if at all possible.

The following are deadlines for receipt of all materials (letters of recommendation, letter of intent, and portfolio), in the Office of the Director of Graduate Studies, College of Fine Arts: January 1, (for consideration for admission for Quarters III, IV and I); April 1, (for consideration for admission for Quarters IV and I); October 1, (for consideration for admission for Quarters II and III). At this same time, the Office of Graduate Admissions must have received all transcripts from former institutions, the GRE scores and the Application for Admission.

It is the applicant's responsibility to see that all required transcripts and GRE scores are received in the Office of Graduate Admissions in time for their processing only after which we are presented with the record of those credentials. Without those credentials in hand, we cannot consider an application. *The applicant will be advised to allow at least one full quarter in order to permit processing within the system.* (If applicable, see graduate admissions requirements on page 43 of this bulletin).

Applicants to the Master of Fine Arts Degree program are also required to submit three letters of recommendation, a letter of intent, and slides of their work for approval by a faculty committee. These materials must be submitted directly to the Director of Graduate Studies in the College of Fine Arts.

Requirements for the M.F.A. Degree:

General requirements for graduate admission are given on page 43.

A student may be accepted into the program with degree-seeking status either provisionally (conditionally) or fully (unconditionally). The provisionally admitted student may be required to be enrolled for one or two consecutive terms for the removal of a deficiency or to provide time to demonstrate a particular competency. At the end of a provisional period, the student's work will be reviewed by the art faculty, at which time the student will either (1) be allowed to continue in the program, with provisional status removed; or (2) be terminated from the program; or (3) be allowed an additional term of provisional status. Students accepted fully into the degree-seeking program initially will be given a calendar year in which to achieve "degree-candidacy" by faculty review. Neither the first term of a fully accepted degree-seeking student's enrollment nor any summer term may be used for a candidacy review, however. A student admitted into the degree program provisionally will not be permitted a candidacy review during the first term of his/her provisional enrollment. Such a student could be given a candidacy review during the second term of enrollment if he/she had been removed from the provisional status at the end of the first term, or could be reviewed simultaneously for both the removal of the provisional status and for candidacy consideration during the second term provided that he/she is not required to enroll for a third term in the provisional status. Students initially admitted provisionally also have a calendar year in which to achieve candidacy. All degree-seeking students are provided with two opportunities within the calendar year to achieve candidacy. If a degree-seeking student does not achieve candidacy on the second attempt, the student will then be terminated from the program.

Upon acceptance to candidacy, the student will select a committee of three faculty members who will assist in his progress toward the degree (at least two of the committee members must be studio faculty of the student's primary discipline). There is no foreign language requirement for the M.F.A. degree. In spite of the seven-year rule generally applicable to the Master's Degree candidate (see page 47 in this Bulletin), the M.F.A. degree candidate is expected to be in planned continuous residence (enrollment for course work only in Summer Quarters not being required), regardless of the number of course credit hours carried in any given term, regardless of whether they be few, several, or many, and regardless of any per-term averaging pattern. If enrollment is not planned or made for any given term or terms during "continuous residence", the degree-seeking student must request in writing and receive permission from the Director of Graduate Studies in the College of Fine Arts for such absence. Violation of the written terms of a permitted leave of absence could result in termination from the M.F.A. program, at the discretion of the Director of Graduate Studies in the College.

Absence from the program (failure to be actively enrolled for any term during "continuous residence", excluding any summer term) without explicit written consent of the Director of Graduate Studies in the College of Fine Arts could result in immediate dismissal from the program (absence without leave). Any violation of the terms of a provisional or conditional acceptance into the program could result in the termination from the program. Any student not meeting the requirements of the program otherwise, explicit or implicit, and who is not terminated by the provisions indicated above, may be placed on "pending" by a written notification to the Records Section in the Office of the Registrar from the Director of Graduate Studies in the College of Fine Arts.

The M.F.A. degree requires a *minimum* of 72 quarter hours. With the exception of: (1) ART 682 (Graduate Seminar), which must be taken at least twice; and (2) ART 694 (Graduate Instruction Methods), which must be taken at least once, but which is limited to a cumulative total of 5 credits per student; and (3) the "Documentation" requirement, the course credits for which may be earned in either ART 681 (Directed Research), with only the appropriate number of credits commensurable to the work undertaken, submitted and approved acceptable toward the degree; or earned in ART 699 (Thesis, Masters), under the same conditions; and (4) the "Presentation of Work" requirement, the credits for which are allowed within reasonable limits, according to the committee-imposed requirements and the enormity of the other aspects of the task undertaken—all of which above are generally required, the specific course structure of any student's graduate program will be determined by the Director of Graduate Studies in the College of Fine Arts after appraisal of the student's interests, capacities and background during his/her first term of residency. Major areas of study include drawing, painting, sculpture, ceramics, lithography, intaglio, silkscreen, photography and cinematography. Under normal circumstances, students will not be encouraged to diversify too broadly; nor will they be encouraged in specializing too narrowly; but students who plan to prepare themselves for college or university-level teaching will be advised to develop competencies in more than one area in the interest of the sort of flexibility expected to be sought by hiring institutions for the next ten years or more.

The graduate student must meet all of the stated prerequisites for any course into which he/she wishes to enroll. The responsibility for seeing that all graduation requirements are met rests with the student. Although the Director of Graduate Studies in the College will generally coordinate and supervise the student's registrations and direction in the College in the early stages of the student's program involvement, the student's graduate committee will be directly responsible for the student upon the student's achievement of candidacy in *all* curriculum matters, including the satisfactory completion of *all* requirements for graduation. The student must be registered as a fulltime graduate student for at least two quarters of residency. The requirements for the M.A. Degree in Art Education are listed under the College of Education.

M.F.A. Thesis Requirements

The thesis required for the M.F.A. degree, while primarily a body of creative *visual* work (as opposed to the traditional written scholarly research document with standardized requirements), has other components and is developed in the following manner:

1. The production of the body of visual work for a Thesis Exhibition under the guidance of the student's major professor (who will be the Chairman of the student's graduate committee) and the two remaining faculty members on the student's graduate committee.
2. The formally scheduled Thesis Exhibition itself. Although the reservation of desired available space and dates is arranged in advance between the student and the Exhibitions Coordinator, the body of thesis work to be presented must receive the final approval of the student's entire graduate committee before there may be a Thesis Exhibition.
3. The *Documentation* of the Thesis Exhibition, which is not be to be confused with "the thesis" as described in "Division of Graduate Studies", under "Master's Degree" as being required to conform to the guidelines in the Handbook of Graduate Theses and Dissertations. The required Documentation normally consists of two parts:
   a) A record in 35mm slides of each piece of work in the Thesis Exhibition when appropriate such, as in the case of paintings, sculptures, ceramics, etc. (obvious exceptions would be in the case of cinematography, etc.). Five sets of the documenting slides are normally required by the College for distribution and will be retained, the student bearing the expense.
   b) A logically developed, well organized, clearly articulated, written documentation of the development of the Thesis work. Although there is no rigidly prescribed style or format, the written documentation should be conceived and designed to reveal rather than to conceal, to communicate rather than to preclude communication, and must provide supporting evidence of an aesthetic awareness and of a creative sensibility.

      1) *Thesis Development:* Before midterm of the quarter prior to the graduation quarter, student should submit in written form an outline of the ideas, concepts to be dealt with in the thesis document and exhibition to his Graduate Committee.
      The student's Graduate Committee within a week will in turn:
         a) meet with the student to discuss their recommendations and reactions to the student's proposal.
         b) these recommendations and reactions to be submitted to the student in writing.
      It will be the student's responsibility to act on these recommendations and to arrange meetings with the committee to review the development of the work and obtain their written approval for convening of the orals and presentation of the works at least two weeks prior to the opening of the thesis exhibition.
      Failing this written approval two weeks prior to the scheduled opening of the exhibition, the exhibition will be postponed.

      2) *Thesis Orals:* Held in conjunction with the exhibition during the first week of the Thesis Exhibition.
      Three faculty questioners will be selected by the student with approval of his committee and the questioners will be given copies of the written documents two weeks prior to the exhibition orals.
      Student will meet with his Graduate Committee and three questioners in a closed session with the remainder of the faculty members.
      A positive, constructive and careful examination of issues involved in the thesis/exhibition will take place.
      Those in attendance will be the candidate, committee, questioners and other members of the faculty, with the questioners and committee asking questions.
      If any clarifications to the thesis document/exhibition are indicated, agreement should be reached at this time as to the necessary revisions.
      The committee has the responsibility to seek the opinion of the faculty.
      Any questioner or member of the committee can request consultation with the full faculty. The committee will consider the advice of the faculty when they make their decision.

3) *Thesis Exhibition:* If at all possible, the thesis exhibition will be held for a period of two weeks during the quarter of intended graduation, but in no case will any exhibition be held until the third week of the quarter.
4) *Open Dialogue/Thesis Exhibition:* During the final week of the Thesis Exhibition, a specific time will be established for an open dialogue to take place within the gallery.
This dialogue will be open to the public and might include undergraduates, graduate students and faculty.
There should be a free flow of questions, answers and discussion in direct reference to the development of the exhibited work and the student will be responsible for leading the activity.
The formal aspects of evaluation of the thesis document/thesis exhibition will NOT take place at this time, but will have been resolved earlier within the Thesis Orals.

The signed original and four signed copies of the finally approved written Documentation, together with slides, must be submitted for permanent retention before the degree approval.

4. The oral defense of the Thesis Exhibition accompanying the oral defense of the written Documentation (as outlined above).

Master of Music Degree

The major concentrations available to graduate (M.M. seeking) music students are:

performance	theory
composition	choral conducting

Procedure for Applying

The applicant seeking acceptance into the Master of Music Degree program must meet the University's general admissions requirements and make formal application for general University acceptability with the Graduate Admissions Office. Concurrently, or even before, but certainly not appreciably later, the applicant must arrange to fulfill the specific acceptance requirements in the Music department (of the College of Fine Arts). Full acceptance can not be given until the applicant satisfies: (1) performance audition, (2) placement examinations in music theory-literature and piano. Dates and times for auditions and examinations may be obtained by telephoning or writing the Music department, College of Fine Arts. Persons to contact directly are the Chairman of the Music department and the Graduate Music adviser, or the Director of Graduate Studies (College of Fine Arts) for referral.

Requirements for the M.M. Degree:

General requirements for graduate work are given on page 47. In addition, the applicant for the Master of Music degree program will need to satisfy the following requirements in music before initial registration: (1) performance audition, and (2) placement examinations in music theory-literature.

The specific program for each student will vary according to his needs and interests. Each program must be approved by the student's adviser in conformance with the guidelines established by the Graduate Music Committee. A minimum of 54 quarter hours is required.

The responsibility for seeing that all graduation requirements are met rests with the student.

COLLEGE OF MEDICINE

The major objectives of the College of Medicine are, first, to create and maintain an academic environment in which medical education, the production of new knowledge, and comm unity service may be continued in a quality manner. The second objective is to integrate the College of Medicine into the mainstream of the community and to participate in and lead in the up-grading and improvement of the health care standards of the community in which the College is located. The third objective is to function within the framework of the total University as an integral and valued part of the University community.

The philosophy of the educational program at this institution is to provide a strong academic basis for lifetime scholarship in medicine and growth in professional stature for our students; to lay the foundation for the development of ever increasing technical and professional competency and proficiency in the arts and sciences of medicine for each of the students; to instill in our students compassion and a sense of devotion to duty to their profession and to their patients; to provide relevance and continuity in instruction among the various disciplines related to medicine; to maintain and increase our students' motivation for community and human service in the practice of their profession; to stimulate the students to accept major responsibilities in learning; to orient teaching activities around the student and his desire and ability to learn.

With these concepts in mind, a curriculum has been developed which we believe will achieve an effective correlation between the pre-clinical and clinical instructional areas. This curriculum is designed to emphasize conceptually oriented teaching, thus affording the students a challenging and intellectual experience as opposed to a routine and the superficial presentation of a large volume of facts. Relevance to medicine will be emphasized in all areas of instruction in a way recognizable and understandable by the student of medicine. Increased correlation on an interdisciplinary basis will be instituted providing reinforcement between the various fields of study. The curriculum will also provide a close and ongoing experience for the student in the day-to-day and continuing health care delivery system within the community hospitals and in ambulatory care facilities. It is anticipated the program will produce graduating physicians who understand and desire the practice of medicine as a fruitful and meaningful choice for a lifetime career of service to their patients and the community.

It is recognized that the program does place heavy demands upon the students. They will be expected to utilize all resources provided by the College, to maintain a consistent level of academic achievement, and to demonstrate evidence of initiative and dedication to their chosen profession.

MEDICINE

Students admitted to the College of Medicine, seeking an M.D. degree, are selected on the basis of what appears by present standards to be the best suited for the successful study and practice of medicine. The selection is made by the Admissions Committee composed of members of Pre-Clinical and Clinical faculty. Each applicant is considered individually and is judged strictly on his or her own merits. Characteristics evaluated include motivation, integrity, character, and general fitness. These are judged by recommendations of the applicant's Pre-Medical Advisory Committee as well as other letters of recommendation. The academic record and Medical College Admission Test furnish an estimate of academic achievement and intellectual competence.

Interviews are arranged for applicants whose qualifications appear to warrant complete exploration.

All inquiries concerning admission should be directed to the Associate Dean for Admissions, Medical Center, College of Medicine, Department of Admissions, Box 3, 12901 North 30th Street, University of South Florida, Tampa, Florida 33612.

Requirements for Admission

A minimum of three years of college or university work is required with some preference given to those applicants who present a bachelor's degree from a liberal arts college approved by one of the national accrediting agencies. The minimum requirement is three years of college work (90 semester hours or 135 quarter hours, exclusive of Physical Education and ROTC).

Regardless of the number of years involved in Pre-Medical training, the college credits submitted by the applicant must include the following:

One Year—English
One Year—General Chemistry, including laboratory
One Year—Organic Chemistry, including laboratory
One Year—Physics, including laboratory
One Year—Biology, including laboratory
One Year—Mathematics

Applicants desiring admission to the July, 1978, freshman medical class will be required, as of July, 1978, to have one course in GENETICS and one in STATISTICS.

All applicants must arrange to take the Medical College Admission Test.

Requirements for Graduation

The awarding of the degree Doctor of Medicine will follow successful completion of the entire required course of study. Appropriate arrangements for post graduate training must be made. Grading of performance in academic subjects will be on a pass, fail, honors grading system, and the student must have achieved a grade of at least pass in all subjects in the curriculum.

Doctor of Philosophy Degree in Medical Sciences

A graduate program leading to the Doctor of Philosophy degree in Medical Sciences is offered by the Basic Science Departments of the College of Medicine. Information concerning this program may be obtained by contacting the Graduate Coordinator, Medical Center, College of Medicine, Box 10, 12901 North 30th Street, University of South Florida, Tampa, Florida 33612.

COLLEGE OF NATURAL SCIENCES

Students in the College of Natural Sciences are trained in the tools of logical analysis and the modes of experimentation in the continuing attempt to better understand the nature of man and his relationship to the universe. In all its functions the College is dedicated to fostering a spirit of inquiry and intellectual growth.

In its seven departments, the College of Natural Sciences offers programs in astronomy; biology, including botany, microbiology and zoology; chemistry, and biochemistry; geology; marine science; mathematics and physics. These programs are designed for students planning scientific careers in the science fields or for those planning professional careers having a considerable component of science. These students will typically major in one of the sciences or in a combination of sciences as preparation for employment, transfer to professional schools or admission to graduate school.

In addition to the majors in science, the college administers the pre-medical sciences advising program and the medical technology advising program. These programs combine specialized counseling and curriculum planning to assist the student in gaining admission to a professional school or internship program.

BACCALAUREATE LEVEL DEGREE PROGRAMS

Admission to the College

To be admitted to the College of Natural Sciences a student must make written application and satisfy the admission criteria of the college. Upon admission, the student will be assigned a faculty adviser for counseling and program planning. Students preparing for a science or mathematics career must plan their courses carefully because of the sequential nature of the science curricula, and students seeking entrance into a professional school or medical technology internship program require specialized counseling. Because of this, immediate application for admission into the college is strongly recommended.

Information on admission criteria, departments, majors, programs, counseling, and other services of the college may be obtained from the office of the Dean or by contacting the Director of Advising, College of Natural Sciences, University of South Florida, Tampa, Florida, 33620.

General Requirements for Degrees

In addition to the university graduation requirements found on Page 33, the requirements for graduation in any undergraduate degree in the college are as follows:

1. Completion of a sequence of courses constituting a major program with a grade of "C" or higher in each course. A major program is defined to be courses in a department of concentration plus supporting courses in related departments. All courses in the major program must be taken with letter grade except those courses which are graded S/U only.
   A 2.0 grade point average must be achieved in courses in the department of concentration and a 2.0 grade point average must be achieved in the supporting courses of the major program. For a more detailed description of the major program requirements, consult the appropriate departmental section.
   Certain courses offered in the college are designed for the non-science major or the non-departmental major. The courses are designated "For non-majors," "No credit for (department) major," "No credit for science majors," or some similar phrase. For these courses the following rules apply:
   "For non-majors"—For majors in the college, the course will count as credit towards graduation only as a free elective.
   "No credit for (department) major"—the course will not count toward graduation for a science major in the specified department, but will count as credit towards graduation as a free elective for all non-specified departments.
   "No credit for science majors"—the course will not count towards graduation for any major in the college.
2. Satisfaction of the University distribution requirement, except:
   (a) In area III, the minimum requirement of eight hours in Mathematics may be waived by credit in at least eight hours of Mathematics courses required by the major.
   (b) In area IV, the minimum of eight hours in Natural Sciences may be waived by credit in at least eight hours of natural sciences courses required by the major.
3. Completion of 24 hours of courses from the College of Fine Arts, Social and Behavioral Sciences, or Arts and Letters. The student may elect any course from any of these colleges provided:
   (a) The courses are approved by the student's adviser.
   (b) No more than 12 hours are taken in courses in any one prefix.
   Courses taken to satisfy the University Distribution Requirement may not be used to satisfy this requirement.
4. At least 45 credit hours with letter grades must be earned in the College of Natural Sciences.
5. At least 45 of the last 90 hours of undergraduate credit must be in residence in courses (with letter grades) at the University of South Florida. The approval of the dean must be secured for any transfer credits offered for any part of these last 90 hours.
6. At least 45 credit hours must be earned in residence in the College of Natural Sciences.

Credits transferred from other schools will not be included in the grade point average computed for graduation.

For graduation with honors, see page 35.

Natural Science students are permitted to repeat a course only once under the Forgiveness Policy.

The college or department in the college may have specific requirements in addition to those listed in this bulletin. College rules or requirements are on file in the dean's office, and departmental rules or requirements are on file in each departmental office. The student is responsible for meeting all graduation requirements.

Grading Systems

Typically, courses in the University receive letter grades (A,B,C,D,F,I). However, the college recognizes that educational competence may be achieved and demonstrated by experiences other than classroom attendance leading to letter grades. The attention of the student is directed to the following:

1. CLEP and other advance placement examinations.
2. Waiver by either documentations or examination.
3. Off-Campus Term programs.
4. Cooperative Education Program.
5. Independent Study.
6. S/U Graded Courses.
   A. With the exception of courses graded S/U only, all courses required to satisfy the departmental major and all supporting courses required by the departmental major are considered in the students' major program and may not be taken S/U. However, once the requirements of the major program have been satisfied, subsequent courses taken in the major or supporting areas are considered free electives and may be taken S/U. All hours required to complete the 24-hour rule must be taken by letter grade.
   B. With the exception of ENG 101, 102, 103 all courses in Distribution Requirements and all courses in free electives may be taken S/U. There is no restriction regarding the number of hours to be taken S/U except the graduation requirement that the student must earn at least 45 credit hours with letter grades in the College of Natural Sciences.
   C. Students will be permitted to enroll in a course by an S/U on the basis of a written contract signed by the student, and the instructor of the course. This contract should be completed no later than the third week of the quarter in which the course is offered.
   D. Each instructor for courses in the College of Natural Sciences will provide students with requirements necessary to attain an "S" grade. Essentially, "S" should be equal to a "C" or better.
   E. Students transferring from any other college or division of the University will be subject to the above requirements.

Programs Leading to the Baccalaureate Degree

The College offers the Bachelor of Arts degree with majors in Astronomy (AST); Biology (BIO), Botany (BOT), Microbiology (MIC), and Zoology (ZOO); Chemistry (CHM); Geology (GLY); Mathematics (MTH); Physics (PHY); and Interdisciplinary Natural Sciences (INS) with a concentration in one of the above. The College offers the Bachelor of Science degree with majors in Chemistry (CHS), Clinical Chemistry (CHC), Medical Technology (MET), and Physics (PHS). For specific requirements, consult appropriate departmental sections of this bulletin.

■ PRE-MEDICAL SCIENCES

Modern health care ranges from diagnosis and treatment of disease to basic and applied research. Consequently, the health sciences need individuals with a diversity of educational backgrounds and a wide variety of talents and interests; and the student entering a career in the health sciences has an opportunity for service in a wide range of health care activities.

The pre-medical sciences program at the University of South Florida is administered by the College of Natural Sciences and is designed to assist students seeking entrance into a professional school in medicine, dentistry, veterinary medicine, or optometry. The program is designed to enhance the student's intellectual, personal, and social development. While specific requirements may vary, all professional schools recognize the need for a well-rounded education; therefore, the goal is to develop a perceptive, knowledgeable citizen with a strong foundation in the natural sciences yet broadened and enriched with a background in the social sciences and humanities. Each student in the program is assigned to a Pre-medical Adviser who will provide guidance relative to course selection, admission procedures, and entrance examinations, and who will write letters of evaluation to the professional schools. The student may remain in the program until admitted to a professional school or until he or she seeks other alternatives, even if the time required extends beyond the baccalaureate degree.

Pre-Medical Sciences Program

The pre-medical sciences program prepares the student for admission to a professional school. In addition, pre-medical science students seeking a degree may major in a discipline of personal preference, whether it be in the sciences or non-sciences, and fulfill all requirements in that major for graduation.

The following science courses are the requirements for admission to almost all accredited professional schools:

One year of Biology: BIO 201, 202, 203.
Two years of Chemistry: CHM 211, 212, 213, 217, 218, 219 (or CHM 215, 216), 331, 332, 333, 334, 335, 336.
One year of Physics: PHY 201-202, 203-204, 205-206 (or PHY 301-302, 303-304, 305-306).

In addition to the science requirements it is generally expected that the student will complete three quarters of English and three quarters of Mathematics, preferably including Calculus. CLEP credit is generally not acceptable to professional schools.

Some professional schools require or recommend additional courses. The following science courses are frequently specified:

Biology: BIO 331, 401, 402, MIC 351, ZOO 311, 422.
Chemistry: CHM 321, 341, 342, 351.

Beyond science course requirements and recommendations, it is essential that students pursue courses developing a sense of understanding of cultural and humane values, and basic social problems. The quality of academic performance in preparation for professional school should be of the highest level. A few well-prepared students with exceptional qualifications may be admitted to some professional schools as early as the completion of the junior year of pre-medical work.

B.A. Degree for Medical and Dental Students

Students who are admitted to a medical or dental school after completing their junior year at The University of South Florida may be awarded the B.A. degree in Interdisciplinary Natural Sciences from the College of Natural Sciences subject to the following conditions:

1. Transfer of a minimum of 45 hours in science courses from an approved medical or dental school.
2. In attendance at the University of South Florida, the minimum requirements for the Interdisciplinary Natural Sciences major must be fulfilled as follows:
   A. 135 credit hours with at least a "C" average (2.000) in those credit hours completed at the University of South Florida.
   B. Completion of a sequence of courses constituting a major program with courses in a department of concentration and supporting courses in related departments. There must be a minimum of 36 credit hours in the discipline of major concentration and a minimum of 24 credit hours in supporting courses in the College of Natural Sciences outside the discipline of major concentration. The 36 credit hours in the discipline of major concentra-

tion must be in courses applicable to a major in that department. The 24 credit hours in supporting courses must also be taken in courses applicable to a major in that department and must include a minimum of three courses at the 300 level or above. The student must earn at least a "C" in each course in both major concentration and supporting courses, except for courses graded S/U only.

3. Credit in the following courses:
   Biology: BIO 201, 202, 203
   Chemistry: CHM 211, 212, 213, 217, 218, 219, (or CHM 215, 216), 331, 332, 333, 334, 335, 336.
   Physics: PHY 201-202, 203-204, 205-206 (or PHY 301-302, 303-304, 305-306).
4. A minimum of 30 credits from the following courses:
   Biology: BIO 331, 401, 402, ZOO 311, 422.
   Chemistry: CHM 321, 341, 342, 351.
   Mathematics: MTH 211, 212, 213 (or MTH 122, 123, 302, 303, 304).
5. The General Distribution requirements of the College of Natural Sciences as approved by the student's adviser.
6. At least 45 credit hours with letter grades earned in the College of Natural Sciences.
7. The last 45 credit hours prior to transfer to a medical or dental school in residence at the University of South Florida.

Application for the baccalaureate degree must be received no later than two years from the date of entrance into the professional school.

GRADUATE LEVEL DEGREE PROGRAMS

Programs of graduate study are available in every department of the College of Natural Sciences. Students apply for graduate work through the College of Natural Sciences and are recommended for admission by the department in which they intend to concentrate. A departmental committee is appointed which supervises and guides the program of the candidate. The general University requirements for graduate work at the master's level are given on page 47, and for the Ph.D. degree on page 48. The specific requirements for each department are listed under that department below. For further information regarding admission and the availability of fellowships and assistantships a candidate should write to the appropriate departmental chairman, University of South Florida, Tampa, Florida 33620.

Master's Degree Programs

The College of Natural Sciences offers graduate programs leading to the Master of Arts degree in the fields of Astronomy (AST), Botany (BOT), Mathematics (MTH), Microbiology (MIC), Physics (PHY), and Zoology (ZOO); and a Master of Science degree in Chemistry (CHM), Geology (GLY), and Marine Science (MSC).

Doctor's Degree Programs

The College of Natural Sciences offers three programs leading to the degree of Doctor of Philosophy:

Biology (BIO)—This program leads to the Ph.D. in Biology, including the fields of Marine Biology, Systematics, Behavior, Ecology, and Physiology.

Chemistry (CHM)—This program leads to the Ph.D. in Chemistry, including the fields of Analytical, Biochemistry, Inorganic, Organic and Physical Chemistry.

Mathematics (MTH)—This program leads to the Ph.D. in Pure and Applied Mathematics.

TEACHER EDUCATION PROGRAMS

The College of Natural Sciences offers B.A. and M.A. degree programs for secondary school teachers and the M.A. degree for junior college teachers.

B.A. Degree Program for Secondary School Teachers:

The College of Natural Sciences in cooperation with the College of Education offers degree programs in Mathematics (MAE), in Botany (BOE), in Chemistry (CHE), in Physics (PHE), in Zoology (ZOE), and in Science (SCE). Because requirements exist in both colleges, a student will have an adviser in each college. At the outset the planned courses in mathematics and science must be approved by the student's adviser in the College of Natural Sciences.

There are two options available to the student to satisfy the science portion of the program:

1. The student may complete the requirements of the departmental major. Departmental majors in Botany and Zoology may be found in this section of the catalog under the heading Biology. The departmental requirements of Chemistry, Mathematics, and Physics are found in this section of this catalog under the respective headings in Chemistry, Mathematics, and Physics.
2. The student may complete requirements of the Interdisciplinary Natural Sciences major with concentration in Biology, Chemistry, Physics, and Mathematics. A complete description of this major is found on page 111. This major is particularly appropriate for Science Education majors (SCE).

Prospective students should consult the College of Education portions of this bulletin under the heading "Science Education (SCE)" for the required education courses and sample programs.

M.A. Degree Program for Secondary School Teachers:

The College of Natural Sciences in cooperation with the College of Education offers the M.A. degree in Mathematics (MAE) and in Science (SCE). In science, concentrations are available in Biology, Chemistry, and Physics. Because requirements exist in both colleges the student will have an adviser in each college. At the outset the planned courses in mathematics and science must be approved by the student's adviser in the College of Natural Sciences.

The University requirements for the M.A. degree are found on page 47. Mathematics majors must complete a minimum of 51 quarter hours; science majors must complete at least 27 quarter hours in the discipline of concentration. For requirements in education the student should consult the College of Education portion of this bulletin entitled "Master's Level Degree Programs—Science Education (SCE)."

M.A. Degree Program for Junior College Teachers:

The M.A. degree program for junior college teachers is available in the College of Natural Sciences with specializations in astronomy, biology, chemistry, geology, mathematics, or physics.

The student may complete the M.A. degree in a program offered jointly by the College of Natural Sciences and the College of Education. This program requires 36 hours in mathematics or science specialization courses which must be approved by the student's adviser in the College of Natural Sciences; 9 hours are required in Professional Education courses and 1-9 hours are required in internship depending on the amount of teaching experience of the student. For requirements in education, the student should consult the College of Education portion of the bulletin entitled "Junior College Teaching Program."

CURRICULA

■ ASTRONOMY (AST)

The Department of Astronomy offers programs leading to the degrees of Bachelor of Arts and Master of Arts in astronomy. Students who graduate with an undergraduate degree in astronomy are expected to have a good foundation not only in astronomy but also in mathematics and physics, with the emphasis varying with the individual. They are also trained to become competent computer programmers. Employment opportunities exist at various government agencies, in private industry, and as teachers in public and private schools. Students who receive an undergraduate degree in astronomy will not necessarily continue to become professional astronomers. Because of the breadth of their education, astronomy majors can take up a variety of post-college careers including graduate study in astronomy, mathematics, or physics.

The graduate program leading to a master's degree emphasizes specialization in various fields of astrophysics and astronomy. Most students continue to work for a master's degree after receiving the bachelor's. Employment opportunities at the master's level exist in the same way as they do on the bachelor's level. In addition the master's degree is regarded at some educational institutions as a terminal degree for teachers on the junior college or sometimes even college level.

The Astronomy Department has at this time 6 faculty members, all of whom are actively engaged in original research. The facilities include a 26-inch Schmidt-Cassegrain telescope with a focal length of 30', as well as several smaller telescopes and auxiliary equipment. Faculty and students have access to the IBM 360-65 computer.

Requirements for the B.A. Degree:

I. *Astronomy Courses (34 cr. hrs. of upper level courses minimum).*

AST 301	(4)	AST 311	(1)	AST 413	(4)
AST 302	(4)	AST 312	(2)	AST 443	(5)
AST 303	(4)				

A minimum of 8 cr. hrs. from:

AST 313	(3)	AST 521	(5)	AST 536	(4)
AST 351	(5)	AST 522	(4)	AST 583	(1-6)
AST 414	(4)	AST 533	(4)		

A minimum of 1 cr. hr. from:

AST 481 (1)

A minimum of 1 cr. hr. from:

AST 491 (1)

II. *Supporting Courses in the Natural Sciences (45-46 cr. hrs.)*

MTH 302-305 (17)
MTH 401 (4)
PHY 201-206, 315 (18)
PHY 301-306 (12)

At least three of the following Physics courses:

PHY 307	(3)	PHY 331	(4)	PHY 437	(3)
PHY 309	(4)	PHY 405	(4)	PHY 541	(3)
PHY 323	(3)	PHY 407	(3)		

At least one of the following Mathematics courses:

MTH 311	(4)	MTH 345	(5)	MTH 447	(4)
MTH 323	(4)	MTH 445	(3)		

III. *General Distribution Requirements*
(60 cr. hrs. excluding waivers)
The astronomy major must satisfy the General Distribution requirements of the College of Natural Sciences (See page 103).

IV. *Liberal Education Electives*
The student must satisfy 24 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences (See page 103).

V. *Free Electives (40 cr. hrs. maximum)*
The student is expected to familiarize himself with the techniques of programming electronic computers before the end of his sixth quarter.

For students planning to attend graduate school, it is strongly recommended that they enroll in several courses numbered 500 or higher from group I above. They should also achieve a reasonable level of competence in at least one of three languages: French, German, or Russian.

Teacher Education Programs:

For information concerning the M.A. degree for junior college teachers, see above.

Requirements for the M.A. Degree:

General requirements for graduate work are given on page 47.

A minimum of 45 credits (excluding AST 694) must include at least 24 for courses numbered 600 or higher and at least 18 for structured astronomy courses numbered 500 or higher. It will be assumed that the student knows enough mathematics and physics to follow any astronomy courses required in his curriculum. No credit is available for courses numbered 499 or lower which the student takes in order to make up for his initial deficiencies in this respect. Since candidates for the graduate degrees in astronomy may have a variety of backgrounds, including majors in astronomy, mathematics, or physics, the required course of studies may vary considerably among students.

A thesis is required and must be based on original work. In lieu of the thesis, however, the student may be permitted to enroll for at least 8 additional hours on a level of 500 or above beyond the present requirements. It will be expected that the student will be assigned to a faculty member and perform research under this faculty member's direction. The student must also demonstrate, before the degree is granted, his ability to translate into English the pertinent scientific literature in at least one of the foreign languages: German, French or Russian. This last requirement may, in exceptional cases, be replaced by an equivalent one agreeable to the student and the department chairperson.

■ BIOLOGY (BIO/BOT/MIC/ZOO)

In addition to a set of basic courses in biology, students must have a thorough preparation in other areas of natural sciences in order to be competitive for jobs or for further study beyond the baccalaureate. A modern biology curriculum is built on a foundation of mathematics, chemistry and physics.

Four specific Bachelor of Arts degrees (Biology, Botany, Microbiology, and Zoology) are available for students interested in the biological sciences. They are all preparatory for careers in teaching, agriculture, medicine, dentistry, marine biology, biotechnology, or for post-graduate study in any of the various life sciences. The Department attempts to schedule sequences of

500 level courses which allow seniors in the Biology program to concentrate in such areas as: Ecology, Cell & Molecular Biology, Physiology, and Marine Biology. Students should study the requirements listed below and then make maximum use of the vigorous advising program maintained by the Department in structuring their total program. A reading knowledge of a modern foreign language (German, French, or Russian) is strongly recommended for those who intend to enter graduate school.

Requirements for the B.A. Degree:

I. Department of Biology Courses

A. **Biology Core Courses** (Required for all B.A. Degrees, 35 or 36 cr.)
BIO 201-203 (12)
BIO 331 (4)
BIO 401-402 (10)
BIO 445 (4)
Physiology (choice of course— for all programs as indicated: BOT 423, MIC 423 & MIC 402, ZOO 423) (5 or 6)

B. **Individual Degree Requirements**

BIOLOGY MAJOR (BIO) (25 cr. hrs.)
25 credit hours in BIO, BOT, MIC, and ZOO courses in consultation with adviser.

BOTANY MAJOR (BOT) (25 cr. hrs.)

BOT 300	(5)	BOT 423	(0)	BOT 491	(1)
BOT 311	(5)	BOT 419	(5)		

Biology Department Electives (9)

MICROBIOLOGY MAJOR (MIC) (25-27 cr. hrs.)

MIC 351	(4)	MIC 451 or		MIC 423	
MIC 352	(2)	BIO 558	(5/4)	&	
MIC 401	(3)	MIC 457	(4)	MIC 402	(0)
MIC 453	(4)	MIC 491	(1)		

and

One of the following:
BOT 417/MIC 518/BOT 543/ZOO 513 (5)

NOTE: Every microbiology major should obtain a recommended course sequence from a member of the microbiology faculty in order to avoid possible scheduling problems.

ZOOLOGY MAJOR (ZOO) (15 cr. hrs.)

ZOO 422	(5)	ZOO 313	(5)	ZOO 423	(0)

and

Any one lab course in vertebrate biology (5)

II. Supporting Courses in the Natural Sciences (Required for all B.A. Degrees, 42 or 44 cr.)
CHM 211-213; CHM 217-219 (12)
or
CHM 215-216 (10)
CHM 331-334 (10)
PHY 201-204 (10)
MTH (12)
(Three courses in mathematics chosen from the following to attain 12 credits: MTH 211, 212, 213; 302, 303, 304, 305, 310, 311, 323, 345)

III. General Distribution Requirements (Required for all B.A. Degrees, 60 cr.)
Each student is required to satisfy the General Distribution requirements of the College of Natural Sciences (see page 103). The selection of courses within the requirement is to be done in conference with Biology Department advisers.

IV. Liberal Education Electives
The student must satisfy 24 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences (See page 103).

V. Free Electives (including General Distribution waivers) can be taken over and above major requirements and major electives to complete a 180 hour program.

Teacher Education Programs:

For information concerning the degree programs for secondary school teachers and junior colleges, see pages 71, 76, and 80 of this Bulletin.

Marine Biology

The field of marine biology is especially important in Florida and there is a good demand for trained personnel. Several faculty members in the Department teach courses and conduct research in this area. Undergraduates interested in specializing in marine biology may do so by taking marine-oriented courses offered within the Department. Appropriate courses include ZOO 313 (Introductory Invertebrate Zoology), ZOO 519 (Ichthyology), ZOO 520 (Echinoderm Biology), ZOO 545 (Zoogeography), ZOO 557 (Marine Animal Ecology), BOT 543 (Phycology), and BOT 547 (Marine Botany). The Biology Department offers M.A. degrees and the Ph.D. degree which allow specialization in marine biology.

Requirements for the M.A. Degree:

General requirements for graduate work are given on page 47.

Major programs are offered in Botany, Microbiology, or Zoology. The M.A. degree may be obtained by completion of a research thesis or by appropriate substitution of structured courses and an approved paper. The satisfactory completion of all general requirements and those specifically stated below are the responsibility of the individual student.

The selection of a committee must occur within the first three quarters after admission. Failure to do so will be cause for termination. The choosing of a major professor includes acceptance of the student by the faculty member. Until selection is accomplished, the departmental graduate coordinator will function as the student's adviser. The three-member supervisory committee, as approved by the departmental chairman and college dean, must include one faculty member from outside the student's area of specialization.

For students enrolled in the thesis program, a 45 credit hour minimum is required at the 500-600 level; 24 must be at the 600 level or above; 30 of the 45 credit hours must be in formally structured courses of which 22 must be in biology; 15 of the 22 credit hours must be at the 600 level or above. All students in the thesis program must complete the graduate seminar (BIO 691). A maximum of 15 hours of combined thesis, research, and seminar may apply toward degree.

For students enrolled in the non-thesis program, a 45 credit hour minimum is required at the 500-600 level; 40 credits must be in formally structured courses. 24 credits must be at the 600 level or above; 22 must be in biology.

A final comprehensive examination on basic biology is required for all students. This examination is open to all departmental faculty and is normally taken after the completion of formal course work and at least one quarter before thesis presentation.

In some cases, the ability to translate pertinent scientific literature from a foreign language must be demonstrated before taking the comprehensive examination.

Requirements for the Ph.D. Degree:

General requirements are given on page 48.

A doctorate program in biology is offered. Areas of specialization for the Ph.D. are marine biology, ecology (tropical ecology, population ecology, and physiological ecology), physiology (cellular physiology, microbial physiology, neurophysiology), systematics, and behavior. On admission to the Department for doctoral study, the student shall select a major professor from the departmental faculty for the direction of his program. A five-member supervisory committee will be named and approved by

the Department chairman and College Dean. At least one member of the committee shall be from beyond the student's area of specialization. This committee shall approve the courses of study, choice of language skills, and the supervision of the student's research and dissertation.

It is expected that students will have had undergraduate training comparable to that of a USF undergraduate in biology.

A departmental requirement of a minimum of 30 credit hours are required in formally structured graduate-level courses from more than one faculty member, as well as any additional courses necessary to the needs of the individual's program as determined by the supervisory committee. A maximum of 9 hours of formally structured graduate-level courses may be transferred from other graduate institutions. Fifteen hours from the master's degree program at USF may be applied toward meeting the above requirements with approval of the supervisory committee.

Some time before the end of the sixth quarter, a student must have demonstrated a reading proficiency in two foreign languages or approved special work. Language selection will be by the supervisory committee and testing by either the faculty of biology or foreign languages. After the language examination and before the end of the sixth quarter, the written portion of the departmental preliminary examination must be completed. The oral portion of the preliminary examination must be completed within the next two academic quarters.

After completion of the above requirements, the student may be admitted to candidacy upon approval of the Dean of the College and the Director of Graduate Studies. One academic year of satisfactory service as a teaching assistant is recommended of all candidates. Also, a public seminar presentation of the dissertation during the final quarter's work is required.

A final oral examination will be administered and evaluated by the supervisory committee. Emphasis will be upon the dissertation, the student's mastery of his general field of research, and the application of fundamental biological principles to the dissertation. The examination is conducted by a neutral and non-voting convener and the candidate shall be subject to questioning by any biology faculty member in attendance.

Graduate Application Deadlines:

Applications must be completed by March 10th for Quarter I applicants who wish to be considered for assistantships. All other applications must be completed by the fourth week of the quarter preceding the one for which you are applying.

■ CHEMISTRY (CHS/CHM/CHC)

The Department of Chemistry offers three degrees at the baccalaureate level, Bachelor of Arts degree in Chemistry, Bachelor of Science degree in Chemistry, and Bachelor of Science degree in Clinical Chemistry, and two degrees, Master of Science and Doctor of Philosophy, each with specialization in the areas of analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry, at the graduate level. The chemistry faculty is comprised of 27 full-time senior faculty members, all of whom hold the Ph.D. degree. A comparable number of teaching assistants, generally graduate students enrolled in the Ph.D. program, serve as instructors in the laboratories. The combination of a large and strong faculty with a wide variety of courses and electives provides students with programs of study which can be tailored to fit individual needs while maintaining a sound background in all general aspects of chemistry.

The *Bachelor of Science* degree in Chemistry (CHS) is a rigorous program which supplies the foundation in chemistry required for both the student who begins a chemical vocation immediately upon graduation as well as the one who pursues advanced study in chemistry or related areas. In accord with this goal the curriculum for the B.S. degree meets the requirements for degree certification by the American Chemical Society.

The *Bachelor of Arts* degree (CHM) provides a course of study designed for the student who does not intend to become a professional chemist but whose career goals require a thorough understanding of chemistry. Inherent in this program is a high degree of flexibility which permits tailoring a course of study to the student's own educational objectives. As such it offers considerable advantages to pre-professional students planning careers in medicine and the other health-related fields and an excellent preparation for primary and secondary school teachers of chemistry or physical science. The B.A. student whose goals change in the direction of graduate work in chemistry should supplement this curriculum by addition and/or substitution of a selection of advanced courses from the B.S. program.

The *Bachelor of Science* degree in Clinical Chemistry (CHC) offered by the Department of Chemistry, one of only a few such programs in the country, is specifically designed to train personnel for this new and growing field of the medical profession; however, the strong scientific background and specific technical expertise provided by this program also afford the student an excellent preparation for graduate study in clinical chemistry, biochemistry, or medicine. Interested students should see the Coordinator of the Clinical Chemistry Program in the Department of Chemistry for further information.

In graduate work, the excellent physical facilities and very low student-teacher ratio combine to afford unique opportunities for advanced study in chemistry. In addition to the five traditional fields, analytical chemistry, biochemistry, inorganic, organic, and physical chemistry, research opportunities are also available in such interdisciplinary and specialized areas as bio-organic and bio-inorganic chemistry, clinical chemistry, environmental chemistry, lasers and photochemistry, marine chemistry, photoelectron spectroscopy (ESCA), and pharmaceutical chemistry.

Requirements for the Baccalaureate Degree:

I. Chemistry Courses*

B.A. CHEMISTRY (CHM) (54 cr. hrs.)

CHM 211-213		CHM 331-336	(15)
and 217-219	(12)	CHM 341-343	(8)
or		CHM electives (300 level or	
CHM 215-216	(10)	above; may include not more	
CHM 311	(5)	than one hour of CHM 481)	
CHM 321	(5)		(8)

B.S. CHEMISTRY (CHS) (65 cr. hrs.)

CHM 211-213		CHM 331-336	(15)
and 217-219	(12)	CHM 351	(4)
or		CHM 411	(4)
CHM 215-216	(10)	CHM 441-443	(12)
CHM 291	(1)	CHM 445-447	(11)
CHM 321	(5)	CHM 491	(1)

B.S. CLINICAL CHEMISTRY (CHC) (66 cr. hrs.)

CHM 211-213		CHM 441, 443	(8)
and 217-219	(12)	CHM 485	(5)
or		CHM 421	(4)
CHM 215-216	(10)	CHM 423	(4)
CHM 321	(5)	CHM 425	(4)
CHM 331-336	(15)	CHM 426	(2)
CHM 351, 354	(7)		

*CHM 215-216 (10) can be substituted for CHM 211-213 and 217-219 (12). This reduces by two the credit hours of required chemistry courses in each degree program.

II. Supporting Courses in the Natural Sciences

B.A. CHEMISTRY (CHM) (35 cr. hrs.)

MTH 212-213 (8) PHY 201-206 (15)

Electives (except 370-379, 470-479 series.) (12)

B.S. CLINICAL CHEMISTRY (CHC) (55-59 cr. hrs.)

MTH 302-304	(13)	ZOO 371	
PHY 301-306		or ZOO 423	(4-5)
or 201-206	(12-15)	ESC 301-302	(6)
BIO 201-203	(12)	PHY 422	(4)
MIC 351	(4)		

B.S. CHEMISTRY (CHS) (32 cr. hrs.)
MTH 302-305 (17) PHY elective (300-400 level
PHY 301-306 (12) except 371) (3)

III. General Distribution Courses
(60 cr. hrs. excluding waivers)
The student is required to complete the General Distribution requirements of the College of Natural Sciences (see page 103.

IV. Liberal Education Electives
The student must satisfy 24 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences (See page 103.)

V. Free Electives† (Including General Distribution waivers)
B.A. CHEMISTRY (CHM); 31 cr. hrs.
B.S. CHEMISTRY (CHS); 23 cr. hrs.
B.S. CLINICAL CHEMISTRY (CHC); 6-10 hrs.

The required sequence of Chemistry courses should be started immediately in the freshman year and the mathematics and physics requirements should be completed before the junior year so that CHM 341 (B.A. degree) or CHM 441 (B.S. degree) can be commenced at that time.

†Students taking CHM 215-216 must add 2 more hours of free electives.

Teacher Education Programs:

For information concerningthe degree programs for secondary school teachers and junior college teachers, see pages 71, 76, and 80 of this bulletin.

Requirements for the M.S. Degree:

General requirements for graduate work are given on page 47.

All entering graduate students who have no advanced work beyond a B.A. or B.S. will be required to take the core courses in each of the five areas: Analytical, Biochemistry, Inorganic, Organic, and Physical Chemistry. This requirement can be waived by recommendation of the supervisory committee on the basis of past work, performance on a diagnostic test, or substitution of more comprehensive and advanced courses. The required core courses are CHM 512, CHM 532, CHM 542, CHM 555 and CHM 621.

Beyond the required core courses, the curriculum for a chemistry major will vary with the area of the thesis. The specific course requirements will be determined by the supervisory committee and the proposed research, in consonance with the regulations of the University.

In order to gain the experience that comes from teaching, satisfactory service as a teaching assistant for two academic years is required (unless a specific exemption is recommended by the supervisory committee).

Comprehensive Examination

Each student must pass the written comprehensive examinations in three of the five areas: Analytical, Biochemistry, Inorganic, Organic, and Physical Chemistry. Each examination will be administered by the faculty of that area and will be from one to three hours duration. Each examination will be graded by the members of the respective areas, each arriving at a fail-pass-high pass verdict. A student may repeat any or all of the examinations provided that 3 have been passed by the time five quarters have elapsed since enrollment as a graduate student. The exams (each 1-3 hours) are offered four times each year, once between each quarter (except in the summer when the exams will be offered the first week of QTR IV). Note that this requirement is to be completed before the beginning of the sixth quarter.

While it is anticipated that the core courses will bridge the gap between undergraduate and graduate courses, and will therefore help students prepare for the comprehensive examinations, it should be understood that the comprehensive examinations are general examinations in their respective fields, and not merely final examinations in the core courses.

Final Thesis Defense

Upon completion of the thesis research and preliminary approval of the thesis by the supervisory committee, the M.S. candidate will be required to pass an oral examination conducted by the supervisory committee on the research. Final approval of the examination and of the thesis will require approval by the entire committee.

Requirements for the Ph.D. Degree:

General requirements for graduate work are given on page 48.

While there are no specific course requirements for the Ph.D. degree in chemistry, each student must take at least 16 hours of structured 600-level chemistry courses. No more than four hours of (CHM 601) may be used to satisfy this requirement. The candidate, with the help of the adviser and the approval of the supervisory committee, will design a program of study and research that will result in a mature and creative grasp of chemical science. Approval of the candidate's program will rest with the supervisory committee.

While there are no specific course requirements for the Ph.D. degree, beginning graduate students who plan to circumvent the M.S. degree are advised to take the core courses or their equivalent.

In order to gain the experience that comes from teaching, satisfactory service as a teaching assistant for two academic years is required (unless a specific exemption is recommended by the supervisory committee).

Qualifying Examinations

The Qualifying Examination requirement for the Ph.D. degree will be the same as the comprehensive examination for the M.S. degree except that the Ph.D. candidate must pass the examinations in four out of five areas, and must also "high-pass" two of these examinations (one of which is in the major area). In other words, the Ph.D. candidate must demonstrate a very real grasp of the principles in the major area and one other area (probably related to the major area, but not necessarily so). As in the case of the M.S. requirements, a student may repeat any or all examinations, provided that four have been passed, including two "high-passed," by the time five quarters have elapsed from enrollment as a graduate student. The exams are offered four times each year, once between each quarter (except in the summer when the exams will be offered the first week of Quarter IV.) Again, it is to be noted that this requirement, as for the M.S. degree, must be completed before the beginning of the sixth quarter. The Qualifying Examinations shall be given in the form of one to three hour examinations in each of the five areas —analytical, biochemistry, inorganic, organic, and physical.

While it is anticipated that the core courses will bridge the gap between undergraduate and graduate courses, and will therefore help students prepare for the qualifying examinations, it should be understood that the qualifying examinations are general examinations in their respective fields and not merely final examinations in the core courses. Qualifying examinations should be attempted by students as soon as possible. These examinations are intended to test for broad and basic knowledge in each area at the Bachelor of Science level.

Language Examinations

Before a student is eligible to qualify for candidacy for the Ph.D. degree, a reading knowledge of the chemical literature in any two of the languages—German, Russian, and French (or any other language approved as appropriate by the supervisory committee)—must be demonstrated; or a reading knowledge in one of these languages and proficiency in a skill or specialization outside the discipline of chemistry must be demonstrated. The latter could include (1) proficiency in computer programming; (2) advanced specialization in mathematics, physics, biology, geology, or any other appropriate area pertinent to scholarly work in chemistry; (3) any other field of advanced study or proficiency deemed appropriate by the supervisory committee.

The language requirement must be met by one of the follow-

ing: (1) reading knowledge in two foreign languages as demonstrated by a test to be specified; (2) reading knowledge in one foreign language and some other proficiency such as computer programming; (3) in-depth knowledge of one foreign language (speaking and reading knowledge); (4) three quarters of a foreign language at the college level with a minimum of C grade in each quarter may be used to waive one language, or, if two foreign languages are taken, the language requirement is fulfilled; (5) periodic translations to be administered by the student's supervisory committee.

The language requirement must be met one year before graduation.

Major Comprehensive Examination

A comprehensive major examination will be required of Ph.D. candidates sometime after satisfactory completion of the qualifying examination. This examination must be taken one year before graduation.

Advancement of Candidacy

Completion of all the foregoing requirements admits the student to candidacy for the Ph.D.

Final Thesis Defense

When the Supervisory Committee has inspected the final draft (final unbound form: typewritten and ready for duplication with the exception of possible minor corrections) of the dissertation and finds it suitable for presentation, the Major Professor will complete a form requesting the scheduling and announcing of the final oral examination. The request form will be submitted via the department chairperson to the College Dean and the Director of Graduate Studies for approval. The final oral examination must be held at least three weeks before the end of the quarter in which the student is to be awarded the degree. The required copies of the completed dissertation signed by the Committee must be received by the Director of Graduate Studies at least two weeks before the end of the quarter.

The Examination Committee shall consist of a chairperson and the members of the student's Supervisory Committee including the Major Professor(s).The Chairperson of the Examination Committee shall be appointed by the Dean of the College and shall not be a member of the student's Supervisory Committee or the department or program in which the degree is sought.

The candidate may expect questions concerning the details and significance of the research after the oral presentation which is open to the public. Final approval of the candidate's degree will require approval by a majority of the Examining Committee, which shall include the Chairperson.

■ GEOLOGY (GLY)

Geology is one of the broadest of all sciences because of its dependence on fundamentals of biology, chemistry, mathematics, and physics as applied to the study of the earth. As a result, undergraduate students are expected to obtain a broad background in the other sciences as well as a concentration in geology. This bachelor's degree program is designed to provide the geology major with a broad foundation that will prepare him for employment in industry or with various governmental agencies as well as the necessary training to continue study in graduate school.

The graduate program in geology allows the student to specialize in nearly all of the major areas of concentration. Because of the geographic and geologic location of the University in a rapidly expanding urban center of coastal Florida, there are a number of areas of specialization which are being emphasized. These include coastal geology, hydrogeology, low temperature and pollution geochemistry, geology of carbonate rocks and phosphate deposits. All of these are closely related to local problems of the environment.

In addition to the staff in the Department of Geology, there are a number of geologists on the faculty in the Department of Marine Science located in nearby St. Petersburg. Close ties are maintained between the two departments and students interested in marine aspects of geology are encouraged to take advantage of this situation for both course work and research.

Requirements for the B.A. Degree:

I. Geology Courses *(51 cr. hrs.)*

GLY 210	(4)	GLY 361	(4)	GLY 412	(4)
GLY 211	(4)	GLY 405	(4)	GLY	
GLY 212	(4)	GLY 410	(4)	electives	(12)
GLY 302	(5)	GLY 411	(4)		

A minimum of 2 cr. hrs. from:

GLY 492 (1)

II. Supporting Courses *(33-40 cr. hrs.)*

CHM 211-213, 217-219	(12)	PHY 201-206	(15)
or		or	
CHM 215-216	(10)	PHY 301-306	(12)
MTH 211 and 212	(8)		
or			
MTH 123 and 302	(8)		

Plus one additional course in mathematics statistics, or computer science as approved by the student's adviser.

III. General Distribution Courses (60 cr. hrs. excluding waivers)

The student is required to satisfy the General Distribution requirements of the College of Natural Sciences. See page 103).

IV. Liberal Education Electives

The student must satisfy 24 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences (see page 103).

V. Free Electives (Including Distribution waivers) (40-47 cr. hrs.)

A minimum of a C grade is required on all required courses and 2.0 grade point average is required for all courses taken in the major.

The student will choose, in consultation with his Geology adviser, such courses in the College of Natural Sciences that support his major interest within the field of Geology. A foreign language, preferably French, German, or Russian, is strongly recommended, especially for those students who anticipate continuing for a doctorate in graduate school. All geology majors are strongly urged to attend a summer field camp.

An entering student anticipating a major in Geology is advised to enroll in GLY 210, 211, 212 and CHM 211, 212, 213, 217, 218, 219, in the freshman year and to seek curriculum counseling with a Geology adviser,

Teacher Education Programs:

Prospective elementary and secondary school teachers desiring to teach science should include basic courses in Geology and related sciences as part of their curriculum.

For information concerning the M.A. degree program for junior college teachers, see page 80.

Requirements for the M.S. Degree:

Requirements for admission to the Division of Graduate Studies and general graduate curriculum guidelines are given on pages 43-47.

Students are admitted for graduate work in Geology if they present the requisite background in Geology and supporting sciences. The bachelor's degree with a major in Geology or a major in other sciences with strong supporting program in geosciences is required. Students who wish to enter the graduate program in Geology without the proper background will be required to take some undergraduate courses without receiving credit toward their master's program. In addition, a formal summer field course is strongly recommended.

The curriculum for a Geology graduate student will vary depending on the area of interest and thesis topic of the individual. A minimum of 45 credit hours (excluding GLY 694) is required

for the master's degree of which a minimum of 24 credits must be in courses numbered 600 or above. All graduate students must take Graduate Seminar (GLY 691) at least three times and GLY 692 two times. Although a written thesis in the student's field of specialization is normally required, an equivalent amount of course work in Geology may be substituted if the program is approved in advance by the graduate committee of the Department. A comprehensive oral qualifying exam is to be taken by the end of the third quarter in the program. An oral thesis defense is also required.

■ INTERDISCIPLINARY NATURAL SCIENCES (INS)

The Bachelor of Arts in the Interdisciplinary Natural Sciences major is designed for majors in an interdisciplinary program in the college and for majors in Science Education and Mathematics Education. For information on teacher certification in science or mathematics, prospective teachers should consult the section entitled Teacher Education Programs on page 105, and also consult the College of Education section of this bulletin.

The requirements for graduation for this degree are the same as those contained on page 103 except that item 1 of the requirement is altered as follows:

1a. Completion of a major program consisting of a minimum of 68 hours in College of Natural Sciences courses. In these hours there must be a minimum of 36 credit hours in a discipline of major concentration and a minimum of 24 credit hours in supporting courses in the College of Natural Sciences outside the discipline of major concentration. All courses in the major program must be applicable to a major in that department and must have the approval of the student's adviser. At least three of the supporting courses must be at the 300 level or above. The student must earn 2.0 grade point average in all attempted course work of both major concentration and supporting courses and must complete at least 45 hours after acceptance into the major, all of which must have prior approval of his adviser.

■ MARINE SCIENCE (MSC)

Some of the most important research currently being carried out in the Gulf of Mexico is centered at the University's Department of Marine Science. There, biologists, chemists, physicists and geologists work together to bring greater understanding of not only the Gulf but all the seas of the world. The department offers courses leading to a master's degree in Marine Science. Degree candidates study and work with the researchers who have made the department's Bayboro St. Petersburg headquarters a major ocean research center. The research interests of the department are widespread and include interdisciplinary studies of estuarine environments, shelf and deep water investigations, hydrodynamic modelling, nutrient cycles, benthic ecology, mariculture, and marine policy. The department has excellent research and classroom facilities on the downtown St. Petersburg waterfront, including a fleet of small vessels ranging from 16 to 36 feet in length. Deep water studies are conducted using the State-chartered *Bellows*, or oceanographic vessels of opportunity.

Marine scientists traditionally specialize in one of four basic research areas: marine biology, marine chemistry, marine geology, or physical oceanography. Thus, while the degree program in Marine Science is at the master's level, students may prepare for graduate work by obtaining a baccalaureate degree in one of these four areas. By a suitable choice of marine oriented elective courses, a major in Biology, Chemistry, Geology, or Physics can be an excellent vehicle for entry into a graduate program. Potential marine sciences majors should consult with an undergraduate adviser concerning these baccalaureate majors.

The field of Marine Science is destined to grow in all its subdivisions and offers opportunities for individuals as our use of the sea expands.

Requirements for the M.S. Degree:

General requirements are given on pages 47-48. A minimum of 45 credits must include MSC 521, 531, 541, and 551 unless the student, as determined by the graduate committee, has had the equivalent of one or more of these courses.

The student may emphasize biological, geological, chemical, or physical oceanography, or marine policy through his thesis research and course work. A thesis is required but a foreign language is not.

Courses taken in addition to those required are determined by the area of specialty in consultation with the student's graduate committee. Normally, a student entering this program spends one or two quarters in residence at the Tampa campus taking courses in those departments most closely related to his specialty. Following course work at the Tampa campus, the student will usually move to St. Petersburg to complete his course work and thesis research. Admissions materials for students entering Quarter I should reach the department by March 15. For students entering Quarters II, III, or IV materials should be in by October 15 for admission sessions in late March and October respectively. Additional rules are available in the Marine Science Department Handbook which is available in the Department Office.

■ MATHEMATICS (MTH)

The Department of Mathematics offers a diversity of courses designed not only to enable the student to pursue a profession in mathemetics itself, but also to enhance his competence in the fields of engineering, the physical sciences, the life sciences, and the social sciences. The Department offers programs leading to the B.A., M.A., and Ph.D. degrees. The undergraduate program emphasizes the broad nature of modern mathematics and its close association with the real world. The program is designed to prepare students for entry into graduate school or careers in industry or secondary education.

The Department has a flexible Ph.D. program which is designed to encourage students to take an active role in the shaping of their own curricula. This flexibility is coupled with a desire to promote interdisciplinary research. In cooperation with the Departments of Astronomy, Marine Science, and Physics, and the Colleges of Engineering and Medicine, the Department offers special Ph.D. programs in the applications of mathematics.

The Department is composed of four areas of concentration. These areas are as follows:

1. *Algebra and Topology*
   Number theory, algebraic coding theory, general topology, topological semigroups.
2. *Analysis*
   Real analysis, complex analysis, abstract harmonic analysis, abstract measure theory, approximations and expansions, functional analysis, geometric function theory.
3. *Applied Mathematics and Computer Science*
   Asymptotic methods, differential equations, integral equations, numerical analysis.
4. *Statistics and Stochastic Systems*
   Biomathematics, theory of probability and statistics, reliability theory, stochastic modeling in the life sciences and engineering, stochastic systems and time series.

There are 30 faculty members in the Department and about 50 graduate students. The graduate program is young and still in the developmental stage. While programs in the more traditional areas of pure mathematics are offered, the Department is committed to emphasizing applied mathematics at both the graduate and undergraduate levels. For both undergraduate and graduate work students and faculty have access to the university's computer, an IBM 360/365.

Requirements for the B.A. Degree:

The courses taken to satisfy the Group I and Group II requirements below will constitute the major program referred to in the general graduation requirement of the College of Natural Sciences.

I. Mathematics Requirements *(47 cr. hrs.)*

Majors must complete at least 47 credits in mathematics courses above the 100 level, including MTH 302 (5), 303 (4), 304 (4), 305 (4), 309 (3), and 323 (4). In addition, except for majors in mathematics for teaching, the following sequence is required: MTH 405 (3), 406 (3), and 407 (3). Majors in mathematics for teaching must have MTH 423 (3), and 424 (3).

Suggested upper level courses for a major in mathematics are:

MTH 401	(4)	MTH 511	(4)	MTH 531	(4)
MTH 445	(3)	MTH 520	(4)	MTH 547	(3)
MTH 447	(4)	MTH 523	(4)		

Variation in course selection for special needs is to be done in consultation with the appointed adviser.

II. Mathematics Related Courses *(21-26 cr. hrs.)*

Majors, except for majors in mathematics for teaching, must take two of the following sequences, one of which must be in the College of Natural Sciences:

1. AST 301, 302, 303.
2. BIO 201, 202, 203.
3. CHM 211, 212, 213, 217, 218, 219, or CHM 215-216.
4. GLY 210, 211, 212.
5. ECN 201, 202 and one of ECN 301 or 323.
6. EGB 311, 312, 313.
7. EGB 321, 322, and one of EGR 311 or 315.
8. EGB 340, 341, 344.
9. PHY 301-302, 303-304, and 305-306.
10. PSY 200, 300, 311, 312.

Majors will not receive credit toward graduation for the following courses: AST 371, PHY 371, ECN 231, ECN 331, ECN 431, SSI 301. Majors wishing to take a course which requires a knowledge of statistics should take MTH 345.

III. General Distribution Courses *(60 cr. hrs. excluding waivers)*

Majors must satisfy the General Distribution requirements of the College of Natural Sciences, which must include (or show competence in) one of the following sequences:

FRE 101, 102, 103
GER 101, 102, 103
RUS 101, 102, 103

IV. Liberal Education Electives

The student must satisfy 24 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences (see page 103).

The following is a suggested course program for the first two academic years:

Fall Quarter (I)	*Winter Quarter (II)*	*Spring Quarter (III)*
	Freshman Year	
MTH 122, 123	MTH 302	MTH 303, 309
	Sophomore Year	
MTH 304, 323	MTH 305	Two MTH electives

Students with a strong background in high school mathematics may omit either or both MTH 122, 123 with the consent of the chairman.

Teacher Education Programs:

For information concerning the degree programs for secondary school teachers and junior college teachers, see pages 71, 76, and 80 of this Bulletin.

Requirements for the M.A. Degree:

General requirements for graduate work are given on pages 103.

A thesis is optional. The thesis program requires a minimum of 45 credits of course work (excluding MTH 694), of which the thesis may carry three to nine credits. The non-thesis program requires 45 credits of course work. In either case, 24 hours of the course work must be taken in courses numbered 600 or above and the program must total at least 45 credits.

The course of study is flexible and interdisciplinary work is encouraged.

The areas of specialization include the following:

a. Algebra and Topology
b. Analysis
c. Applied Mathematics and Computer Science
d. Statistics and Stochastic Systems

Each candidate for the M.A. degree is required to pass a written examination in three of the following subjects:

a. Algebra (MTH 511, 523, 524)
b. Applied Statistical Methods (MTH 525, 526)
c. Complex Analysis (MTH 520, 521 or MTH 521, 540)
d. Differential Equations (MTH 501, 502, or MTH 541, 542)
e. Probability Theory (MTH 545, 546)
f. Real Analysis (MTH 513, 514)
g. Topology (MTH 531, 532)

Each examination will cover the prescribed contents of the courses listed above.

A reading knowledge of either French, German or Russian is required. Computer Science may be substituted for the language requirement.

For specific program requirements, the student should consult the Department Chairperson.

Requirements for the Ph.D. Degree:

In addition to the general University requirements for the Ph.D. degree, on page 48, the Mathematics department requires the following:

1. **Qualifying Examinations**
   Each doctoral student must pass at the Ph.D. level a written examination in four of the subjects listed under the Requirements for the M.A. degree.
2. **Foreign Language Requirement**
   Each student must pass an examination in two of the three languages: French, German or Russian. Computer Science may be substituted for one of the languages.
3. **Course Requirements**
   The student's program of study must meet the course requirements for the M.A. degree. Other course requirements will be determined by the student's Supervisory Committee.
4. **Specialization Examination**
   This examination shall be administered by the student's Supervisory Committee after he has passed the qualifying examinations, the language requirements, and has completed all course requirements. The composition and scheduling of this examination shall be determined by the Supervisory Committee and may be written and/or oral.
5. For **specific program requirements,** the student should consult the chairperson of the Department of Mathematics.
6. The student must submit a **dissertation** to be approved by the Supervisory Committee.

■ MEDICAL TECHNOLOGY (MET)

Medical Technology is one of the growing professions associated with the advances in modern medical science. Working in the clinical laboratory, the medical technologist performs chemical, microscopic, bacteriologic, and other scientific tests to help track the cause and treatment of disease. This talent re-

quires specialized training and a baccalaureate degree is essential preparation for certification as a medical technologist.

The University of South Florida offers a four-year program leading to the Bachelor of Science degree in Medical Technology. A student electing to major in Medical Technology will spend the first three years of the program on the campus of the University of South Florida; the fourth year (12 months) will be spent in one of the affiliated hospitals or clinical laboratories. Admission to the fourth year is limited by the number of openings in the affiliated hospitals. Selection of interns is made by the hospitals.

During the first three years, the medical technology student will complete the liberal arts and basic science requirements for entrance into the fourth year of the program for clinical training. To remain in good standing as a Medical Technology major during this period, a reasonable grade point average, determined by the College of Natural Sciences, must be maintained. To be eligible for entrance into the program's fourth year, the student must have completed not less than 135 credit hours of work (excluding physical education courses). Of these hours, at least 30 credit hours must be from the College of Natural Science at the University of South Florida (in courses approved by the Director of the Medical Technology Program). The following courses must be included in the three years of work which precedes the fourth year of clinical training:

1. *Biological Sciences*
   A minimum of 24 hours is required with at least one course in microbiology. Physiology (ZOO 371 or 423) is strongly recommended.
2. *Chemistry*
   A minimum of 24 hours is required including organic chemistry. Biochemistry (CHM 351) and Elementary Analytical Chemistry (CHM 321) are strongly recommended.
3. *Physics*
   A minimum of 12 hours (one full-year majors-type course) is required.
4. *Mathematics*
   One course in mathematics (above the level of MTH 110) is required. A year of math or its equivalent is strongly recommended.
5. *General Distribution Requirements*
   Courses satisfying the general distribution requirements of the College of Natural Sciences.
6. Courses in non-science fields to insure a broad background.

Upon successful completion of this curriculum, recommendations by the College, and acceptance by one of the affiliated hospitals or clinical laboratories the student will complete 12 continuous months of training at that hospital or laboratory.

This training period usually begins in early August or September of each year. During this period, one will continue to be registered as a full-time student of the University and will receive a total of 45 credit hours of work in MET 311, 431, 432, 442, 451, 453, 454, and 485. These courses will be taught at the hospital or clinical laboratory. Students successfully completing this program will be granted a Bachelor of Science degree in Medical Technology.

■ PHYSICS (PHY/PHS)

The Department of Physics offers programs leading to a Bachelor of Arts or a Bachelor of Science degree, and to a Master of Arts degree. Both thesis and non-thesis programs are available for the M.A. degree.

Undergraduate course offerings of the Department provide a well-balanced program covering virtually every area of physics. Special courses may be offered upon sufficient demand. Modern, excellently equipped classrooms and laboratories provide an outstanding environment for students. Opportunities for undergraduate students to participate in research projects with professors and graduate students form an integral part of the undergraduate experience. Undergraduate students have engaged in research efforts to the extent that their work has been published in scientific journals. There is a tradition of close working relationships between professors and students.

At the graduate level, thesis research areas include theoretical and experimental plasma physics, theoretical and experimental solid state physics, experimental gaseous electronics, elementary particle theory, and biophysics. Supporting facilities include an IBM 360/75 computer, an excellently equipped machine shop and electronic shop, a glass blowing shop, an electron microscope, and an x-ray photoelectron spectrometer. Teaching assistantships and financial aid through the College Work-Study Program are often available to qualified students. A supervised study hall is available where students may obtain help with their course work at their convenience throughout each week day.

Requirements for the Baccalaureate Degree:

I. Physics Courses

B.A. PHYSICS (PHY) *45-51 cr. hrs.*

PHY 201-206, 315	(18)	PHY 409	(3)
or*		PHY 419**	(3)
PHY 301-306	(12)	PHY 341	(2)
PHY 307	(3)	PHY 441	(2)
PHY 407	(3)	PHY Electives	(10)
PHY 417**	(3)	plus 2 hours of PHY 491	
PHY 309	(4)		

B.S. PHYSICS (PHS) *55-62 cr. hrs.*

PHY 201-206, 315	(18)	PHY 423	(3)
or*		PHY 331	(4)
PHY 301-306	(12)	PHY 405	(4)
PHY 307	(3)	PHY 437	(3)
PHY 407	(3)	PHY 421 or	
PHY 417	(3)	PHY 517 or	
PHY 309	(4)	PHY 523	(4)
PHY 409	(3)	PHY 415	(4)
PHY 419	(3)	or PHY 501	(4)
PHY 341	(2)	or PHY 541	(3)
PHY 441	(2)	plus two hours of PHY 491	

II. Supporting Courses in the Natural Sciences

B.A. AND B.S. PHYSICS—*(28-33 cr. hrs.)*

CHM 211-213		MTH 302-305	(17)
and 217-219	(12)	or	
or		MTH 351-354	(14)
CHM 215-216	(10)	MTH 401	(4)

III. General Distribution Requirements
(60 cr. hrs. excluding waivers)
The student is required to complete the General Distribution requirements of the College of Natural Sciences (see page 103). Selection of a foreign language, preferably French, German, or Russian, is also strongly recommended.

IV. Liberal Education Electives
The student must satisfy 24 hours of liberal education electives as described in item 3 of the graduation requirements of the College of Natural Sciences (See page 103.)

V. Free Electives (Including General Distribution waivers)
B.A. PHYSICS *(PHY): 48-57 cr. hrs.*
B.S. PHYSICS *(PHS): 37-49 cr. hrs.*

Teacher Education Programs:

For information concerning the degree programs for secondary school teachers and junior college teachers, see pages 71, 76, and 80 of this Bulletin.

** Credit will not be given for both general physics sequences PHY 201-206 and PHY 301-306.*

*** With the consent of the Physics Adviser, either or both of the following substitutions may be made: PHY 437 for PHY 417 and PHY 331 for PHY 419.*

Requirements for the M.A. Degree:

General requirements are given on page 103. When a student is admitted to the graduate program in physics, he will consult with the Graduate Physics Adviser, who will be his course adviser and will also keep a close check on the progress of the student in his work. After a decision has been made concerning the student's academic goals, the duties of the Graduate Adviser will be assumed by a Supervisory Committee appointed by the department chairman. The Supervisory Committee will have the right and the responsibility to add special requirements to meet any deficiency in the student's background.

The student desiring the M.A. degree with a thesis is required to take a minimum of 45 credits no more than nine of which may be for PHY 681, 691, and 699. Of these 45 credits, 24 must be in courses numbered 600 or above. Required courses are PHY 523, 537, 541, 607, 631, 632, and 641. The Supervisory Committee will administer a comprehensive examination before recommending that a degree be granted.

The student desiring the M.A. degree without a thesis is required to take a minimum of 45 credits (excluding PHY 694), no more than three of which may be for PHY 681 and 691. Of these 45 credits, 24 must be in courses numbered 600 or above.

Required courses are PHY 541, 542, 543, 605, 608, 632, 637, and 641, and a choice of any two of the following: PHY 517, 521, 523, or Biophysics. The Supervisory Committee will administer a written and an oral comprehensive examination before recommending that a degree be granted.

All graduate students are required to register for PHY 691 in the first quarter of each academic year and, in connection therewith, to attend all Physics Colloquia scheduled during the year.

NEW COLLEGE OF USF

New College, a former private liberal arts college, became a part of the University of South Florida in 1975, retaining its distinctive academic program and the status of an honors college within the greater University.

New College attempts to provide an educational environment that will allow students to obtain maximum academic and personal development. The curriculum is designed to promote their self-direction and to supply them with the knowledge and skills necessary for their careers. New College is both traditional and contemporary in its orientation: dedicated to humane learning, but also purposely seeking the discovery, the development, and the creation of ways to equip man for survival in a fluid society.

During its 12-year history, New College fostered a constantly evolving program with faculty and students ever alert for better ways to nourish individual growth. Students are encouraged to develop their own educational plans—using the educational contract—that will help them reach individual goals. Flexibility, individualism, and broad freedom of choice characterize the program, giving to each student the opportunity to play a major role in the constructing of his or her own program.

The Academic Calendar and Residence Requirements

New College operates on a slightly different academic year than the rest of the University. The College's academic year is divided into three 10-week terms beginning in September and ending in June with a special four-week period intervening in late fall designed specifically to permit students to accomplish independent studies.

Since students at New College are selected for their ability to benefit from the special New College program, they are considered, at entrance, to have the ability to begin at an advanced state of preparation. Therefore, New College offers each student the opportunity to earn a bachelor's degree in three academic years, or nine terms, of residence. However, each student also has the option to distribute his educational experience over a four-year period by taking several terms off from study at selected times during those four years.

Educational Contracts

The basic instrument of the New College educational program is the educational contract, a written document constructed at the beginning of a term by each student and expressing that student's plans for the ensuing term.

Each contract states the individual student's educational and personal goals for the term and possibly longer range objectives; a listing of the specific educational activities that will help accomplish these ends; and an explanation of how those specific educational activities will be evaluated at the end of the term.

Each contract is developed by the individual student as an expression of personal education and career goals, but faculty are expected to contribute substantially to help students determine the best ways to shape contracts to reach goals.

Admissions Requirements

New College welcomes applications from all qualified students without regard to nationality, creed, race, or sex. New College seeks those students who are unusually well-qualified to thrive in its intellectual and social atmosphere. The College uses a variety of indicators to help each student measure whether he or she is right for participating in this special program. The most reliable index of this ability remains past scholastic performance.

Student Scholastic Aptitude Tests (SAT) combined scores range from 1100 to 1600 with the average falling near 1200. The experience of students over the past 12 years has demonstrated that those whose combined scores fall anywhere within that 1100 to 1600 range are capable of succeeding at New College, provided they also have the personal characteristics that will allow them to cope effectively with the educational program. These individual traits, in addition to motivation, are initiative, tenacity, maturity, curiosity, concern for others and an excitement about life and learning as essential attributes. Applicants may submit results of the Scholastic Aptitude Test from the College Entrance Examination Board or scores received from the American College Testing Program (ACT) to help the Admissions Office of New College determine whether a student should be selected for any class.

Since the program at New College has been deliberately designed to fulfill the needs of individual students, it follows that the College will also accept students with varied academic preparation. The College does not require that certain courses be completed to gain admittance, but does urge prospective students to complete the customary courses within a college preparatory program before enrolling at New College. Particular attention is given to students who have participated in honors courses, advanced placement, or enriched and accelerated courses and independent studies.

Advanced placement provided at some institutions is not necessary for admission to New College of USF simply because admissions procedures are designed to assure that all students will be able to function at an advanced level. The fulfillment of this expectation is facilitated by the mutual effort of each student and his academic adviser to design a program that takes the abilities of the individual student and his previous preparation into consideration. Students are encouraged to begin studies at advanced levels, if they have adequate background.

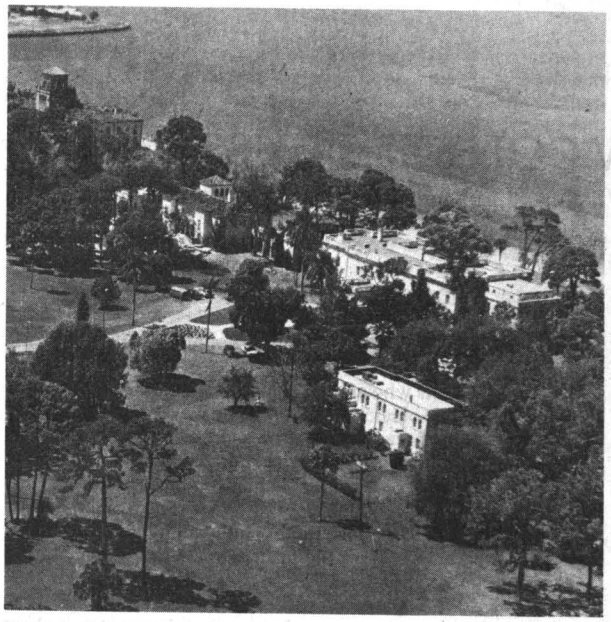
Application forms and literature may be obtained from the Director of Admissions, New College of USF, 5700 N. Tamiami Trail, Sarasota, Florida 33580. Prospective students should note that a supplemental application is needed for admission to New College.

Application Deadlines:

Fall Term/Term I: Application should be completed before March 1 and no later than April 1. Application for financial assistance should be received before February 1.

Winter Term/Term II: Application should be completed by November 1.

Spring Term/Term III: Application should be completed by February 1.



Sarasota Campus

Degree Requirements

All students who are graduated from New College of USF receive a Bachelor of Arts degree. However, students may elect to concentrate in any of a number of areas within the various divisions or to elect an interdisciplinary course of study in fields of their own shaping. Requirements for completion of a course of study at New College include satisfactory evaluations on nine educational contracts, on four independent study projects, on the senior project, and on the baccalaureate examination.

Areas of Study

New College is divided into three academic divisions—Humanities, Social Sciences, and Natural Sciences—and students may elect to study primarily in one area, to distribute their studies throughout the entire three divisions, or to create special interdisciplinary curricula which span offerings in any of the disciplines.

To aid prospective students of New College, each division has indicated broad areas of study which are available in each division. Within each area there are, of course, many subdivisions and information about these may be obtained from the New College Records Office.

Humanities	Natural Sciences	Social Sciences
Art History	Mathematics	Economics
Fine Arts	Biology	History
Music	Chemistry	Political Science
Literature	Physics	Sociology
Languages	Experimental Psychology	Social Psychology
Classics		
Philosophy		
Religion		

Special Programs

New College has two special programs which are available to students of New College but which fall outside of the regular divisional or interdisciplinary areas.

The **Environmental Studies Program** is an interdisciplinary and interdivisional program that is also expected to integrate academic and "real world" experiences in problem-solving situations. Students who elect the Environmental Studies Program may develop disciplinary knowledge and skills through courses and seminars in the College's three academic divisions and then may apply their knowledge and skills in research projects dealing with practical problems in environmentally related areas.

Each year, for three weeks in June, the New College **Summer Music Festival** is held on campus. The Festival brings to the campus a number of nationally and internationally known musicians to teach and to perform public concerts with emphasis on chamber music. Qualified New College students may enroll in Festival classes while Festival concert performances are open to everyone in the college community. Students for the Festival are drawn from all parts of the country and abroad coming to the college to study each year and also to perform in student concerts which are held frequently on campus. New College students have the opportunity to audit Festival master classes and rehearsals and also to attend the public concerts.

Costs

Costs for attending New College of USF are the same as those for attending any part of the State University System. Costs are based on a per-credit hour basis (see page 17 for University credit-hour costs). Each term's educational contract is the equivalent of 16 credit hours while each independent study project is equivalent to four credit hours.

Since New College offers students the opportunity to have a more individualized type of study than is available in other University programs, it is easily seen that such a program would be more expensive. To help meet this difference in cost, the New College Foundation has agreed to provide an annual subsidy to the university system to make up the difference of state funding and the actual cost of the educational program. These funds are raised by the New College Foundation and its Board of Trustees from individuals, corporations and foundations.

Student Life

New College is essentially a residential institution with the majority of the students living either on campus or in the surrounding community. Students are challenged to accept major responsibilities for the direction of their own affairs, including their social and extra-curricular activities. A Student Affairs Office is an essential part of New College and is concerned with almost all phases of student life from orientation of arriving students to commencement plans for those ready to depart. Student Affairs, through its professional staff, is responsible for counseling, housing, recreation and health services. Staff also are concerned with helping students assume responsibilities in relation to others on campus and in the outside communities.

All first-year students live on campus during their initial academic year. Upper-class students may choose College or non-College residency and all students have the option of taking advantage of using the college food service or of making independent arrangements for meals.

New College offers counseling for students in several different areas. New College provides for students a small health center on campus, staffed while the college is in session. Excellent specialized medical services are readily available in the community with a community hospital only minutes away from campus. Qualified clinical psychologists provide for students a broad range of psychological counseling and therapy as well as dealing with students concerned about life goals, academic and career decisions, and study skills. Professional medical and psychiatric counsel is available in the community at the student's expense.

1977-78 ACADEMIC CALENDAR
NEW COLLEGE OF USF

Fall Term (I), 1977
and Independent Study Period

September 5, *Monday*	Labor Day Holiday
September 7-10, *Wed.-Sat.*	Orientation and Advising
September 12, Monday	*Classes Begin*
September 16, *Friday*	Fees Due; Last day to withdraw without financial penalty
September 21, *Wednesday*	Contracts Due
September 23, *Friday (noon)*	Last day for contract submission for Term I[1]
November 1, *Tuesday*	Deadline for declaring option/off-campus study for Term II[2]
November 4, *Friday*	ISP Sign-up forms due
November 15-17, *Tues.-Thurs.*	Early registration for Term II
November 18, Friday	*End of Fall Term*
November 21, *Monday*	**Independent Study Period** Begins
November 24-25, *Thurs.,-Fri.*	Thanksgiving Day Holiday
December 16, *Friday*	**Independent Study Period** Ends, Projects Due

Winter Term (II), 1978

January 3, *Tues.*	Registration, Orientation, and Advising
January 4, Wednesday	*Classes Begin*
January 6, *Friday*	Fees Due; Last day to withdraw without financial penalty
January 11, *Wednesday*	Contracts Due
January 13, *Friday (noon)*	Last day for contract submission for Term II[1]
February 7-9, *Tues.-Thurs.*	Early Registration for Term III
March 1, *Wednesday*	Deadline for declaring option/off-campus study for Term III[2]
March 14, Tuesday	*End of Winter Term*

Spring Term (III), 1978

March 27, Monday	*Classes Begin*
March 31, *Friday*	Fees Due; Last day to withdraw without financial penalty
April 5, *Wednesday*	Contracts Due
April 7, *Friday (noon)*	Last day for contract submission for Term III[1]
May 5, *Friday*	Senior Theses Due
May 22-26, *Mon.-Fri.*	Baccalaureate Examinations
May 23-25, *Tues.-Thurs.*	Early Registration for Term I (New College Only)
May 29, *Monday*	Memorial Day Holiday
June 1, *Thursday*	Deadline for declaring option/off-campus study for Term I[2]
June 1, *Thursday*	ISP Sign-Up Forms and Contracts Due for Summer
June 2, Friday	*End of Spring Term*
June 5, Monday	Evaluations due for graduating students
June 6, *Tuesday*	Contract Certifications due for graduating students
June 7, *Wednesday*	Faculty Review of graduating students
June 10, *Saturday*	Commencement

[1]Students who have not submitted contracts to the Office of Records and Registration by noon of this deadline will be considered as withdrawn by default with no refund on cancellation of fees.

[2]Under no circumstances will students be granted option for the following term past this deadline. Off-campus contracts for the following term should be submitted as soon as possible, following declaration, but must be submitted *prior to the first day of the term of the off-campus work.*

COLLEGE OF NURSING

The College of Nursing is committed to the improvement of nursing and health care services through its education programs, community service, and related research activities. The College offers a National League for Nursing accredited upper division program in nursing that leads to a Bachelor of Science degree with a major in nursing. The program provides two curricula: 1) Curriculum A for generic students (qualified students with no previous preparation in nursing) and 2) Curriculum B for registered nurses who are graduates of diploma and associate degree programs.

Applications from all qualified students are accepted without regard to age, sex, cultural, racial, religious or ethnic background. Qualified students with no previous preparation in nursing and registered nurses who are graduates of associate degree and hospital programs are admitted.

Students may meet all requirements at the University of South Florida or they may complete lower division prerequisites elsewhere and transfer to USF for the nursing major. Students who enroll at the first or second year level at USF are admitted to the Division of University Studies. They meet the same requirements as other applicants for admission to the University and should follow the admission procedures outlined elsewhere in the Bulletin. College graduates and transfer students from other nursing programs are also eligible for admission to the major.

The practice of professional nursing involves problem-solving and decision-making based on knowledge from the humanities and the physical, biological, social and behavioral sciences. Shortages of qualified personnel, technological advances and increasing demands for health care services have brought changes in the functions and responsibilities of those in the health care professions. As a result, nursing practice has become increasingly complex and demanding in terms of knowledge and skills required to assume added responsibilities and functions. The goal of this program is to provide students with opportunities to develop cognitive, affective and psychomotor skills basic to general nursing practice in any setting where professional nursing services are provided: acute care hospitals, community health agencies, extended care facilities, industry, physicians' offices, military health services, the American Red Cross, and so on. The program also focuses on interpersonal and leadership skills essential to meeting their responsibilities as citizens and as professionals in the health care system. An additional goal is that of assisting students to establish investigative and independent study habits that will persist throughout a lifetime of professional growth and development.

The undergraduate program is approved by the Florida State Board of Nursing and graduates of this program are eligible for admission to examinations leading to licensure to practice as professional nurses in the State of Florida or to apply for licensure in other states. Graduates also have the educational background necessary for graduate study in nursing to prepare for expanded roles in clinical nursing practice or for teaching, administration, research and other leadership responsibilities.

Admission to the College

The College of Nursing is a quota program in that limitations are set on enrollments on the basis of availability of sufficient qualified faculty, laboratory and classroom facilities, and clinical resources for nursing practice experience for students. Therefore, admissions are upon a selective basis through special application directly to the College of Nursing. *Florida residents are given priority.* One class is admitted to Curriculum A in the fall quarter of each year. The deadline for acceptance of applications is February first. Applications may be obtained by contacting the Coordinator of Advisement, College of Nursing.

Transfer students seeking admission to the College of Nursing follow the procedure outlined for transfer students in the USF Bulletin and the procedure outlined here for admission to the College of Nursing. All transfer students must apply for admission to the University and be accepted prior to acceptance by the College of Nursing. Transcripts certifying completion of all requirements for admission must be available to the College of Nursing before admission will be confirmed. Applications for admission to the University may be obtained by contacting the Office of Admissions, University of South Florida, Tampa, Florida 33620. Applications can be submitted as much as one full year in advance of intended enrollment.

Admission procedures for registered nurses vary from those outlined above. Graduates of associate degree and hospital programs in nursing have widely varied backgrounds. Therefore, the admissions process for them is designed to permit evaluation of records, academic advisement and individual program planning early in order to ensure optimum utilization of previous educational experiences and expedite completion of degree requirements.

1. All registered nurses seeking admission to the College of Nursing should submit an application to the College of Nursing. These applications will be sent upon request.
2. When the completed application and transcripts are received, faculty assess them in terms of the requirements for admission to the major. Applicants who have not met the prerequisites will be advised of their standing and the alternatives available for meeting requirements: a) CLEP examinations if appropriate, b) courses at USF, or c) courses at a junior college or other institution. Applicants who have met the requirements for admission will be advised as to when they can be admitted to take courses in the major and (if not already enrolled in the University) will be provided with a USF application stamped "RN Applicant" to complete and forward with admission fee to the Office of Admissions.
3. Registered nurse applicants seeking admission to the major who apply first to the Office of Admissions will be referred to the College of Nursing to complete the process outlined above.

General Requirements

The academic requirements used as a basis for evaluating eligibility of applicants for admission to the upper division major are outlined below. The applicant should realize that these are minimum requirements and that applicants are rated in addition with regard to a number of factors relevant to completion of the program and to professional nursing practice.

A. OVERALL REQUIREMENTS (CURRICULUM A)

1. Completion of 90 quarter (60 semester) hours of college level work with a cumulative average of "C" or better. Credit received on the basis of

CLEP examinations or other appropriate procedures may be included as part of these requirements.

2. Completion of the University of South Florida general education distribution requirements as part of the above. These requirements may be satisfied by the completion of 60 quarter (40 semester) hours in the following areas with *not less than 8 quarter hours (6 semester hours) in each area:*
   1) English Composition
   2) Humanities
   3) Mathematics/Quantitative Methods
   4) Natural Sciences
   5) Social Sciences

   Students with an A.A. degree will be considered to have met the above requirements.

In the specific course requirements for the nursing major, certain courses are required in the natural sciences and in the social and behavioral sciences. These courses will also apply toward meeting the general education distribution in the natural and social sciences. In addition, the courses taken in statistics or quantitative methods to meet the specific course requirement of the College of Nursing will apply toward meeting one of the mathematics courses required in the general education distribution.

Specific Course Requirements

1. *Chemistry:* completion (with a "C" or better) of the equivalent of two quarters of chemistry with content in inorganic, organic and biochemistry. (USF: CHM 211, 212). Courses taken at another institution will be evaluated individually on the basis of content included.
2. *Biology:* completion (with a "C" or better) of at least one year of biology with content including cell structure, genetics and ecology. (USF: BIO 201, 202, 203). Courses taken at another institution will be evaluated individually on the basis of content included. Human anatomy, physiology or microbiology do not meet these requirements.
3. At least one of the above must include laboratory or have a corequisite laboratory course for which the student received credit.
4. *Microbiology:* completion (with a "C" or better). (USF: MIC 351 or BIO 372). Courses taken at another institution will be evaluated individually on the basis of content included.
5. Completion with a "C" or better, of at least one of the following: anatomy, nutrition (USF: NUR 302, or satisfactory completion of the correspondence course offered by the University of Florida), human growth and development (USF: HUS 427 *or* a combination of PSY 341 and AGE 301 *or* PSY 403 and AGE 301). Courses taken at another institution will be evaluated on an individual basis.
6. *Social and Behavioral Sciences:*
   a) One course in American government (e.g., USF: POL 200, 201, 360, 411, 448) or modern American history (e.g., USF: HTY 212, 306, 307). Courses taken at another institution will be evaluated individually on the basis of content.
   b) Completion, with a "C" or better, of at least four courses in the areas of individual and social/community behavior with at least one course in each area. Any courses in psychology and sociology as well as human growth and development, group dynamics, aging studies, cultural issues, etc., are acceptable. Courses with education prefixes which have content in these areas are also acceptable.
7. *Statistics or Quantitative Methods:* completion of at least one course in mathematics and one course in statistics or quantitative methods.

All applicants whose applications indicate eligibility for admission are required to be interviewed by College faculty prior to a decision regarding acceptability.

Factors given consideration in evaluating applicants include: cumulative grade point average; grade point average in the specific course requirements (biology, chemistry, social sciences, microbiology and the supporting sciences); substantive changes in academic performance in general education and prerequisite sciences; extent to which applicant meets or exceeds minimum requirements; progress toward completion of A.A. or higher degree in another field; extracurricular, civic, military or employment activities; evidence of commitment to the health field; health status; and ability to communicate (assessed by interview and short essay required at time of interview).

Those applicants with the highest total rankings are accepted in order until the class quota is filled. As vacancies occur prior to the enrollment date, those next on the list are accepted to fill them. Enrollment of all students is contingent upon verification through official transcripts of satisfactory completion of all the minimum requirements outlined above.

B. OVERALL REQUIREMENTS (CURRICULUM B)

1. The academic requirements for admission to Curriculum B, which differ somewhat from those for Curriculum A because consideration is given to previous preparation and experience, include the following:
   a. An overall "C" average for all prior college level work attempted.
   b. Eligibility to return to last institution attended.
   c. Current licensure to practice as a registered nurse.
2. Registered nurses from hospital schools may be admitted to the major after completion of 45 hours in the general education distribution (described under Curriculum A) with no less than 8 quarter hours in each of the five areas. This policy, which differs from that in effect for generic students, has been developed to provide more flexibility for registered nurses in moving through the program on a part-time basis. However, admission to the College does not insure enrollment in those courses that have supporting science prerequisites.
3. Registered nurses with an Associate of Science or Associate in Arts degree in nursing are eligible for admission to the major providing they have met general education distribution requirements as described above.
4. Registered nurses who possess an Associate of Arts degree (other than in nursing) are eligible for admission to the University and will be considered to have met general education distribution requirements of the University. However, the College requirements in mathematics, social and behavioral sciences, and physical and biological sciences must be met prior to graduation.
5. Registered nurses *may* receive up to 20 hours of credit for previous nursing education and/or experience or satisfactory performance on proficiency examinations. These credits will be allocated as elective credits and will not apply toward meeting the University requirement of 60 upper division credits or toward meeting the requirements of the upper division nursing major.
6. Priority for admission is given to Florida residents who are currently engaged in the practice of nursing in the State or who have practiced during the past five years and plan to return to practice upon graduation.

General Education Requirements

All registered nurse applicants must have completed 45 quarter (30 semester) hours in general education *with not less than 8 quarter (6 semester) hours in each of the five areas* prior to enrollment in the major. These credits may be obtained by any one or any combination of the methods listed below:

1. Successful completion of the work at an approved college or university. Students with an A.A. degree (other than in nursing) will be considered to have met these requirements.
2. Successful performance in College Level Examination Program general tests and appropriate subject examinations. College regulations permit up to 67.5 hours in advanced standing credit (including 45 hours of the general distribution requirement) for successful performance on CLEP examinations.
3. Successful performance on the Standardized Subject Matter Test (USST), a United States Armed Forces Institute Examination.

There are specific course requirements for graduation with a B.S. degree with a major in nursing which are also applicable toward the general education distribution. While not all of these are required for admission to the major, some are prerequisite to courses in the major. With careful consideration to program planning, the student may meet these major requirements and at the same time meet requirements of the general education distribution. These requirements are outlined below:

1. *Mathematics*—a total of 8 quarter hours, including one course in general mathematics or college algebra and one course in elementary statistics or quantitative methods.
2. *Social Sciences*—a total of 18-24 quarter hours with at least one course in American government or modern American history and a minimum of four courses in individual and social/community behavior (at least one course in each of these areas). All courses must be completed with a grade of "C" or better. Courses in psychology, sociology, cultural and medical anthropology, gerontology, behavioral sciences, growth and development and life cycle may apply toward meeting this requirement. (Students may CLEP general psychology, growth and development, American government and American history).
3. *Physical and Biological sciences*—a minimum of 18-20 quarter hours must be earned, but this requirement can be met through many different combinations of basic and/or advanced physical and biological science courses. All courses taken toward meeting this requirement must have been completed with a "C" or better.
   a. *Biology*—recommend 6-8 quarter hours, which may be fulfilled by CLEP or two courses that include content in (1) cell theory, (2) biological transport, (3) genetics, (4) evolution, (5) phylogenetic survey of plant and animal kingdoms and (6) ecology. Anatomy or a course that includes the following content areas may be used as *one* course in this requirement: (1) normal cellular and organ system structure of human body and (2) normal cellular and functional organization of human body.
   b. *Microbiology*—recommend 3-6 quarter hours which may be fulfilled by one course that includes content in (1) study of bacteria, virus, fungi, rickettsiae and pathogenic protozoa; (2) problems of sterilization, infection, resistance, and immunization; and (3) effects of activities of microorganisms on man's environment.
   c. *Chemistry*—recommend 6-8 quarter hours which may be met by CLEP or two courses that include content in (1) principles of chemistry, (2) structure of matter, (3) atomic and molecular structure, (4) states of matter, (5) chemical formulas and nomenclature, (6) solutions, (7) chemical kinetics and equilibrium, (8) theory and practice of quantitative analysis and (9) organic chemistry concepts. A physics course may be used in lieu of *one* course in this area.

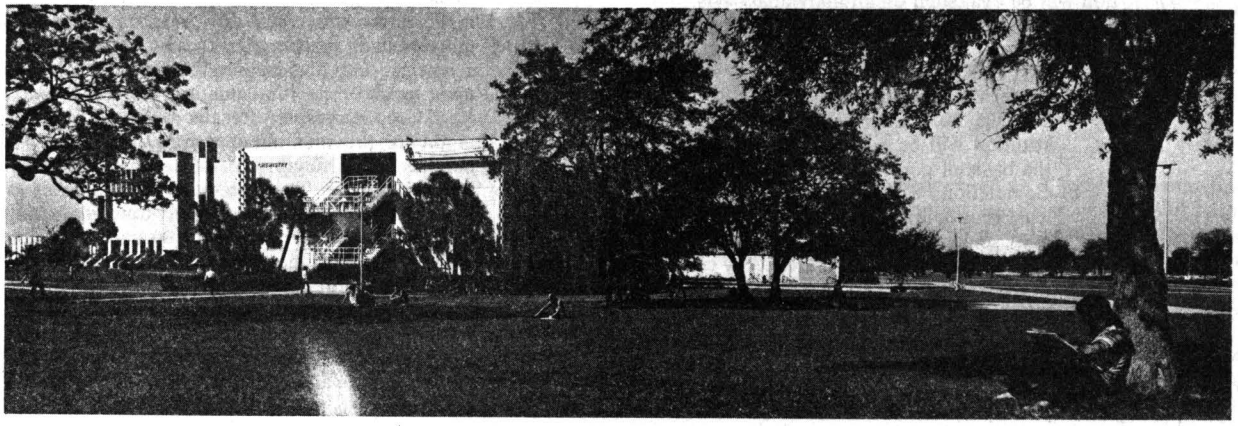
Program Leading to the Baccalaureate Degree

The College of Nursing offers one undergraduate program with a major in nursing (NUR).

Degree Requirements

Students are certified for the Bachelor of Science degree with a major in nursing upon completion of 180 quarter hours of credit distributed among the general education distribution, supporting sciences, minimum requirements of the major and electives. A cumulative grade point ratio of 2.0 or better must be maintained throughout the program. At least 60 quarter hours must be upper division level work (courses numbered 300 or above). Overall requirements, which differ for Curriculum A and Curriculum B, are outlined below:

Chemistry Building



CURRICULUM A

The clinical nursing courses emphasize wellness as well as illness and focus on prevention of disease and maintenance of health as well as care and rehabilitation of those with acute and chronic illness. The clinical nursing courses include substantial theory and nursing practice in the care of the physically and chronically ill; in preventive, health maintenance and rehabilitative services; and for functioning as members of nursing and health care teams in highly responsible and complex patient care settings.

The upper division major is built upon the general education and sciences discussed above as prerequisites for admission and is composed of supporting sciences, required nursing courses, and electives.

The *supporting* sciences required of all Curriculum A nursing majors include:

*NUR 301 Human Anatomy (4)
*NUR 302 Nutrition (4)
MIC 351 Microbiology (4), *or*
BIO 372 Man, Microbe, and Molecule (4)
*HUS 427 Life Cycle (5)
NUR 304 Human Physiology (5)

Nursing Courses

Junior Year (3 quarters)	*Senior Year (3 quarters)*
NUR 303 (4)	*NUR 400 (5)*
NUR 305 (3)	*NUR 401 (5)*
NUR 310 (5)	*NUR 402 (2)*
NUR 306 (2)	*NUR 403 (3)*
NUR 307 (5)	*NUR 404 (5)*
NUR 308 (5)	*NUR 405 (5)*
NUR 309 (2)	*NUR 406 (2)*
	NUR 407 (3)
	NUR 408 (7)
	NUR 409 (2)
	**NUR 412 (1-5)*
	**NUR 483 (2-12)*

CURRICULUM B

Curriculum B of the upper division major is built upon the general education and supporting science base described above and includes additional supporting sciences, required nursing courses and electives. At least 60 quarter hours at the upper division level with at least 45 quarter hours in nursing courses (not to include human physiology and nutrition) are required for graduation.

In addition to *supporting science* requirements outlined in Overall Requirements (Curriculum B), the following are required for graduation. These requirements may be met as outlined below:

1. *Human Physiology*—at least one course that includes content in (1) normal cellular and functional organization of human body and (2) normal function of body systems. This requirement may be met by NUR 304 at USF or by a comparable transfer course.
2. *Nutrition*—at least one course in nutrition (3 quarter hours) that includes normal and therapeutic nutrition for all age groups and effects of cultural, religious, and socioeconomic factors impacting upon food patterns of individuals and groups. This requirement may be met as follows: (1) course credit by transfer or at USF; (2) satisfactory performance on the challenge examination offered by College of Nursing; (3) satisfactory performance in the University of Florida correspondence course in nutrition.

* *At least one of these courses (or its equivalent) is required for admission to the nursing major.*

** *Electives in nursing.* These courses are offered on the basis of student interest to provide an opportunity to investigate some area of interest in depth. All students are expected to undertake at least two credits of NUR 412 (Independent Study) under the guidance of a faculty member.

The *required nursing theory and clinical practice* courses are as follows:

NUR 340	(4)	NUR 353	(5)	NUR 451 (3-5)
NUR 350	(4)	NUR 403	(3)	NUR 458 (5-7)
NUR 351	(5)	NUR 412	(1-5)	NUR 483 (2-12)
NUR 352	(4)	NUR 450	(5)	

Nursing courses for both Curriculum A and B include substantial theory and nursing practice in care of the physically and mentally ill, the young and the old, the acutely and chronically ill. They also provide opportunities for learning in health maintenance, preventive and rehabilitative services and for functioning as members of nursing and health care teams in highly responsible and complex patient care settings. Learning experiences in nursing are developed and guided by registered professional nurses with graduate preparation in clinical nursing. Nursing practice experiences are provided in a variety of institutions and agencies involved in the delivery of nursing services.

Electives

The number and kinds of electives taken will depend upon the number of credits needed to fulfill the 180 quarter hour requirement for the degree and upon individual interest and goals. They may be chosen by the student from language, literature, fine arts, natural science, etc.; from areas relating to nursing roles and relationships—e.g., management, health education, mental retardation, gerontology, urban problems, race relations, women's studies, biological or physical sciences, social or behavioral sciences, statistics; or from NUR 483, Selected Topics in Nursing.

Special Requirements for Nursing Majors

Tuition and fees for students enrolled in nursing are the same as for other undergraduate students at the University of South Florida, However, there are substantial expenses not covered by the basic tuition and fees.

Textbooks, laboratory manuals and standardized tests are essential tools for students enrolled in the nursing major. Texts in nursing are somewhat more expensive than those in general education, and it is estimated these costs run from $35.00-$50.00 per quarter. Since texts are used over the two year major, these costs are somewhat higher at the junior level.

Uniforms, including watch with sweep second hand, scissors, shoes, stethescope, etc., are required after the first quarter of the junior year. Uniform specifications and policies have been developed by students enrolled in the first class and costs vary depending upon personal choice. In addition, lab coats or aprons are necessary during the first quarter.

Medical care insurance is required.

Professional liability insurance is highly desirable for all and required for registered nurse students.

An annual physical examination is required. The first one must be done before enrollment in courses involving patient contact in Quarter II of the junior year.

Transportation to and from community health agencies for clinical nursing experience is also the responsibility of the student. Since public transportation in the Tampa area is not usually convenient to the hours of clinical schedules, students must have access to some other means of transportation or form car pools. Also, from time to time, field trips to an institution or agency at some distance from the campus will be required for an entire class or section of a class. In these instances, students making the trip share the costs.

Financial Aid

Policies and procedures pertaining to financial aid are the same for students in nursing as for other students. Specific information can be obtained from the Office of Financial Aid, Student Affairs, University of South Florida, Tampa, Florida 33620.

COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES

The social and behavioral sciences are concerned with human beings and their development, problems, behavior, and institutions. The study of man helps the student to understand the world of which he/she is a part, to become a more informed citizen, and to prepare for a role in contemporary society. The social and behavioral sciences provide the student with knowledge, experience, and background for future application in business and industry, government, human service professions, and graduate education.

Three programs in the college—Urban Community Psychology, Gerontology, and Urban Anthropology—have been approved by the Board of Regents as Programs of Distinction. Although the programs are housed respectively in the Department of Psychology, the Aging Studies Program, and the Department of Anthropology, they utilize faculty expertise from many disciplines. Approval has been requested to extend the Program of Distinction to include Communicology, Criminal Justice, Geography, Political Science, Rehabilitation Counseling, and Sociology to further emphasize the human sciences and services. Students majoring in these areas receive distinctive educational experiences in both university and community settings.

The College of Social and Behavioral Sciences has established the Human Resources Institute to address critical issues in the broad human resources sector through a comprehensive program of research and service. The following Centers are related to the Human Resources Institute: Center for Community Psychology, Center for Applied Anthropology, Center for Evaluation Research, Center for Applied Gerontology, and Center for Community Development and Analysis.

BACCALAUREATE LEVEL DEGREE PROGRAMS

Admission to the College

Admission to the College of Social and Behavioral Sciences is open to students who have been accepted to the University of South Florida and who declare a major in a particular field within the college.

Undergraduate students must submit a formal application for admission to the college. This application is available in the Office of the Coordinator of Advising. Students will then be counseled by an academic adviser in his/her major field. Information about majors, departments, programs, advising, and other services of the college may be obtained from the Coordinator of Advising, College of Social and Behavioral Sciences, University of South Florida, Tampa, Florida, 33620.

Any student in the University may take courses in the College of Social and Behavioral Sciences. Students in other colleges or adults in the community may select social and behavioral science courses of particular interest.

Social Science Building

General Requirements for Degrees

The College of Social and Behavioral Sciences currently offers two undergraduate degrees: Bachelor of Arts and Bachelor of Social Work. Requirements for graduation (referred to on page 33) are summarized as follows:

1. 180 credits with at least a "C" average (2.0) in courses taken at the University of South Florida. At least 60 of these 180 credits must be in courses numbered 300 or above. (A maximum of four credits of physical education courses may be counted toward graduation requirements; no credits in physical education are required.)
2. 60 hours of general distribution courses as required by the University in the areas of English Composition, Fine Arts and Humanities, Mathematics and Quantitative Methods, Natural Sciences, and Social and Behavioral Sciences. (See General Distribution Requirements, page 32).
3. Completion of a major in a subject or an integrated major, with at least a "C" average (2.0). (See following pages for requirements in specific majors offered in the college.)
4. 120 credits outside the major, including 90 credits outside the College of Social and Behavioral Sciences. These requirements are designed to insure breadth of academic experience.
5. Credits transferred from other institutions will not be included in the computation of the grade point average for graduation. To be eligible for graduation with honors requires at least a 3.5 average in USF work and all previous college work.
6. A student must complete at least 45 of the last 90 credits in academic residence at USF. The approval of the dean of the college granting the degree must be secured for any transfer credits offered for any part of these last 90 hours.

Students are encouraged to consult with an academic adviser in his/her major. It must be noted, however, that the student assumes full responsibility for satisfying all University, college, and departmental requirements for graduation.

Programs Leading to the Baccalaureate Degree

The College of Social and Behavioral Sciences offers a major in 14 fields as described in the following pages. In addition to the departmental majors, interdisciplinary majors are offered. (See Interdisciplinary Social Sciences, International Studies, and Social Science Education listed below.) Economics offers two majors, one in the College of Social and Behavioral Sciences and the other in the College of Business Administration.

A *Bachelor of Arts Degree* is offered in the following:

Afro-American Studies (AFA)
Anthropology (ANT)
Anthropology-Linguistics (ANL)*
Criminal Justice (CJP)
Economics (ECN)
Geography (GPY)
History (HTY)
Interdisciplinary Social Sciences (SSI)
International Studies (INT)
Political Science (POL)
Psychology (PSY)
Sociology (SOC)
Social Science Education (SSE)**

A *Bachelor of Social Work Degree* (B.S.W.) is also offered.

Social Work (SOK)

** Offered jointly with the College of Arts and Letters*
*** Offered jointly with the College of Education.*

GRADUATE LEVEL DEGREE PROGRAMS

Master's Degree Programs

Graduate level courses are now offered in most social and behavioral science areas. The *Master of Arts Degree* is offered in the following:

Anthropology (ANT)
Criminal Justice (CJP)
Geography (GPY)
Gerontology (AGE)*
History (HTY)
Political Science (POL)
Psychology (PSY)
Rehabilitation Counseling (REH)
Post-Baccalaureate
Rehabilitation Counseling (REF)
5-year program
Sociology (SOC)

** Offered by the Aging Studies Program*

In addition to the Master of Arts degree offered from the College of Social and Behavioral Sciences, joint degrees are offered with the College of Education in Social Science Education, School Psychology, and the Junior College Teachers' Program.

The Department of Communicology (formerly Speech Pathology and Audiology) in the college offers a *Master of Science Degree* in the following:

Audiology (AUD)
Post-Baccalaureate
Audiology (AUF)
5-year program
Aural (Re) Habilitation (ARH)
Post-Baccalaureate
Aural (Re) Habilitation (ARF)
5-year program
Speech Pathology (SPP)
Post-Baccalaureate
Speech Pathology (SPF)
5-year program

Doctor of Philosophy

The Department of Psychology offers a program leading to the degree of Doctor of Philosophy.

SPECIAL NON-DEGREE PROGRAMS

The **AGING STUDIES** undergraduate program consists of a core of courses designed for interested students. These courses are AGE 301, 325, 405. Additional information will be found in the Aging Studies Program section of the catalog.

The **OFF-CAMPUS TERM PROGRAM** offers a wide variety of opportunities for self-designed, supervised educational experiences for credit. This program is presently housed administratively in the Department of Interdisciplinary Social Sciences, and the courses are listed under Off-Campus Term (OCT) and Social Sciences Interdisciplinary (SSI).

The **WOMEN'S STUDIES PROGRAM** consists of courses designed to deal with historical, anthropological, sociological, and psychological aspects of the woman's role and of the female experience. This program is presently housed in the Department of Interdisciplinary Social Sciences, and the courses are listed under Women's Studies (WSP).

The **HUMAN SERVICES COURSES** (HUS) are designed for students interested in careers in the human sciences and services, and may be taken in conjunction with any major or by special students. These courses are coordinated by the Aging Studies Program, and the courses are listed as HUS 326, 327, 426, 427, 428, 429, 526.

PROGRAMS AND CURRICULA

■ AFRO-AMERICAN STUDIES

Afro-American Studies Program provides a quality undergraduate education leading to a Bachelor of Arts degree in Afro-American Studies. Essentially it is a service program which provides opportunities for all students to broaden the bases of their knowledge of the entire human experience and intercultural understanding so essential to living in a multi-racial society and a world that has become a global village. It provides a new horizon in liberal education that seeks reunification of the knowledge of human experience and strikes at the narrowness and ethnocentrism of the traditional disciplines which have contributed much to race prejudice and misunderstanding. Part of its mission is to assist its black student clientele to achieve a more dignifying identity and fuller participation in the mainstream of American life. It attempts to help them to develop a greater awareness of themselves and their talents and to provide them educational and research opportunities necessary for the acquisition of under-

standing of political and economic realities and tools that must enable black people and other minorities to become effective determinants of their own political and economic life.

Admission to Afro-American Studies major is open to all students who have been duly admitted to the University of South Florida by the Office of Admissions and who file necessary papers in the Office of the Coordinator of Advising, College of Social and Behavioral Sciences, to declare a major in the field. All of the program's courses are open to all other students — regular and special — of the University.

Requirements for the B.A. Degree:

The major in Afro-American Studies consists of a minimum of 56 hours in the field specified as follows:

Required Core Courses (20 cr. hrs.)

AFA 230	(4)	AFA 334	(4)	AFA 336	(4)
AFA 333	(4)	AFA 335	(4)		

Required Supporting Courses (12 cr. hrs.)

AFA 343	(4)	AFA 440	(4)	AFA 484	(4)
AFA 432	(4)	AFA 481	(1-4)	AFA 491	(4)

Suggested Elective Courses (24 cr. hrs.)

AFA 337	(4)	AFA 438	(4)	AFA 483	(1-4)
AFA 341	(4)	AFA 442	(4)	AFA 485	(2-4)
AFA 428	(4)	AFA 443	(4)	AFA 499	(4)
AFA 431	(4)	AFA 444	(4)		

Majors must maintain a minimum of 2.0 average and are also responsible for fulfilling College and University general education requirements.

■ AGING STUDIES

Undergraduate Program

Although no baccalaureate degree in gerontology is offered, the Aging Studies Program does provide a core of four courses at the undergraduate level. These courses range from AGE 301, Introduction to Gerontology, to AGE 405, Seminar in Selected Topics in Social Gerontology, and are designed as electives for students from a variety of areas, particularly the human service areas. More generally, the objective of the sequence of undergraduate courses is to provide students with a broad educational experience in gerontology.

The Human Services Courses

The HUMAN SERVICES COURSES are designed for students interested in careers in the human sciences and services, and may be taken in conjunction with any major, or by special students. They are closely related to our Urban Community Psychology and Gerontology Program of Distinction and will be taught by qualified faculty from the various disciplines within the college. The Human Services sequence is coordinated by the Aging Studies Program.

Center for Applied Gerontology

The Center for Applied Gerontology is one of five specialized centers in the new Human Resources Institute within the College of Social and Behavioral Sciences. The activities of the Center include research on aging, program evaluation, short-term training of agency personnel, the collection and dissemination of resource materials on death, dying and grief, and other activities intended to complement the educational program in gerontology.

Graduate Program

The primary objective of the graduate program in aging is to train personnel for leadership positions in the planning, development, delivery, and evaluation of community services for older persons. In keeping with this objective, the program offers a broad range of cross-disciplinary courses. As an important part of the training process, each graduate student spends a supervised internship for one academic quarter in a community agency or facility which provides services for older persons. A Master of Arts degree in Gerontology is awarded upon satisfactory completion of the requirements.

Requirements for the M.A. Degree in Gerontology:

The M.A. degree requires five quarters of full-time study—or the part-time equivalent thereof—including one quarter of supervised field experience. The courses in the degree program were developed specifically to meet the objectives of the program and are offered under the label AGE. The M.A. degree in Gerontology requires a minimum of 54 credit hours in approved AGE courses. Prior to beginning the program, each student will confer with a departmental adviser who will thoroughly review the student's academic background, experience, and career interests and develop an approved, individualized curriculum from the available AGE courses. Required courses for the M.A. degree include:

AGE 690	(2)	AGE 692	(2)	AGE 696	(12)
AGE 691	(2)	AGE 693	(2)		

Majors are also required to take a minimum of 34 hours from the following:

AGE 501	(4)	AGE 530	(4)	AGE 608	(4)
AGE 502	(4)	AGE 585	(1-3)	AGE 610	(4)
AGE 503	(4)	AGE 601	(4)	AGE 611	(1-6)
AGE 504	(4)	AGE 603	(4)	AGE 612	(1-6)
AGE 507	(4)	AGE 605	(4)		
AGE 509	(4)	AGE 606	(4)		

There are no language or thesis requirements. However, following completion of the necessary coursework, there will be a comprehensive examination designed to test the student's knowledge of and ability to integrate key concepts and information in the field of gerontology. This examination must be taken and passed before the student begins the required field placement.

Admission Requirements

To be eligible for admission to the M.A. program, the applicant must:

1. Hold a baccalaureate degree or its equivalent from an accredited college of university.
2. Have a minimum score of 1000 on the Graduate Record Examination (total of Quantitative and Verbal Aptitude scores) *plus* a minimum grade point average of 2.5 (A = 4.0) on the last half of courses taken for the bachelor's degree.

   or

   Have a minimum score of 900 on the Graduate Record Examination (total of Quantitative and Verbal Aptitude scores) plus a minimum grade point average of 3.0 (A = 4.0) on the last half of courses taken for the bachelor's degree.

Preference is given to applicants who demonstrate commitment to or experience in the field of aging.

Special consideration may be given to mature students (25 years of age or older) who demonstrate commitment to or experience in the field of aging.

In addition to the University Graduate Studies application, a program application is required and should be obtained from the Aging Studies Program. Entering full-time students are ordinarily admitted only in the Fall Quarter (September) each year. At that time, a new cycle of courses begins and runs for five academic quarters.

■ ANTHROPOLOGY (ANT/ANL)

Anthropology aims at comprehending people as biological and social beings. It is concerned with all forms of people

through time and space. One consequence of this broad-ranging view is the presence within anthropology of four branches: physical anthropology, archaeology, cultural anthropology, and linguistics. Exposure to anthropological information and the cross-cultural perspective produces heightened sensitivity in the student to the world about him/her. This helps the student to adopt an intellectual posture of disciplined skepticism with respect to any scheme which purports to define and account for regularities in human life. In response to an increasing interest on the part of students, an undergraduate focus in applied anthropology has been created to offer the Department's majors the option of including career training as a part of their anthropology curriculum. The focus includes emphasis in applied anthropology coursework and a practicum course in which the student applies anthropological method and theory in off-campus settings.

The primary objective of the graduate program is to provide both basic education and specialized training in several specific fields of applied anthropology which will enable the graduate to render valuable and substantive service at local, state , national and international levels in a context of non-academic, non-teaching employment. Graduates will be capable of assuming vital positions in the various agencies and institutions charged with understanding acting on the complex problems which beset our society.

Because of the sequential nature of the graduate courses, entering students are ordinarily admitted only in the Fall Quarter (September) each year. At that time a new cycle of courses begins.

Requirements for the B.A. Degree in Anthropology (ANT):

The major in Anthropology consists of a minimum of 44 credit hours in the field. Students may take more than this minimum if they desire. ANT 201 is prerequisite to all subsequent courses. ANT 311, 321, 331, and LIN 301 are required as intermediate level training in the main subdivisions of the field and ANT 461 and ANT 491 complete the specific course requirements. Majors may not include more than two each of any of the 400-level courses in the total of the 44 hours required. Anthropology majors are required to take Social Science Statistics (SSI 301) or the equivalent, and urged to become competent in the use of a foreign language. Exceptions to course prerequisites require the consent of the instructor.

Required Core Courses (28 cr. hrs.)

ANT 201	(4)	ANT 321	(4)	ANT 491	(4)
LIN 301*	(4)	ANT 331	(4)		
ANT 311	(4)	ANT 461	(4)		

Requirements for the B.A. Degree in Anthropology—Linguistics (ANL):

This sequence is designed for students who are particularly interested in the role of language in human behavior and cultural development.

Required Core Courses (43 cr. hrs. minimum)

ANT 201	(4)	ANT 461	(4)	LIN 301*	(4)
ANT 311	(4)	ANT 491	(4)	LIN 401	(4)
ANT 321	(4)	ANT 431	(3-6)		
ANT 331	(4)	or			
ANT 401	(3-6)	ANT 441	(3-6)		

Required Supporting Courses (12 cr. hrs. minimum from the following group

LIN 321	(4)	LIN 441	(4)	PSY 405	(4)
LIN 405	(4)	SSI 301	(4)	PSY 441	(4)
LIN 431	(4)	PHI 531	(4)	SPE 503	(5)

**One section of LIN 301 is for anthropology majors and requires ANT 201 as a prerequisite.*

Requirements for the M.A. Degree

General requirements for graduate work are listed on page × × and should be studied carefully.

The student must complete 49 quarter hours of graduate course work. All students must complete the four core seminar courses, then proceed to take minimally, one methods course, one selected topics course, and one regional problems course in one of the three tracks (medical anthropology, urban anthropology, public archaeology). In addition, each student must: complete a graduate level statistics course, for a minimum of four quarter hours, and two graduate-level courses, normally taken outside the department, for a minimum of six quarter hours, chosen in mutual agreement by the student and his/her adviser; successfully pass the comprehensive examination; undertake directed research; and write a thesis. The student must maintain a "B" average in all course work. In addition, our program requires a "B" average for the four core seminars before the student can proceed to take the comprehensive examination.

I. COURSES REQUIRED OF ALL STUDENTS

A. Core Courses

ANT 601 (4) ANT 621 (4) ANT 631 (4)
ANT 611 (4)

B. Additional Requirements

Two graduate-level courses normally taken outside the department; one graduate-level statistics course;

C. ANT 681 (1-15) ANT 699 (1-6)

II. COURSES IN ONE OF THREE TRACKS

A. Medical Anthropology Track

ANT 641 (4) ANT 651 (4) ANT 661 (4)

B. Urban Anthropology Track

ANT 644 (4) ANT 654 (4) ANT 664 (4)

C. Public Archaeology Track

ANT 647 (4) ANT 657 (4) ANT 667 (4)

■ COMMUNICOLOGY (AUD/AUF/ARH/ARF/SPP/SPF)

A Master of Science Degree is offered through the Department of Communicology that is structured to meet the preparation requirements of the American Speech and Hearing Association for the Certificate of Clinical Competence or the national basic certification requirements of the Council on Education of the Deaf. In addition to the core subject material each student may elect to pursue a program of specialization in the areas of Speech Pathology, Audiology or Aural (Re)Habilitation.

Undergraduate students enroll in a five-year program terminating in the Master of Science degree in Speech Pathology, Audiology or Aural (Re)Habilitation. Students may apply for acceptance in the M.S. degree program upon attaining Junior Class Standing, completion of the CLY 300-level course sequence with a 3.0 grade average, submitting cumulative Graduate Record Examination scores of 850 or greater, and demonstrating competency in communication skills as determined by the Chairperson or his delegate. Students may not apply for a baccalaureate degree. Programs are planned through the master's degree at the time of acceptance.

Applicants holding a baccalaureate degree from an accredited college or university with appropriate prerequisite coursework will be eligible for admission if the following minimal requirements are met:

1. Submission of a cumulative score of 1000 or greater for the GRE aptitude tests plus a grade point average of 3.0 (A=4.0) for the last half of their undergraduate coursework,
2. Submission of three satisfactory letters of recommendation for graduate study, and
3. Demonstration of competency in communication skills as determined by the Chairperson or his delegate.

Requirements for the M.S. Degree in Speech Pathology—Post-Baccalaureate (SPP):

General requirements for graduate work are already delineated by the University's Division of Graduate Studies. A minimum of 45 credits is required as well as completion of sufficient coursework and practicum to meet the American Speech and Hearing Association's requirement for clinical certification in speech. The attainment of clinical competency as determined by a minimum GPA of 3.0 in CLY 698 and the approval of a majority of the academic staff of the Department of Communicology is also required for graduation. The student with an existing bachelor's degree and appropriate prerequisites may plan his/her degree program from among the following courses with approval of the Department Chairperson or his delegate:

CLY 511	(6)	CLY 579	(4)	CLY 680	(4)
CLY 513	(6)	CLY 580	(4)	CLY 683	(4)
CLY 571	(6)	CLY 583	(4)	CLY 684	(6)
CLY 572	(6)	CLY 598	(1-12)	CLY 685	(6)
CLY 574	(6)	CLY 620	(4)	CLY 698	(1-12)
CLY 575	(4)	CLY 621	(4)	CLY 699	(6)
CLY 576	(4)	CLY 622	(4)	or	
CLY 577	(4)	CLY 623	(4)	CLY 681	(var.)
CLY 578	(4)	CLY 675	(4)		

Requirements for the Combined Undergraduate/Graduate M.S. degree in Speech Pathology (SPF):

A minimum total of 225 credits is required for the combined undergraduate/graduate M.S. program. In addition to the General Distribution requirements the following courses will be required for all programs:

CLY 301	(6)	CLY 572	(6)	CLY 621	(4)
CLY 302	(6)	CLY 574	(6)	CLY 622	(4)
CLY 311	(6)	CLY 575	(4)	CLY 680	(4)
CLY 312	(6)	CLY 576	(4)	CLY 684	(6)
CLY 313	(6)	CLY 577	(4)	CLY 698	(1-12)
CLY 482	(6)	CLY 578	(4)	CLY 699	(6)
CLY 498	(1-12)	CLY 580	(4)	or	
CLY 511	(6)	CLY 583	(4)	CLY 681	(var.)
CLY 513	(6)	CLY 598	(1-12)		
CLY 571	(6)	CLY 620	(4)		

Plus one of the following:

CLY 579	(4)	CLY 675	(4)

In addition, sufficient and appropriate coursework (approved by the Chairperson or his delegate) will be included to meet the preparation requirements of the American Speech and Hearing Association for the Certificate of Clinical Competence. The attainment of clinical competence as determined by a minimum GPA of 3.0 in CLY 698 and the approval of a majority of the academic staff of the Department of Communicology is also required for graduation.

Requirements for the M.S. Degree in Audiology—Post Baccalaureate (AUD):

General requirements for graduate work are already delineated by the University's Division of Graduate Studies. A minimum of 45 credits is required as well as sufficient coursework and practicum to meet the American Speech and Hearing Association's requirement for clinical certification in Audiology. The attainment of clinical competence as determined by a minimum GPA of 3.0 in CLY 698 and the approval of a majority of the academic staff of the Department of Communicology is also required for graduation. The student with an existing bachelor's degree and appropriate prerequisites may plan a program from among the following courses with approval of the Department Chairperson or his delegate:

CLY 512	(6)	CLY 580	(4)	CLY 680	(4)
CLY 513	(6)	CLY 583	(4)	CLY 684	(6)
CLY 571	(6)	CLY 598	(1-12)	CLY 685	(6)
CLY 572	(6)	CLY 673	(4)	CLY 698	(1-12)
CLY 573	(6)	CLY 674	(4)	CLY 699	(6)
CLY 574	(6)	CLY 675	(4)	or	
CLY 575	(4)	CLY 676	(4)	CLY 681	(var.)
CLY 579	(4)	CLY 677	(4)		

Requirements for the Combined Undergraduate/Graduate M.S. Degree in Audiology (AUF):

A minimum of 225 credits is required for the combined program. In addition to the General Distribution requirements the following courses will be required for all programs:

CLY 301	(6)	CLY 571	(6)	CLY 675	(4)
CLY 302	(6)	CLY 572	(6)	CLY 676	(4)
CLY 311	(6)	CLY 573	(6)	CLY 677	(4)
CLY 312	(6)	CLY 575	(4)	CLY 680	(4)
CLY 313	(6)	CLY 579	(4)	CLY 684	(6)
CLY 482	(6)	CLY 580	(4)	CLY 698	(1-12)
CLY 498	(1-12)	CLY 583	(4)	CLY 699	(6)
CLY 512	(6)	CLY 673	(4)	or	
CLY 513	(6)	CLY 674	(4)	CLY 681	(var.)

Plus one of the following:

CLY 574	(6)	CLY 685	(6)

In addition, sufficient and appropriate coursework (approved by the Department Chairperson or his delegate) must be included to meet the preparation requirements of the American Speech and Hearing Association for the Certificate of Clinical Competence in Audiology. The attainment of clinical competence as determined by a minimum GPA of 3.0 in CLY 698 and the approval of a majority of the academic staff of the Department of Communicology is also required for graduation.

Requirements for the M.S. Degree in Aural (Re)Habilitation—Post Baccalaureate (ARH):

General requirements for graduate work are already delineated by the University's Division of Graduate Studies. A minimum of 45 credits is required as well as sufficient coursework, practicum and internship to meet the Florida State Department of Education certification requirements for specialization with the hearing impaired and to meet the national basic certification requirements of the Council on Education of the Deaf. The attainment of clinical competence as determined by a minimum GPA of 3.0 in CLY 698 and the approval of a majority of the academic staff of the Department of Communicology is also required for graduation. Students may plan programs with emphasis in the areas of preschool, school age, multiply handicapped, and adult hearing impaired. All teachers of the deaf programs will be planned from among courses offered by the appropriate teacher preparation areas within the College of Education as well as from the following:

CLY 482	(6)	CLY 598	(1-12)	CLY 685	(6)
CLY 513	(6)	CLY 673	(4)	CLY 698	(1-12)
CLY 572	(6)	CLY 675	(4)	CLY 699	(6)
CLY 577	(4)	CLY 676	(4)	or	
CLY 580	(4)	CLY 680	(4)	CLY 681	(var.)
CLY 583	(4)	CLY 684	(6)		

Requirements for the Combined Undergraduate/Graduate M.S. Degree in Aural (Re)Habilitation (ARF):

A minimum of 225 credits is required for the combined programs as well as sufficient coursework, practicum and internship to

meet the Florida State Department of Education certification requirements for specialization with the hearing impaired and to meet the national basic certification requirements of the Council on Education of the Deaf. The attainment of clinical competence as determined by a minimum GPA of 3.0 in CLY 698 and the approval of a majority of the academic staff of the Department of Communicology is also required for graduation. Students may plan programs with emphasis in the areas of preschool, school age, multiply handicapped, and adult hearing impaired. In addition to the General Distribution requirements all teacher of the deaf programs will be planned to include coursework from the appropriate teacher preparation areas within the College of Education as well as from the following:

CLY 301	(6)	CLY 572	(6)	CLY 680	(4)
CLY 302	(6)	CLY 577	(4)	CLY 684	(6)
CLY 311	(6)	CLY 579	(4)	CLY 685	(4)
CLY 312	(6)	CLY 580	(4)	CLY 698	(1-12)
CLY 313	(6)	CLY 583	(4)	CLY 699	(6)
CLY 482	(6)	CLY 673	(4)	or	
CLY 513	(6)	CLY 675	(4)	CLY 681	(var.)
CLY 598	(1-12)	CLY 676	(4)		

■ CRIMINAL JUSTICE (CJP)

The major in criminal justice provides students with an in-depth exposure to the total criminal justice system including law enforcement, detention, the judiciary, corrections, and probation and parole. The program concentrates on achieving balance in the above aspects of the system from the perspective of the criminal justice professional, the offender, and society.

The objective of the graduate program in criminal justice is to develop a sound educational basis for professional training in one or more of the specialized areas comprising the modern urban Criminal Justice System.

Requirements for the B.A. Degree:

A minimum of 53 quarter hours is required of all undergraduate majors* in Criminal Justice including the following courses or their equivalents:

CJP 300	(5)	CJP 302	(4)	CJP 491	(3)
CJP 301	(4)	CJP 315	(8)	CJP 499	(12)

In addition to the above, a minimum of 17 hours in Criminal Justice selected by the student complete the requirements.

*In-service students are required to take only 4 hours of CJP 499, thus reducing their major course credits to 45 quarter hours.

Any student who receives a grade of "D" or lower in more than one USF CJP course will be automatically barred from continuing as a Criminal Justice major. This applies only to students whose first CJP course was taken during Fall Quarter (I) 1975 or thereafter.

Requirements for the M.A. Degree:

University requirements for graduate study are given on page 47. Additionally, each graduate applicant should submit three letters of recommendation, a letter of intent to the Department of Criminal Justice, and show successful completion of an acceptable undergraduate social science introductory statistics course or equivalent. Further information may be obtained by contacting the Director of Graduate Studies of the Department of Criminal Justice.

Requirements for graduation for all M.A. candidates will consist of:

1. 45 credits of CJP course work (or approved equivalents) which include:

CJP 601	(4)	CJP 603	(4)	**CJP 693	(1)
CJP 602	(4)	CJP 660	(4)		

2. Completion of a thesis; CJP 699.

All course work counted toward the degree *must* have the *prior* approval of the student's major professor and the Director of Graduate Studies of the Criminal Justice program.

***Should be taken first quarter in the program.*

■ ECONOMICS (ECN)

Requirements for B.A. Degree

Economics is one of the vital disciplines investigating the complex problems and relationships in modern society. Indeed, the very breadth of economics had led to major areas within the discipline, including labor economics, international economics, urban and regional economics, monetary economics, public finance, industrial organization, comparative economic systems, and the like. In addition, students are given a sound grounding in economic theory and economic statistics to facilitate the investigation of the problems of human behavior, decision-making and organizational effectiveness in these problem areas.

A student may earn a Bachelor of Arts degree with a major in Economics by completing satisfactorily 48 credits in Economics in addition to College requirements. These 48 credits include:

ECN 201	(4)	ECN 301	(5)	ECN 401	(5)
ECN 202	(4)	ECN 323	(5)		
ECN 231	(3)	ECN 331	(5)		

In addition to this core, students are encouraged to select 300-level courses in several of the applied areas during their junior year. The remaining economics electives may be selected from those 300 and 400 level courses that provide the type of program that best suit the students' interests and objectives. Additional flexibility in pursuing these interests is provided by the ECN 481 and ECN 497 courses. However, not more than 10 hours of credit may be earned in ECN 481 and ECN 497.

Students majoring in economics are encouraged to supplement their programs with appropriate courses in other social sciences. Political science, psychology, sociology and others contribute greatly to an enriched plan of study. Similarly, a variety of courses in economics are designed to permit students majoring in other disciplines to acquire the skills and insights provided in economics. The Department of Economics offers a concentration area for majors in the other social sciences. The concentration area will be designed for the individual student's program. Thus students have the option of broad interdisciplinary programs, a general grounding in many areas of economics, or a more intensive concentration in one of the areas within economics.

Students interested in majoring in economics or having a concentration area are encouraged to contact the departmental adviser for more information about the program. In addition, the department maintains a file describing the varied career opportunities for economists in business, government, and education.

■ GEOGRAPHY (GPY)

Requirements for the B.A. Degree:

Geography as a discipline is designed to account for the variable character of the earth's surface. The two major divisions of geography are physical and cultural (human). Physical geography includes the study of earth-sun relationships, weather, climate, and natural features of the landscape such as landforms, soils, vegetation, and hydrology. Cultural geography studies people, their various cultures, levels of technology, and economic activities which operate differentially to alter the natural landscape.

Geography's overriding purpose is to understand the earth as the home of man. A major concern of geography is the wise

use of natural, human, and economic resources. Therefore, ecological and environmental considerations are central to the study of geography.

Students are encouraged to take elective credits in a wide variety of disciplines because of the cross-disciplinary approach of geography. Both social and natural sciences are recommended.

Geography majors generally teach or work in various planning, resource management, or consulting agencies, both private and governmental at all levels—local, state, and federal.

A major in geography consists of 50 credit hours as follows:

Required core courses (40 cr. hrs.)

GPY 301	(5)	GPY 371	(5)	GPY 491	(5)
GPY 302	(5)	GPY 421	(5)		
GPY 303	(5)	GPY 441	(5)		

plus one regional course numbered 460 through 473

Electives in geography (10 cr. hrs.)

Any 10 hours in GPY 400-or-500-level courses.

■ HISTORY (HTY)

Requirements for the B.A. Degree:

A minimum of 48 quarter hours is required for a major in history. 16 hours of 200-level courses, or their equivalent, constitute the lower level requirements. HTY 487, 491, and 492 constitute the upper level requirements for the degree. At least 20 hours of course work must be drawn from the 300-400 level. With the prior written consent of the student's adviser, majors may take up to eight (8) hours of course work offered by other departments and apply these hours toward meeting the course requirements in history. The course work undertaken outside the Department of History must complement the student's program in history.

It is recommended that history majors take ENG 350, "Advanced Expository Writing," SPE 201, "Fundamentals of Speech Communication," LLI 200, "Use of the Library," and 27 quarter hours drawn from the following disciplines: Afro-American Studies, Anthropology, Economics, Geography, Political Science, Interdisciplinary Social Sciences, Psychology, Philosophy, Sociology, Literature, the Humanities, and the Fine Arts. Majors intending to pursue graduate work should take a minimum of two years of classical or modern foreign language.

Requirements for the M.A. Degree:

The graduate curriculum in history is composed of a core program, a thesis, and course work in the following fields: *Field I,* American history to 1877; *Field II,* American history since 1877; *Field III,* Early Modern European history; *Field IV,* Modern European history; *Field V,* Ancient and Medieval history; *Field VI,* Latin American history.

In addition to the general requirements of the University, a candidate is required to complete a total of 48 credit hours divided as follows: 8 hours of core courses; 16 hours in a major field; 8 hours in a minor field; 8 hours of thesis, and 8 hours of electives. Of the 48 hours, at least 30 must be in formal, regularly scheduled course work, 24 of which must be at the 600 level. Subject to the satisfaction of above requirements, courses at the 500 level are acceptable as part of a planned degree program and in special circumstances major advisers may approve up to 8 hours at the 400 level with the definite understanding that additional and superior work will be required of the graduate student. The core courses, HTY 600, 601 are required of all candidates.

A reading proficiency in one foreign language must be demonstrated. A satisfactory preparation in the core program, two fields, the completion of a comprehensive examination, and a thesis are required for graduation.

■ INTERDISCIPLINARY SOCIAL SCIENCES (SSI/INT)

The Department of Interdisciplinary Social Sciences administers the College major and the major in International Studies; it offers a non-degree program in Women's Studies; it administers the Off-Campus Term Program.

The College Major (SSI): Requirements for the B.A. Degree:

The college major offers students whose educational and vocational interests and objectives cross disciplinary lines an opportunity to undertake a program of study individually designed to serve those interests and objectives. That program of study must include 64 credits in courses offered in the college of which 12 must be taken in courses bearing the SSI prefix (Interdisciplinary Social Sciences) and one of these must be SSI 301, Social Science Statistics.

Within these parameters each student's program of study is to be evolved in consultation with and must be formally approved by the major adviser, who is located in the College's Office of the Coordinator of Advising. The program of study must include an area of concentration of at least 20 credits in one discipline; it will normally be expected to include a second area of concentration with either a disciplinary or multidisciplinary focus. The choice of areas of concentration and of courses within them is to be directly related to the educational goals of the student and such as to provide an educational experience of excellent quality.

International Studies (INT): Requirements for the B.A. Degree:

The major in International Studies is designed to enable students to undertake programs of study based upon the course offerings of not less than three departments of the college, which will emphasize (a) preparation for careers in international activities, or (b) the study of particular international themes or topics, or (c) the study of particular regions or cultures.

The program of study is developed by each student in consultation with the major adviser so as best to serve the individual's educational goals. The program is to include not less than 48 credits. Of these 24 (6 courses) must be in the international studies offerings of the Department of Interdisciplinary Social Sciences, bearing the prefix SSI.

Required Core Courses (24 cr. hrs.)

SSI 300	(4)	SSI 449	(4)	SSI 491	(4)
SSI 361	(4)				

One of the following:

SSI 339	(4)	SSI 343	(4)	SSI 347	(4)
SSI 341	(4)	SSI 345	(4)		

One of the following with international content:

SSI 383	(2-5)	SSI 481	(1-4)	SSI 485	(1-4)

The additonal 24 credits (6 courses) required must be selected from course offerings of at least two other departments which have international, regional, or cultural content.

Required Supporting Courses

18 cr. hrs. (or equivalent proficiency) of appropriate foreign language.

Students will be provided with advice as to choices of other courses offered throughout the University which will best reenforce and complement their major program. Each student's program must be planned with the international studies adviser who is empowered to make appropriate substitutions when educationally justified. Up to nine credits may be substituted for these requirements by successfully passing SSI 395 (1-9).

Off-Campus Term

The Off-Campus Term Program, described more in detail elsewhere in this *Bulletin,* is a university-wide, interdisciplinary program which urges students to spend part of their time in college in pursuits that are self-designed and implemented in an environment entirely off-campus and out of the classroom. OCT provides for an "education in life" for full academic credit as an alternative to the traditional methods of learning.

Women's Studies Program

The Women's Studies Program offers a concentration of interdisciplinary courses focussing on the role of women in the modern world. Several of its courses are cross-listed with those of other departments, such as Anthropology and Psychology.

■ POLITICAL SCIENCE (POL)

Requirements for the B.A. Degree

The undergraduate program leading to the B.A. in political science offers a general purpose degree, and a number of more specialized alternatives. These include the pre-professional plan in political science, the pre-law plan in political science and honors in political science. The program is designed for students interested in and seeking to understand political problems and issues, the nature of the political process, as well as the philosophical and legal bases of political structures and processes at local, state, and national levels within the United States and elsewhere. Satisfying the degree requirements prepares students for positions in the public and private sectors, for law school, for graduate work in political science and related disciplines, for positions in education, and for applied political activity.

A minimum of 48 credit hours is required to satisfy the requirements of the major. Students must take the eight credit hours which make up the core curriculum, and a total of 10 courses (40 credit hours) in political science, of which at least four courses must be above the 300 level. For instructional purposes, the political science curriculum is divided into seven fields. However, there are no field requirements. Students are free to select courses from any and all fields within the curriculum.

The undergraduate curriculum in political science is composed of the following:

Required Core Courses (8 cr. hrs.)

POL 200 (4) POL 315 (4)

Electives from the seven fields (40 cr. hrs.)

Field I **Political Theory**

POL 310 (4) POL 412 (4) POL 510 (4)
POL 311 (4) POL 413 (4) POL 515 (4)
POL 411 (4) POL 414 (4) POL 516 (4)

Field II **Comparative Government and Politics**

POL 320 (4) POL 427 (4) POL 520 (4)
POL 426 (4)

Field III **International Relations**

POL 330 (4) POL 432 (4) POL 433 (4)
POL 331 (4)

Field IV **American National and State Governments**

POL 200 (4) POL 343 (4) POL 449 (4)
POL 201 (4) POL 346 (4) POL 540 (4)
POL 341 (4) POL 447 (4)
POL 342 (4) POL 448 (4)

Field V **Urban Government and Politics**

POL 350 (4) POL 452 (4) POL 551 (4)
POL 352 (4) POL 453 (4)
POL 451 (4) POL 550 (4)

Field VI **Public Administration**

POL 360 (4) POL 561 (4) POL 564 (4)
POL 466 (4) POL 562 (4)
POL 560 (4) POL 563 (4)

Field VII **Law and Politics**

POL 370 (4) POL 374 (4) POL 473 (4)
POL 371 (4) POL 471 (4) POL 571 (4)
POL 373 (4) POL 472 (4) POL 574 (4)

The following courses are not included within any of the seven fields, but may still be used as elective hours:

POL 481 (1-8) POL 491 (4) POL 492 (4)
POL 482 (4)

Pre-professional Plan in Political Science

This plan is designed for students seeking an intensive undergraduate concentration in political science. Typically, students electing this plan will be oriented towards graduate work in political science or other social sciences. A minimum of 52 credit hours is required.

Students must take eight credit hours of required courses:

POL 200 (4) POL 315 (4)

Eleven additional courses in political science (44 cr. hrs.) must be taken, of which at least seven must be above the 300 level. Concentration within fields will be encouraged.

Honors in Political Science

Honors in political science is designed for the outstanding undergraduate who seeks an intensive program plus academic recognition during the senior year. Admission to the honors sequence, which is available to all undergraduate majors, will be controlled by grade point average, personal interviews and close scrutiny of the student's program and record. Students admitted will participate in an honors seminar, POL 491 (4) and will write an honors thesis, POL 492 (4).

Field Work

The Department of Political Science has a field work program which provides students with part-time internships with local government in the Tampa Bay area and with political parties at the state and local level. Academic credit is available for such internships. For further information, contact the Department of Political Science.

Requirements for the Pre-Law Plan in Political Science

The Department of Political Science offers a pre-law plan designed for the undergraduate considering a career related to law: Field VII of the undergraduate curriculum (Law and Politics). The courses making up the Field are of particular interest to law-oriented students, but may be taken by others as well. The Department seeks to guide majors to those courses which develop skills and provide information needed for good performance in the study of law.The department also seeks to give students the skills and information needed for entry into a number of law-related positions in business and government. An integral part of this plan is a high degree of student access to the Department's pre-law adviser.

Prior to admission to a law school, a student must take the Law School Admission Test (LSAT). This test is given by the Educational Testing Service of Princeton, New Jersey.

The Law School Admission Test is given simultaneously several times each year at the University of South Florida and numerous other testing centers throughout the state. Students should plan to take the test no later than February of the year in which they make application to a law school. Information pamphlets and application forms for the test are obtainable from the Department of Political Science, University of South Florida. (Pre-law is not a prescribed program of study. No specific college major is required for admission to law school. Those students intending to pursue the study of law must obtain a

Bachelor of Arts degree in an area of personal choice. It is generally agreed that a good lawyer must have knowledge and understanding of the political, economic, and social context within which legal problems arise.)

Requirements for the M.A. Degree

The graduate program leading to the M.A. in political science is designed to offer advanced general instruction in political science and public administration on national, state, and local levels of government. It prepares its graduates for positions of responsibility in the public and private sectors as well as in research, teaching, and study at the doctoral level.

General requirements for graduate study are given on page 47.

The student must complete a minimum of 45 credit hours of graduate level courses, of which at least 24 hours must be at the 600 level. A minimum of 30 credit hours must be taken in formal, regularly scheduled classes. Courses at the 500 level are accepted for credit towards the degree when taken as part of a planned program, with the approval of the student's adviser and the Department of Political Science.

A minimum of 28 credit hours must be taken in political science; eight credit hours of approved electives may be taken outside the department. All graduate students must write a thesis (nine credit hours) or petition for substitution with 12 credit hours of regular courses.

All students must pass a comprehensive examination in order to satisfy the degree requirements. This examination normally will be given following the completion of the thesis. Students whose petitions for the non-thesis option have been approved will be permitted to take the examination upon successful completion of at least 40 credit hours.

Students who do not have an undergraduate major in political science, or its equivalent, may be admitted to the program upon the consent of the department. Such students may be asked to take additional courses beyond the minimum requirements. Students must be registered as full-time graduate students for at least one quarter of study.

All graduate students are required to take the graduate core curriculum:

POL 610 (4)
POL 515 or POL 516 (4)

For instructional purposes, the graduate curriculum in political science has been divided into seven fields:

Field I **Political Theory**

POL 510	(4)	POL 610	(4)	POL 616	(4)
POL 515	(4)	POL 614	(4)		
POL 516	(4)	POL 615	(4)		

Field II **Comparative Government and Politics**

POL 520	(4)	POL 626	(4)	POL 627	(4)
POL 620	(4)				

Field III **International Relations**

POL 630	(4)	POL 631	(4)

Field IV **American National and State Governments**

POL 540	(4)	POL 641	(4)	POL 647	(4)
POL 640	(4)	POL 646	(4)	POL 648	(4)

Field V **Urban Government and Politics**

POL 550	(4)	POL 650	(4)	POL 652	(4)
POL 551	(4)	POL 651	(4)	POL 653	(4)

Field VI **Public Administration**

POL 560	(4)	POL 564	(4)	POL 667	(4)
POL 561	(4)	POL 660	(4)	POL 668	(4)
POL 562	(4)	POL 661	(4)		
POL 563	(4)	POL 666	(4)		

Field VII **Law and Politics**

POL 571	(4)	POL 670	(4)	POL 671	(4)
POL 574	(4)				

The following non-field courses may be used as elective hours:

POL 681	(1-8)	POL 685	(4)	POL 699	(9)
POL 683	(4)	POL 697	(var.)		

Plans of Study

Students may select one of two course plans:

Plan I: General Degree Plan

a) 2 core courses (POL 610 and either POL 515 or POL 516)
b) 5 courses in one or two major fields
c) 2 courses may be elected outside the department
d) other courses to be specified on an individual basis from any field within the graduate curriculum

Plan II: Public Administration and Urban Affairs Plan

a) 2 core courses (POL 610 and either POL 515 or POL 516)
b) POL 660
c) 5 courses in public administration and/or urban affairs
d) 2 courses may be elected outside the department
e) other courses to be specified on an individual basis from any field within the graduate curriculum

More detailed instructions may be obtained from the Department of Political Science.

■ PSYCHOLOGY (PSY)

The undergraduate program in Psychology offers the student a well-rounded Liberal Arts education, together with the opportunity to gain a special acquaintance with issues such as those concerning man's role in modern society, tactics of social change, personal adjustment, and educational goals and strategies. In addition, the program provides excellent background training for qualified students who wish to pursue graduate work in disciplines such as clinical, experimental, or industrial psychology, education, aging studies, counseling, women's studies, black studies, or community relations.

The faculty of the Psychology Department is divided into three broad program areas: Clinical-Community, Experimental-Physiological, and Industrial-Organizational. Each of these program areas offers M.A. and Ph.D. level training as well as instruction at the undergraduate level. Members of the Clinical-Community faculty offer coursework and training in the areas of abnormal psychology, developmental psychology, behavior modification, psychotherapy, personality, and psychological assessment. Individual research experience is also available to qualified students. Members of the Experimental-Physiological faculty provide coursework and, for qualified students, direct and extensive research experience, in the areas of comparative psychology, electrophysiology, learning and conditioning, human memory, perception, and information processing. Members of the Industrial-Organizational faculty offer coursework and special training in areas including selection, training and evaluation of employees, job motivation and satisfaction, small group analysis, organizational theory, and human factors.

Requirements for the B.A. Degree:

Majors must complete at least 45 credit houre in the field. All majors must complete:

PSY 200 (4) SSI 301 (4) PSY 311-312 (4,1)
PSY 300 (4)

and select four courses as follows:

PSY 402 or PSY 441 (4) PSY 405 or PSY 445 (4)
PSY 403 or PSY 404 (4) PSY 452 or PSY 455 (4)

In addition, 12 elective credits in psychology courses must be completed. PSY 411 (4) is strongly recommended for all majors and *required* of students planning graduate training. Functional mathematics and biological science are recommended. Otherwise, students majoring in psychology are encouraged to complete a varied undergraduate program.

Admission to Graduate Study:

Applications for admission to the Ph.D. degree program are considered only once per year, for admission into the program in September of that year. The deadline for completed applications is March 1. A completed application includes a complete transcript of college work, a copy of scores on the GRE Aptitude Test, and three letters of recommendation (preferably from college instructors). Admission to the program is on a competitive basis. Details concerning the program, including a description of the credentials needed to be competitive with other applicants, and the Graduate Program in Psychology Handbook, are available from the Chairman, Graduate Admissions Committee, Department of Psychology, USF, Tampa, Florida 33620.

All graduate applicants are accepted to work toward the Ph.D. Work on the M.A. is considered as the initial portion of the Ph.D. Program. The M.A. is not intended to be the terminal degree.

Requirements for the M.A. Degree:

General requirements for graduate study are given on pages 47-48.

The student must complete 50 credit hours of graduate psychology courses. All students must take at least two of the three methods courses, each of which must have a different topic, listed under PSY 631. In addition, the student must complete a minimum of five of the following ten courses:

PSY 609	(5)	PSY 635	(5)	PSY 641	(5)
PSY 612	(5)	PSY 636	(5)	PSY 642	(5)
PSY 614	(5)	PSY 638	(5)		
PSY 634	(5)	PSY 639	(5)		

The selection of these courses will be made by mutual agreement of the student and his advisory committee. Students with prior work in these areas may waive any of these courses by successfully passing a special examination given by the Psychology Department. Successful waiver may be used to reduce the overall credit hours requirement, if approved by the Psychology Department. A research thesis, PSY 699, is required and the student must successfully pass an oral examination of the thesis as well as maintain a B average in course work, exclusive of thesis and research courses.

In addition to the M.A. degree in psychology, the Psychology Department and the Department of Educational Psychology in the College of Education jointly grant the M.A. degree in School Psychology (PSE). (See College of Education, page 65.)

Requirements for the Ph.D. Degree:

The Ph.D. in Psychology is offered in the fields of Clinical, General Experimental, and Industrial-Organizational Psychology. Specific requirements are determined by the student and his supervisory committee.

Assuming that the student has completed an M.A. degree in Psychology or its equivalent, the Psychology Department requires the following in addition to the general University requirements for the Ph.D. degree, on page 48:

1. Reading knowledge of two foreign languages, or substitution for either or both languages by demonstrated competency in an area or areas approved by the Psychology Department. Two substitutive areas currently approved are computer usage skills and electronics skills.
2. Supervised undergraduate psychology teaching experience.
3. A one-year internship in an approved clinical facility for Ph.D. students in the Clinical Psychology program.
4. Six months of internship in approved industries or community agencies as available for Ph.D. students in the Industrial-Organizational Psychology program.

■ REHABILITATION COUNSELING (REH/REF)

Requirements for the M.A. Degree:

General requirements for graduate work are given on pages 47-48.

The M.A. program in Rehabilitation Counseling requires a minimum of 60 credit hours and offers the student the flexibility of entering while a University senior (REF) or after earning a baccalaureate degree (REH).

Minimum admission requirements for students electing the five-year approach include completion of 135 quarter hours, a score of at least 1000 on the GRE or a B average on all work beyond 90 credit hours, three letters of recommendation, and a personal interview. All General Distribution requirements must be completed and students may not apply for a baccalaureate degree.

Minimum admission requirements for students entering the program as regular graduate students after they have earned a baccalaureate degree include a score of at least 1000 on the GRE or a B average during the last two years of college work, three letters of recommendation, and a personal interview.

The GRE must be taken by all students before applying to the program and the scores received by the department before the admission deadline.

Requirements for graduation for all students include a mimimum of 60 credit hours in the post-baccalaureate program and a total of no less than 225 for those in the five-year program. The following 50-hour core courses are consistent with national certification standards for rehabilitation counselors and must be taken by all students:

REH 501	(5)	REH 508	(2)	REH 610	(4)
REH 502	(5)	REH 602	(5)	REH 611	(2)
REH 503	(5)	REH 606	(3)	REH 620	(10)
REH 507	(4)	REH 608	(5)		

Additional hours to complete either the minimum of 60 credit hours or the minimum of 225 credit hours may be elected from other REH offerings or from related graduate programs, with the consent of the student's adviser. There are no language or thesis requirements; however, a comprehensive examination is required involving both written and practical work.

■ SOCIOLOGY (SOC)

As an undergraduate major, sociology provides students with three different kinds of program concentrations. One, attractive to the majority of possible students, may be described as "useful sociology." Many of the courses taken involve skills valuable in employment. For example, in a research methods course, interviewing skills can be used in sales, personnel work, social action careers, management, as well as in research. Similarly, careers which involve inter-personal relations can benefit enormously from courses in social psychology or small group analysis. Also, pre-professional training, as in law school, business administration, social work, and the like, can rest on courses that have "useful" aspects in them. Another concentration can be styled that of "liberal education." In this concentration, the central point is the question of the nature of man, the social being. Experience has shown that the truly liberally educated person is prepared for a variety of life experiences because that person understands how to ask important questions and how to go about getting answers. More importantly, the liberally educated person is equipped to take seriously the matter of being a human being. Sociology courses are aimed largely at problems on the nature of one's social world, the nature of man collectively, and on the individual person—the student as a unique being. Finally, sociology can be a major in the sense that it represents an intellectual discipline. Some students will find

that it is interesting in its own right and that they would like to continue educational pursuits beyond the bachelor's degree.

These different concentrations differ as much in the attitude of the student taking the courses as in the selection of courses making up the individual program of study. They are not logically distinct concentrations: any one course may have elements of all three. For example, a student majoring in sociology as an academic discipline may at the same time involve himself in questions of a liberal education and at the same time pick up skills which will lead to satisfying employment. Students should understand that sociology majors are not restricted to social work or even social action types of careers.

Careers for which a major in sociology seems appropriate, judging from those who have so majored and succeeded in their fields, cover a wide range of lines utilizing interpersonal relations. Law, for example, is well predicated on sociology. So are personnel related careers, as in counseling. Similarly, knowledge of social relations, social structure, and class differences appear valuable to the entire spectrum of sales opportunities. Generally speaking, any career dealing with the public in a direct or indirect way will benefit from training in sociology. The benefits derive either from the knowledge gained or the skills (as in interviewing, a fundamental aspect of any formal system of people interacting with each other), or both. Specific elective courses should reflect individual differences; and the student's departmental major adviser will assist each one in making particular choices.

Requirements for the B.A. Degree:

The major consists of a minimum of 40 credit hours. The following courses may not be counted in the 40-hour minimum for the major but may be elected as additional courses: SOC 181, 251, 326, 401, 481. A model program of recommended sequences may be obtained from the Department of Sociology.

Transfer students should be aware that by University regulations, the equivalent of one academic year must be taken in "on-campus" courses. In Sociology, we require that of the 40 credits needed to make up the major, no more than 10 credits earned elsewhere can count towards the major, and in addition, the 10 credits offered for the major must reflect courses offered here. The purpose of this rule is to insure that our certification that an individual has majored in sociology genuinely reflects our understanding of sociology as a major and that there is no fundamental difference between the transfer student and those whose work was entirely or mostly completed at the University of South Florida.

Required Core Courses (16 cr. hrs.)

SOC 201	(4)	SOC 321	(4)	SSI 301	(4)
SOC 315	(4)				

Additional Requirements (8 cr. hrs.)

One course of:

SOC 331	(4)	SOC 433	(4)	SOC 535	(4)

One course of:

SOC 341	(4)	SOC 345	(4)	SOC 443	(4)

Requirements for the M.A. Degree:

A minimum of 45 credit hours and a thesis.

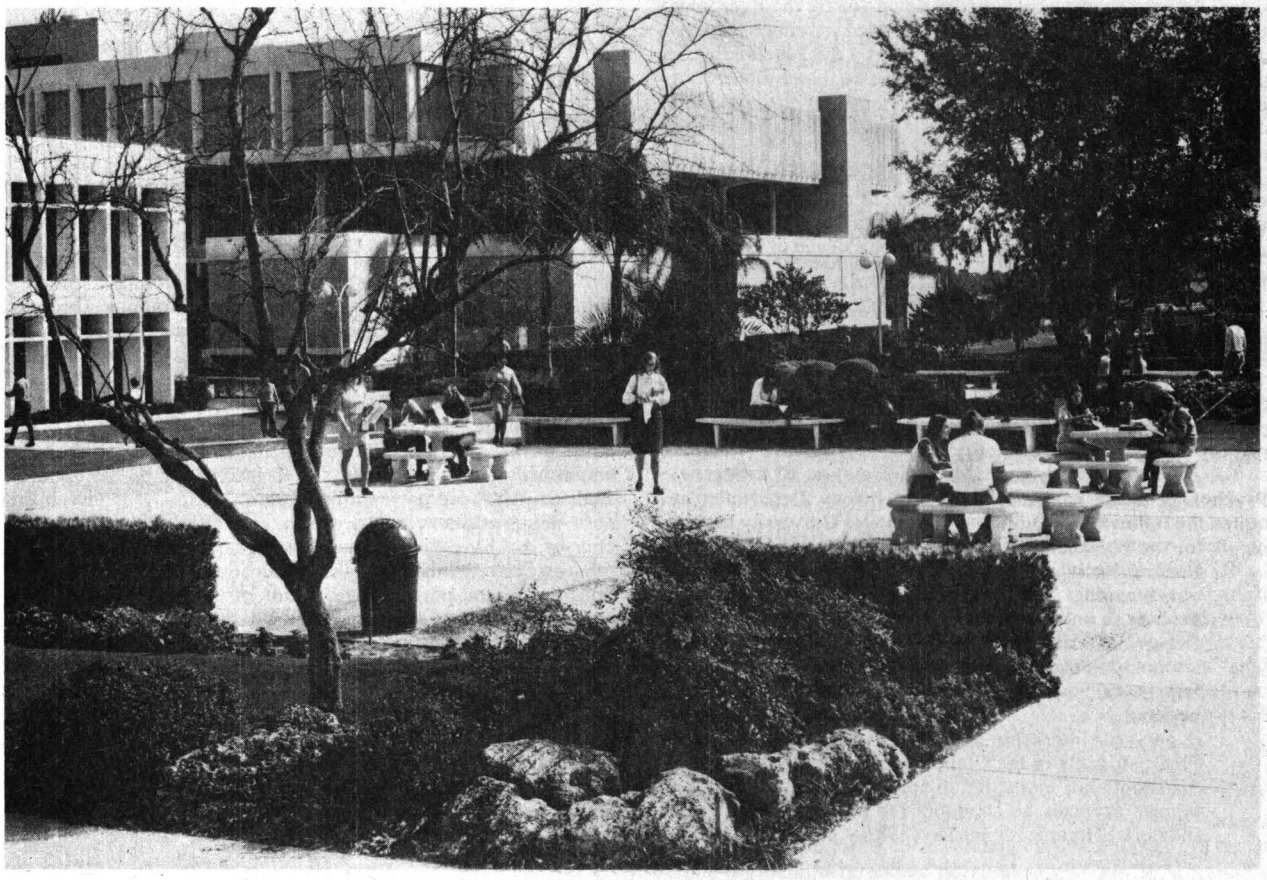
Required Courses (23 cr. hrs.)

SOC 611	(4)	SOC 623	(5)	SOC 699	(8)
SOC 621	(4)	SOC 690	(2)		

University requirements for graduate study are given on pages 47-48.

Admission to the M.A. Program: Satisfactory score on the Graduate Record Examination (Aptitude); two letters of refer-

Education-Business-Social Science Patio



ence from previous instructors; four courses in sociology, including statistics, theory, and methods of research (SSI 301, SOC 315, and SOC 321, or equivalent). Documents are sent to the Office of Admissions. Instructions for applicants are available from the Department of Sociology.

■ SOCIAL WORK (SOK)

The University of South Florida offers a program leading to a Bachelor of Social Work (B.S.W.) degree in the College of Social and Behavioral Sciences. This program has been developed in accordance with the guidelines set forth by the Council on Social Work Education, the national accrediting body for social work education programs, and in accordance with the recommendations of the National Association of Social Workers, the national professional association.

The B.S.W. Program is designed to: (1) prepare students for beginning professional social work practice in public and private social service agencies and organizations; and (2) prepare students for graduate study in social work or other human service professions. In view of this dual responsibility the B.S.W. Program is planned to provide the student with both theoretical and practical foundations necessary for professional practice and graduate education.

In preparing the B.S.W. graduate for beginning professional practice the curriculum provides the student with an opportunity to develop a heuristic knowledge base and skill base as a "generalist" practitioner. The student will develop an understanding of various interventive methods, and skill in their application to a variety of client systems. For example, interventive methods may take the form of individual and group counselling, resource development, consultation, teaching, advocacy, etc. Client systems may be individuals, families, groups, community groups, organizations, social welfare institutions, etc. The student will develop an understanding of the dynamics of human behavior in individual, group and organizational contexts and the influences of the socio-cultural environment upon those behaviors. The student will learn about the development of social welfare systems and institutions and the social, economic, and political processes affecting policy development and program implementation. The student will develop an understanding of the utilization of basic social research skills particularly related to the process of planning and evaluation.

The student will also become aware of the value base of the profession and engage in a self-examination process as it relates to the development and reflection of ethical and effective professional practice. The Social Work Program, as any professional program, places great emphasis on the development of a *professionally responsible graduate* in terms of one's obligations to the client system served, the profession itself, the organization in which one works, and to the general public which ultimately provides any profession with legitimacy.

Enrollment in the B.S.W. Program is limited. Unlike a strictly academic program, where the student may declare a major, the B.S.W. Program is a limited access program. Students may apply for admission to the Program after having satisfied the admission criteria described below. However, the completion of the prerequisites *does not guarantee* the student's admission to the Program. Largely because of limited State funds available for higher education, and also to maintain high quality by avoiding overcrowding, it may be necessary to deny admission to the Program solely on the grounds that there is no room for additional students. Any student filing intent to seek admission or actually applying for admission to the Program should be aware of this possibility.

Additionally, any student who does not maintain a Grade Point Average (GPA) of at least 2.75 while enrolled in the B.S.W. Program, or who clearly does not exhibit responsible professional behavior, may be subject to suspension or dismissal from the Program.

Admission to the Social Work Program

To be considered for admission to the B.S.W. Program as a major, a student must satisfy certain criteria. Specific admission criteria may be waived for a student who is a regular employee of a social service agency. In such instances, supporting documentation of skills and experience from an agency may be used in waiving a requirement. Generally, a student must meet the following requisites:

1. A student must be admitted to the University of South Florida.
2. A student must have filed a formal declaration of intent to major in Social Work with the College of Social and Behavioral Sciences, followed by a statement to the B.S.W. Program of intent to apply for admission into the program, at least one quarter in advance of application for admission.
3. A student must have completed all the General Distribution Requirements for the bachelor's degree and hold a minimum of Junior class standing.
4. A student must have a minimal grade point average of 2.75 on transfer to USF or have achieved a minimal grade point average of 2.75 in work at USF.
5. A student must have completed the prerequisite course, SOK 300, Theory and Practice of Social Work I, with a minimum grade of B.
6. A student must file a formal application for admission to the Social Work Program and provide the names and addresses of three persons who can serve as references to the student's character and abilities.
7. A student must participte in a personal admissions interview with an Admissions Committee.

Waiver of the foregoing specific criteria may be considered by the Social Work Program upon presentation of documentation of extremely unusual circumstances. An example of such a circumstance might be a person who, though not currently employed in a social service agency, possesses a number of years of experience in the field.

Requirements for the B.S.W. degree:

1. Social Work Practice Courses
   SOK 411 (5) SOK 412 (5)
2. Social Welfare Policy & Service Courses
   SOK 301 (4) SOK 405 (4)
3. Human Behavior & Social Environment Courses
   HUS 427 (5) SOK 420 (4)
4. Social Research Courses
   SSI 301 (4) SOK 330 (4)
5. Directed Field Experience
   SOK 440 (15)
6. Additional Requirements
   SOK 450 (4) POL 360 (4)
   Approved Electives (8)

Summary:

Core courses	*43 credits*
Field Experience	*15*
Approved Electives	*8*
	66 credits

COURSE DESCRIPTIONS

Courses offered for credit by the University of South Florida are listed on the following pages in alphabetical order according to subject area.

This section incorporates the new Statewide Common Course Numbering System, mandated by the Florida Legislature, under which all state universities and community colleges in Florida utilize the same prefix and number for identical courses offered by the various institutions. In the transitional stage of this innovative system, *courses are listed in order of the existing USF number,* even though the State Common Course number appears first in the title line.

The first line of each description includes the State Common Course prefix and number, USF course prefix and number (in parentheses), title of the course, and number of credits.

Credits separated by a colon indicate concurrent lecture and laboratory courses taught as a unit:

PHY 2050 (PHY 201-202) GENERAL PHYSICS AND LABORATORY (4:1)

Credits separated by commas indicate unified courses offered in different quarters:

AMH 2010, 2020 (HTY 211, 212) AMERICAN HISTORY I, II (4,4)

Credits separated by a hyphen indicate variable credit:

RED 7848 (EDR 733) ADVANCED CLINICAL PRACTICUM IN READING (4-8)

The abbreviation "var." also indicates variable credit:

ACC 6905 (ACC 681) DIRECTED RESEARCH (var.)

A long dash in place of the State Common Course number indicates that a State number has not yet been assigned to that course:

————(BOT 612) BIOLOGY OF TROPICAL PLANTS (3)

The following abbreviations are utilized in various course descriptions:

GR See *Grades in the Graduate Program* heading in the Division of Graduate Studies
PR Prerequisite (*Note:* Prerequisites refer to USF course numbers, not State common course numbers.)
CI With the consent of the instructor
CC With the consent of the chairperson of the department or program
CR Corequisite
Lec.-lab Lecture and laboratory
Lec.-dem. Lecture and demonstration
Lec.-pro. Lecture and problem

COURSE LEVELS

Course numbers indicate levels of study, as follows:

under 300	lower level (freshmen and sophomores)
300-499	upper level (juniors and seniors)
500-599	for seniors and graduate students only
600-899	for graduate students only

Course descriptions are listed alphabetically by USF prefix under the following department and program headings:

Accounting (ACC)
Afro-American Studies (AFA)
Aging Studies (Gerontology) (AGE)
American Studies (AMS)
Ancient Studies (Religious Studies) (ANC)
Anthropology (ANT)
Art (ART)
Astronomy (AST)
Biology (BIO)
  Botany (BOT)
  Microbiology (MIC)
  Zoology (ZOO)
Chemistry (CHM)
Communicology (CLY)
Cooperative Education (COE)
Criminal Justice (CJP)
Dance (DAN)
Economics (ECN)
Education:
  Art Education (EDA)
  Curriculum (EDC)
  Elementary Education (EDE)
  English Education (EDT)
  Exceptional Child Education (EDS)
  Foreign Language Education (EDX)
  Foundations (EDF)
  Guidance (EDG)
  Health Education (HEN)
  Humanities Education (EDY)
  Junior College Education (EDH)
  Library-Audiovisual Education (EDL)
  Measurement-Research-Evaluation (EDQ)
  Music Education (EDM)
  Natural Science-Mathematics Education (EDN)
  Physical Education for Teachers (EDP)
  Reading Education (EDR)
  Social Science Education (EDW)
  Speech Communication-English Education (EDT)
  Vocational and Adult Education (EDV)
Engineering:
  Basic Engineering (EGB)
  Electrical and Electronic Systems (EGE)
  Energy Conversion and Mechanical Design (EGR)
  Industrial Systems (EGS)
  Structures, Materials, & Fluids (EGX)
  Computer Service Courses (ESC)
  Engineering Technology (ETK)
English (ENG)
Environment (ENV)
Finance (FIN)
Foreign Languages:
  General Foreign Languages (FOL)
  Arabic (ARA)
  Classics (CLS)
  French (FRE)
  German (GER)
  Greek (GRE)
  Hebrew (HEB)
  Italian (ITA)
  Latin (LAT)
  Portuguese (POR)
  Romance (ROM)
  Russian (RUS)
  Spanish (SPA)
General Business Administration (GBA)
Geography (GPY)
Geology (GLY)
History (HTY)
Human Services (HUS)
Humanities (HUM)
Interdisciplinary Language-Literature (LLI)
Liberal Studies (ALA)
Linguistics (LIN)
Management (MAN)
Marine Science (MSC)

Marketing (MKT)
Mass Communications (COM)
Mathematics (MTH)
Medical Technology (MET)
Medicine (MED)
  Medical Sciences (MSG)
Military Science (MIS)
Music (MUS)
Nursing (NUR)
Off-Campus Term (OCT)
Philosophy (PHI)
Physical Education, Elective (PEB)
Physics (PHY)
Political Science (POL)
Psychology (PSY)
Rehabilitation Counseling (REH)
Religious Studies (REL)
  Ancient Studies (ANC)
Social Sciences, Interdisciplinary (SSI)
Social Work (SOK)
Sociology (SOC)
Speech Communication (SPE)
Theatre (TAR)
Women's Studies (WSP)

Cross-Listing of Departments and Programs Alphabetically by USF Prefix

ACC	Accounting
AFA	Afro-American Studies
AGE	Aging Studies (Gerontology)
ALA	Liberal Studies
AMS	American Studies
ANC	Ancient Studies (Religious Studies)
ANT	Anthropology
ARA	Arabic (Foreign Languages)
ART	Art
AST	Astronomy
BIO	Biology
BOT	Botany (Biology)
CHM	Chemistry
CJP	Criminal Justice
CLS	Classics (Foreign Languages)
CLY	Communicology
COE	Cooperative Education
COM	Mass Communications
DAN	Dance
ECN	Economics
EDA	Art Education (Education)
EDC	Curriculum (Education)
EDE	Elementary Education (Education)
EDF	Foundations (Education)
EDG	Guidance (Education)
EDH	Junior College Education (Education)
EDL	Library-Audiovisual Education (Education)
EDM	Music Education (Education)
EDN	Natural Science-Mathematics Education (Education)
EDP	Physical Education for Teachers (Education)
EDQ	Measurement-Research-Evaluation (Education)
EDR	Reading Education (Education)
EDS	Exceptional Child Education (Education)
EDT	English Education and Speech Communication-English Education (Education)
EDV	Vocational & Adult Education (Education)
EDW	Social Science Education (Education)
EDX	Foreign Language Education (Education)
EDY	Humanities Education (Education)
EGB	Basic Engineering (Engineering)
EGE	Electrical & Electronic Systems (Engineering)
EGR	Energy Conversion & Mechanical Design (Engineering)
EGS	Industrial Systems (Engineering)
EGX	Structures, Materials & Fluids (Engineering)
ENG	English
ENV	Environment
ESC	Computer Service Course (Engineering)
ETK	Engineering Technology
FIN	Finance
FOL	General Foreign Languages
FRE	French (Foreign Languages)
GBA	General Business Administration
GER	German (Foreign Languages)
GLY	Geology
GPY	Geography
GRE	Greek (Foreign Languages)
HEB	Hebrew (Foreign Languages)
HEN	Health Education (Education)
HTY	History
HUM	Humanities
HUS	Human Services
ITA	Italian (Foreign Languages)
LAT	Latin (Foreign Languages)
LIN	Linguistics
LLI	Interdisciplinary Language-Literature
MAN	Management
MED	Medicine
MET	Medical Technology
MIC	Microbiology (Biology)
MIS	Military Science
MKT	Marketing
MSC	Marine Science
MSG	Medical Sciences
MTH	Mathematics
MUS	Music
NUR	Nursing
OCT	Off-Campus Term
PEB	Physical Education, Elective
PHI	Philosophy
PHY	Physics
POL	Political Science
POR	Portuguese (Foreign Languages)
PSY	Psychology
REH	Rehabilitation Counseling
REL	Religious Studies
ROM	Romance (Foreign Languages)
RUS	Russian (Foreign Languages)
SOC	Sociology
SOK	Social Work
SPA	Spanish (Foreign Languages)
SPE	Speech Communication
SSI	Social Sciences, Interdisciplinary
TAR	Theater
WSP	Women's Studies
ZOO	Zoology (Biology)

ACCOUNTING (ACC)

Chairperson: R. J. West; *Professors:* R. G. Cox, L. C. Jurgensen, G. McClung, K. W. Merriam, R. J. West; *Associate Professors:* D. M. Dennis, L. C. Harris, R. M. Keith, J. E. Moon, J. L. Smith, W. L. Stephens; *Assistant Professors:* M. E. Biggs, C. E. Hubbard, J. Lasseter; *Instructors:* J. B. Anderson, C. L. Ponte. LAW: *Associate Professors:* S. C. Kahn, R. F. Welker; *Assistant Professor:* W. M. Harris; *Lecturers:* E. H. Dunn, A. W. Fisher.

ACC 2001 (ACC 201) ELEMENTARY ACCOUNTING I (3)
Study of basic accounting principles including the recording and reporting of financial activity. The preparation and interpretation of financial statements.

ACC 2021 (ACC 202) ELEMENTARY ACCOUNTING II (3)
PR: ACC 201. Accounting theory and practices for various equity structures.

ACC 3301 (ACC 300) ACCOUNTING FOR MANAGEMENT CONTROL (3)
PR: ACC 202. Study of accounting from user's point of view. Includes measurement theory, use of financial statements, and accounting measurement in planning and control.

ACC 3101 (ACC 301) INTERMEDIATE ACCOUNTING I (4)
PR: ACC 300 or concurrent registration in ACC 300. Measurement theory and methodology underlying income measurement and reporting of financial position. The study of cash, time value analysis, receivables, and inventories.

ACC 3121 (ACC 302) INTERMEDIATE ACCOUNTING II (4)
PR: ACC 301. Continuation of theory and principles underlying financial statements, current and long term liabilities, plant and equipment, investments, intangible, leases and pensions, and owners' equity.

ACC 3141 (ACC 303) INTERMEDIATE ACCOUNTING III (3)
PR: ACC 302. Required for Accounting majors. Continuation of theory and principles underlying financial statements, earnings per share, income tax allocation, price-level changes, accounting changes, statements from incomplete records, statements of change in financial position and contemporary accounting issues.

ACC 4201 (ACC 401) ADVANCED ACCOUNTING (3)
PR: ACC 302; MTH 211 or College Algebra. Quantitative application in accounting, partnerships, governmental accounting and price-level changes.

ACC 4221 (ACC 402) CONSOLIDATED FINANCIAL STATEMENTS (3)
PR: ACC 302. Accounting for home office and branch operations and business combinations.

ACC 4730 (ACC 405) ACCOUNTING INFORMATION SYSTEMS (4)
PR: ACC 302, GBA 333. General systems theory, total systems concept, internal control problems, and computer based accounting systems.

AAC 4501 (ACC 411) FEDERAL TAXES (4)
PR: ACC 202. An introduction to the federal income tax structure. Use of tax services and the concept of taxable income primarily applicable to individuals.

ACC 4521 (ACC 412) FEDERAL TAXES (3)
PR: ACC 411. Continued study of the federal income tax structure. Special topics and the concept of taxable income as it applies primarily to business enterprises.

ACC 4401 (ACC 421) COST ACCOUNTING AND CONTROL I (4)
PR: FIN 301, ECN 331. Deals with relevant costs for decision making; standards and job order costing, flexible budgeting, direct and absorption costing, regression analysis, and decision models.

ACC 4421 (ACC 422) COST ACCOUNTING AND CONTROL II (3)
PR: ACC 421. A continuation of ACC 421. The study of cost allocation, capital budgeting, inventory planning and control, joint products, process costing, performance measurement, and transfer pricing.

ACC 4601 (ACC 423) AUDITING (4)
PR: ACC 302 and ECN 331. Principles and procedures of internal and public auditing. The ethics, responsibilties, standards and reports of professional auditing.

ACC 4841 (ACC 425) BUDGETING (3)
PR: ACC 421. The development of budgets and their relation to expense and cost control, including the use of standard cost as a budgetary tool.

ACC 4914 (ACC 481) INDEPENDENT RESEARCH (1-5)
PR: CI. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 10 hours.

ACC 4801 (ACC 483) SELECTED TOPICS IN ACCOUNTING (1-5)
PR: CI. The course content will depend on student demand and instructor's interest.

——— (ACC 497) INDEPENDENT STUDY (1-4)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 8 credit hours. (S/U only.)

ACC 5031 (ACC 501) ACCOUNTING CONCEPTS AND METHODOLOGY I (3)
A study of basic accounting principles including the recording of transactions and the preparation and interpretation of financial statements.

ACC 5041 (ACC 502) ACCOUNTING CONCEPTS AND METHODOLOGY II (3)
PR: ACC 501. A continuation of ACC 501. Consideration is given to budgeting and cost accounting. Emphasis is placed upon the analysis of financial condition and business operations through an understanding of accounting statements and reports.

ACC 6311 (ACC 601) MANAGERIAL ACCOUNTING AND CONTROL (3)
PR: Business Core or equivalent. A study of the relevancy and limitations of accounting measurement as a basis for business decision-making. Includes a review of fundamental accounting measurement theory and related tax implications.

ACC 6331 (ACC 602) MANAGERIAL ACCOUNTING AND CONTROL (3)
PR: Business Core and CI. The relevancy and limitation of cost information in business decision-making. Emphasis is oriented towards the role of cost accounting measurements in; (1) planning and controlling current operations; (2) special decisions and long-range planning; (3) inventory valuation and income determination.

ACC 6811 (ACC 605) DEVELOPMENT OF ACCOUNTING THOUGHT (3)
PR: 24 quarter hours in accounting or CI. A study and evaluation of the development and evolution of current account theory and measurement concepts. The definition of accounting objectives and goals and the development of measurement models.

ACC 6802 (ACC 606) CONTEMPORARY ACCOUNTING THOUGHT (3)
PR: ACC 605 or CI. Concentrated study of current problems areas in the field of accountancy.

ACC 6745 (ACC 607) SYSTEMS THEORY AND QUANTITATIVE APPLICATIONS (3)
PR: ACC 405 or equivalent. The design and operation of contemporary accounting systems including the relevance of data processing and statistical methods to the system of financial information and control.

ACC 6511 (ACC 611) FEDERAL TAX RESEARCH AND PLANNING (3)
PR: ACC 411 or CI. A study of the development of tax law and its implication in business decisions. Tax planning and tax research are emphasized.

ACC 6451 (ACC 621) MANAGEMENT COST ANALYSIS AND CONTROL (3)
PR: 24 quarter hours of accounting or CI. Measurement, interpretation, planning, and control of costs by means of predetermined standards and variance analysis. Use of accounting and statistical information in preparing budgets and controlling operations.

ACC 6691 (ACC 623) ETHICS AND RESPONSIBILITIES IN PROFESSIONAL ACCOUNTANCY (3)
PR: ACC 423 or equivalent. The study of elements of public accounting practice, professional conduct, auditing principles and reporting standards. The relationship of the field of public accounting to federal and state agencies.

ACC 6905 (ACC 681) DIRECTED RESEARCH (credit varies)
PR: GR. Master's level. Repeatable. (S/U only.)

ACC 6930 (ACC 683) SELECTED TOPICS IN ACCOUNTING (1-6)
PR: CC. The course content will depend on student demand and instructor's interest. May be repeated up to 6 hours.

——— (ACC 697) INDEPENDENT STUDY (var.)
Independent Study in which student must have a contract with an instructor. Repeatable. (S/U only.)

AFRO-AMERICAN STUDIES (AFA)

Director: F. U. Ohaegbulam; *Associate Professor:* F. U. Ohaegbulam; *Assistant Professors:* J. W. Dudley, K. R. Glover; *Visiting Assistant Professor:* L. C. Newman.

AFA 2001 (AFA 230) INTRODUCTION TO AFRO-AMERICAN STUDIES (4)
Fundamental perspectives on the nature and meaning of the Afro-American experience and the role of Afro-American Studies in articulating major problems in American and world society. (Formerly AFA 130.)

AFH 3100 (AFA 333) INTRODUCTION TO AFRICAN HISTORY (4)
An outline survey of precolonial African history including a prefatory introduction to the use of primary sources (such as archaeology, oral tradition, cultural anthropology, comparative linguistics, documents) in reconstructing the African past.

AFH 3200 (AFA 334) AFRICAN HISTORY SINCE 1850 (4)
Survey of the colonial and post-colonial history of Africa. Emphasis on the impact of European and other alien influences on the continent, emergence of independent African states and post-independence problems of nation building and economic development.

AMH 3571, 3572 (AFA 335-336) AFRO-AMERICAN HISTORY (4,4)
A survey of the Afro-American history in Western Hemisphere. Emphasis on the experience in North America (AFA 335; 1493-1865; AFA 336; 1865-to present.) (Formerly AFA 261-262.)

PUP 3313 (AFA 337) BLACKS IN AMERICAN POLITICAL PROCESS (4)
An examination of the political experience of blacks in the American political process including their political socialization, and struggle to become effective participants in the American political process.

HUM 3420 (AFA 341) ARTS AND MUSIC OF THE AFRICAN PEOPLE (4)
An examination of the visual arts — painting, sculpture, architecture and music of African people in the Sub-Saharan Africa, the Caribbean and the United States. Particular attention to how blacks have expressed the meaning, suffering and triumph of their lives through legitimate theatre, visual arts, and musicals and the role of black artists in the historical struggle for black consciousness and liberation.

AFS 3311 (AFA 343) THE AFRICAN DIASPORA AND PAN-AFRICANISM (4)
An examination of the African Diaspora and the influence of African culture and civilization on the growth and development of world cultures. Emphasis on the extent to which African culture has enriched the development of mankind, the cultural significance of African voyages and migrations to Asia, Europe and the Americas, and the historical quest for racial and continental pan-Africanism including Garveyism.

CPO 4202 (AFA 428) GOVERNMENT AND POLITICS OF AFRICA (4)
Designed to provide the information and analytical tools necessary to interpret current Sub-Saharan African policies. Survey of political organizations in traditional African societies; politics under colonial rule; the struggle for independence, and post-independence politics.

AFA 4331 (AFA 431) SOCIAL INSTITUTIONS AND THE GHETTO (4)
A study of social institutions as they relate to the American Black ghetto, with emphasis on social systems operating within and on the ghetto. (Formerly AFA 302.)

ECP 4143 (AFA 432) BLACK AMERICANS IN THE AMERICAN ECONOMIC PROCESS (4)
Brief economic history of Black America emphasizing the impact of racial discrimination and evaluating proposals for improvement as they apply to Black Americans and other minority groups. (Formerly AFA 310).

INR 4254 (AFA 438) AFRICA IN WORLD POLITICS (4)
Study of international relations in the new Africa including the relations of the new states with the major world powers and their role in the United Nations.

PHM 4120 (AFA 440) CONTEMPORARY BLACK PHILOSOPHY (4)
Major themes and participants in the Black liberation movement since 1900 (Formerly AFA 410).

CPO 4254 (AFA 442) GOVERNMENT AND POLITICS OF WEST AFRICA (4)
In depth study of government, political systems and processes in West Africa including political developments, ideologies, problems and prospects of political and economic development and military regimes in the area.

CPO 4244 (AFA 443) GOVERNMENT AND POLITICS OF EAST, CENTRAL AND SOUTHERN AFRICA (4)
In depth study of political developments, ideologies and modernization in East, Central and Southern Africa including race relations and white minority rule and Portuguese colonialism in Southern Africa.

AFS 4321 (AFA 444) EDUCATIONAL DEVELOPMENT IN THE AFRICAN WORLD (4)
An examination of educational systems and experiences of African peoples' cultural past and needs for their future. In tracing the development of education in the African world, close attention will be paid to changing structures and functions of education as manifestations of governmental needs and desires. Similarities and contrasts of African and Afro-American educational patterns will be explored.

AFS 4910 (AFA 481) RESEARCH AND FIELD STUDIES (1-4)
A course linking the study pursued by the student with research and work projects in the Tampa Black community.

AFA 4931 (AFA 483) SELECTED TOPICS IN AFRO-AMERICAN STUDIES (1-4)
Topics offered are selected to reflect student needs and faculty interests. In depth study in such areas as the Black Student and the American Educational Process; the Black Experience in the Americas; European Expansion in Africa to 19th century; Contemporary Economic Problems in Africa.

AFA 4150 (AFA 484) AFRICA AND THE UNITED STATES (4)
A consideration of the nature and character of African cultural survivals in America including an examination of the historical and current political, economic, and cultural relations between the United States and Africa.

AFA 4900 (AFA 485) DIRECTED READINGS (2-4)
Independent readings in a particular area of Afro-American Studies, selected by student and instructor.

AFA 4936 (AFA 491) SENIOR SEMINAR (4)
In-depth study of a particular topic in the area of Afro-American Studies. Individual research by students required.

AFA 4419 (AFA 499) SEMINAR IN TEACHING BLACK STUDIES (4)
An examination of instructional media, resources and approaches relevant to the study and teaching of the black experience.

AGING STUDIES (AGE)

Director: T. A. Rich; *Professors:* T. A. Rich, S. V. Saxon; *Associate Professor:* W. P. Mangum; *Assistant Professor:* D. Haber; *Other Faculty:* E. Allen, A. D. Entine, A. S. Gilmore, M. Kaplan, D. R. Kenerson, L. Leavergood, M. N. Masters, C. Sanders, J. Taylor, W. Vasey.

GEY 3000 (AGE 301) INTRODUCTION TO GERONTOLOGY (4)
This course is designed to be an introduction to the study of aging. The aging process is viewed from a multi-disciplinary perspective including the biological, psychological, and sociological aspects of aging.

GEY 3200 (AGE 315) APPLIED GERONTOLOGY (4)
PR: CI. This course is designed to provide an integration of empirical data in the study of aging with practical experience in working with older people. Students will spend time actually working with older people in an agency or institutional setting and then will use experiences in conjunction with other available data to gain perspective in this field.

GEY 3100 (AGE 325) CULTURE, SOCIETY AND AGING (4)
This course is designed to allow the student to consider aging within the context of culture and society. Emphasis will be given to cultural attitudes toward aging in the U.S. and to implications of cultural attitudes for human behavior.

GEY 4930 (AGE 405) SEMINAR IN SELECTED TOPICS IN SOCIAL GERONTOLOGY (3)
PR: CI. This course will provide upper level students with a seminar experience in discussing topics of interest and social relevance in the field of aging. Each student will be required to prepare a seminar paper and present it.

GEY 4900 (AGE 485) DIRECTED READINGS (1-3)
PR: CI. A reading program with topics in gerontology conducted under the supervision of a faculty member.

GEY 5600 (AGE 501) PHYSICAL CHANGE AND AGING (4)
PR: CI. Lectures and discussion concerned with normal functioning of major organ systems of the body, age-related changes, and implications for behavior.

GEY 5610 (AGE 502) PSYCHOLOGY OF AGING (4)
PR: CI. Consideration of basic psychological processes as related to the aging process, changes in functioning and perceptual motor and cognitive-areas from the developmental perspective.

GEY 5620 (AGE 503) SOCIOLOGICAL ASPECTS OF AGING (4)
PR: CI. Examines, within a sociological frame of reference, the inter-relationships between the aged (or aging) and the structure and function of the social system and its major institutionalized subsystems.

GEY 5350 (AGE 504) AGING AND PERSONALITY (4)
PR: CI. An introduction to personality theory and concepts of adjustment with an overview of counseling techniques and rehabilitative efforts with the aged.

GEY 5630 (AGE 507) ECONOMICS AND AGING (4)
PR: CI. A study of the basic processes of macroeconomic thought in the modern mixed economy and what influences these processes have on the subject of aging. The course will include discussions on economic issues pertinent to aging such as income maintenance, problems, theories of consumption and income, and labor force problems.

GEY 5250 (AGE 509) LEISURE FOR THE AGING (4)
PR: CI. This seminar consists of general data and observations on trends and research in the leisure field, directed theoretical analysis of these studies as they pertain to the elderly and contact with progress by visits, interviews, and reports.

GEY 5642 (AGE 530) PERSPECTIVES ON DEATH AND DYING (4)
PR: CI. An examination of man's attempt to understand the meaning of death, and of his ways of meeting the personal and social crises which death presents. Study of the various psychological, medical, legal, and religious problems caused by dying and death, and of how individuals and groups have responded in the past and present. Emphasis on challenging and assisting the student to develop an objective and creative view of death and loss as it relates to the end of human life.

GEY 5901 (AGE 585) DIRECTED READINGS (1-3)
PR: CI. A reading program with topics in gerontology conducted under the supervision of a faculty member.

GEY 6325 (AGE 601) SOCIAL POLICY AND PLANNING FOR GERONTOLOGISTS (4)
PR: CI. This course is intended to enable graduates to be more knowledgeable and hence more effective practitioners in the processes of social policy development and social planning. It is designed to provide an empirical and analytical base for understanding the major issues and trends involved in existing and proposed programs and services in the field of aging at local, state, and federal levels of service planning and provision.

GEY 6450 (AGE 603) SOCIAL RESEARCH METHODS APPLIED TO GERONTOLOGY (4)
PR: CI. Systematic study of the methods and techniques employed in social, psychological, and health studies of population groups. Directed toward the consumers of research find-

ings — persons whose positions call for the ability to interpret, evaluate, and apply the findings produced by others.

GEY 6390 (AGE 605) INTERPERSONAL RELATIONS PRACTICUM (4)
PR: CI. A practicum involving students in group and individual settings in interaction with older persons. Content will include implications from interviewing, counseling, and current conceptions of personality in the aged.

GEY 6500 (AGE 606) INSTITUTIONAL ADMINISTRATION (4)
PR: CI. This course deals with the management problems and practices in the administration of institutions in the field of aging. Consideration is given to the economics of aging, federal and state legislation, the management of people, and fiscal management.

GEY 6510 (AGE 608) HUMAN RELATIONS IN ORGANIZATIONS (4)
PR: CI. An analytical view of the modern human relations movement with stress on development since the 1930's. Incorporates the philosophy of the behavioral sciences and alternative theories and relates them to the management process.

GEY 6460 (AGE 610) ADMINISTRATIVE APPLICATIONS OF DEMOGRAPHY (4)
PR: CI. Acquaints the student with various sources of demographic data and its use. Emphasis is placed upon applicability in program planning and student experience in locating, tabulating, and interpreting data from selected publications.

GEY 6910 (AGE 611) PROJECTS IN AGING I (1-6)
PR: CI. In-depth study of special topics with the objective of identifying problems for research and developing research proposals.

GEY 6910 (AGE 612) PROJECTS IN AGING II (1-6)
PR: AGE 611 and CI. A continuation of AGE 611.

GEY 6930 (AGE 690, 691, 692, 693) SEMINAR IN SOCIAL GERONTOLOGY (2,2,2,2)
PR: CI. Designed to give the graduate student an opportunity to intergrate concepts within the field of gerontology and relate these to other fields of study. Guest lecturers from a variety of disciplines participate in the seminar. (S/U only.)

GEY 6940 (AGE 696) FIELD PLACEMENT (12)
PR: CI. Internship in an agency or setting. An assignment to an agency or organization engaged in planning or administering programs for older people or in providing direct services to older people. (S/U only.) (Formerly AGE 695.)

GEY 6907 (AGE 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

AMERICAN STUDIES (AMS)

Director: H. M. Robertson; *Professors;* D. R. Harkness, G. S. Kashdin, J. B. Moore, R. C. O'Hara, H. M. Robertson, E. E. Stanton, Jr.; *Associate Professors:* R. M. Figg, W. T. Morgan; *Assistant Professor:* C. E. Conway.

AMS 2363 (AMS 201) ISSUES IN AMERICAN CIVILIZATION (2)
Through lecture and demonstration an examination of such topics as natural environment and the quality of life, Architecture and American society, leisure and technology, jazz music, the role of higher education in America, the American success myth and the status of the arts in America.

AMS 3001 (AMS 301) INTRODUCTION TO AMERICAN CIVILIZATION (5)
Integration of major aspects of American life between 1898 and 1914. Should be taken the first term a student becomes an American Studies major. Elective for non-majors.

AMS 3201 (AMS 311) THE COLONIAL PERIOD (5)
Puritan heritage: The pattern of American culture as revealed through an examination of selected writings and pertinent slides and recordings dealing with the art, architecture and music of the period. Elective for non-majors.

AMS 3201 (AMS 312) THE AGRARIAN MYTH (5)
Frontier heritage: The pattern of American culture as revealed through an examination of selected writings and other pertinent materials dealing with American faith and the American frontier environment (the land, city, machine). Elective for non-majors.

AMS 3230 (AMS 313) AMERICA DURING THE TWENTIES AND THIRTIES (5)
Heritage of the nineteen twenties and thirties: selected interdisciplinary materials are used to examine the relationships among regionalism, nationalism and internationalism during the twenties and thirties. Emphasis is placed on the measure of cultural nationalism attained by the United States during this period. Elective for non-majors.

AMS 3302 (AMS 321) ARCHITECTURE AND THE AMERICAN ENVIRONMENT (4)
By means of slides, lectures and discussion the course examines 350 years of American architectural history. Architectural styles, aesthetics and the relation between a building and its social environment are stressed.

AMS 3303 (AMS 331) THE AMERICANIZATION OF ENGLISH (4)
An overview of American attitudes toward the English language from colonization to the present. Among the topics discussed are: the American mania for correctness, the influence of the school marm, place and proper names and language prudery.

AMS 3930 (AMS 383) SELECTED TOPICS IN AMERICAN STUDIES (1-5)
Offerings include The American Success Myth, Cultural Darwinism in America, America Through Foreign Eyes, Contemporary Topics in American Studies, Nineteenth and Twentieth Century American Communes.

AMS 4910 (AMS 481) INDIVIDUAL RESEARCH (1-5)
The content of the course will be governed by student demand and instructor's interest. Instructor's approval required prior to registration.

AMS 4930 (AMS 483) SELECTED TOPICS IN AMERICAN STUDIES (1-5)
Offerings include American Painting: its social implications, Technology in the Twentieth Century America, American Environmental Problems, Popular Culture in America.

AMS 4935 (AMS 491) SENIOR SEMINAR IN AMERICAN STUDIES (4)
PR: Senior in American Studies or CI.

AMS 4935 (AMS 492) SENIOR SEMINAR IN AMERICAN STUDIES (4)
PR: AMS 491.

AMS 4935 (AMS 493) SENIOR SEMINAR IN AMERICAN STUDIES (4)
PR: AMS 491, AMS 492.

ANCIENT STUDIES (ANC)—see Religious Studies

ANTHROPOLOGY (ANT)

Chairperson: G. Kushner; *Professors:* R. T. Grange, Jr., G. Kushner, A. Shiloh, A. W. Wolfe; *Associate Professors:* M. V. Angrosino, J. R. Williams; *Assistant Professors:* J. J. Smith, P. P. Waterman, C. W. Wienker.

ANT 2000 (ANT 201) INTRODUCTION TO ANTHROPOLOGY (4)
A general survey of physical anthropology, archaeology, linguistics and cultural anthropology.

ANT 3515 (ANT 311) PHYSICAL ANTHROPOLOGY (4)
PR: ANT 201 or CI. The comparative study of human physical variations and origins.

ANT 3100 (ANT 321) ARCHAEOLOGY (4)
PR: ANT 201 or CI. The comparative study of past cultures and societies.

ANT 3410 (ANT 331) CULTURAL ANTHROPOLOGY (4)
PR: ANT 201 or CI. The comparative study of cultures and societies.

ANT 3005 (ANT 371) THE ANTHROPOLOGICAL PERSPECTIVE (4)
Anthropological concepts relevant to contemporary life. Designed for non-anthropology majors. May not be counted for credit toward an anthropology major.

ANT 4674 (ANT 401) SELECTED TOPICS IN LINGUISTIC ANTHROPOLOGY (3-6)
PR: LIN 301, ANT 201 or CI. A detailed study of current issues such as the relationship of language and culture, ethnographic semantics, or paralinguistic phenomena. May be repeated as topics vary.

ANT 4593 (ANT 411) SELECTED TOPICS IN PHYSICAL ANTHROPOLOGY (3-6)
PR: ANT 201-311 or CI. A detailed study of current issues such as paleo-pathology, human races, or social biology. May be repeated as topics vary.

ANT 4193 (ANT 421) SELECTED TOPICS IN ARCHAEOLOGY (3-6)
PR: ANT 201-321 or CI. A detailed study of current issues such as the development of civilization, regional chronologies, or historical archaeology. May be repeated as topics vary.

ANT 4493 (ANT 431) SELECTED TOPICS IN CULTURAL ANTHROPOLOGY (3-6)
PR: ANT 201-331 or CI. A detailed study of current issues such as socio-cultural change, ethnopsychology, or social structure. May be repeated as topics vary.

ANT 4211 (ANT 441) REGIONAL ANTHROPOLOGY (3-6)
PR: ANT 201-331 or CI. A survey of cultures and societies in a limited area or region. May be repeated as topics vary: (1) Indians of North America; (2) Cultures of Africa; (3) Cultures of the Pacific; (4) Cultures of Mesoamerica; (5) Cultures of the Middle East; (6) Specified areas such as Asia, Southeastern U.S. or Florida depending on current interest and staff.

ANT 4034 (ANT 461) HISTORY OF ANTHROPOLOGICAL THEORY (4)
PR: LIN 301, ANT 311-321-331 or CI. Survey and analysis of the development of theory and method.

ANT 4084 (ANT 471) METHODS IN ANTHROPOLOGY (3-6)
PR: CI. Study and application of a selected field or laboratory method in anthropology. Prerequisites will depend on area of study and will be determined by consultation with instructor in advance of registration. May be repeated as topics vary: (1) Archaeological Field Methods; (2) Field Methods in Cultural Anthropology; (3) Laboratory Methods in Archaeology; (4) Laboratory Methods in Physical Anthropology; (5) Others as specified.

ANT 4907 (ANT 481) INDIVIDUAL RESEARCH (3-6)
PR: CI. Individual guidance in a selected research project.

ANT 4901 (ANT 485) DIRECTED READING (1-6)
PR: CI. Individual guidance in concentrated reading on a selected topic in anthropology.

ANT 4935 (ANT 491) SENIOR SEMINAR IN ANTHROPOLOGY (4)
PR: Senior standing with major in anthropology, or equivalent. A seminar approach to the integration of the fields of anthropology. Designed to help the student refocus on and come to a better understanding of the nature of anthropology.

ANT 5937 (ANT 571) SEMINAR IN ANTHROPOLOGY (3-6)
PR: CI. Topics to be chosen by students and instructor.

ANT 5915 (ANT 581) INDIVIDUAL RESEARCH (3-6)
PR: CI. Individual guidance in a selected research project.

ANT 5904 (ANT 585) DIRECTED READING (1-6)
PR: CI. Individual guidance in concentrated reading on a selected topic in anthropology.

ANT 6676 (ANT 601) SEMINAR IN ANTHROPOLOGICAL LINGUISTICS (4)
PR: Graduate standing. One of four core courses required of all students. A critical survey of anthropological linguistics emphasizing contributions to applied anthropology. Open to non-majors.

ANT 6588 (ANT 611) SEMINAR IN PHYSICAL ANTHROPOLOGY (4)
PR: Graduate standing. One of four core courses required of all students. A critical survey of physical anthropology emphasizing contributions to applied anthropology. Open to non-majors.

ANT 6186 (ANT 621) SEMINAR IN ARCHAEOLOGY (4)
PR: Graduate standing. One of four core courses required of all students. A critical survey of archaeology emphasizing contributions to applied anthropology. Open to non-majors.

ANT 6490 (ANT 631) SEMINAR IN CULTURAL ANTHROPOLOGY (4)
PR: Graduate standing. One of four core courses required of all students. A critical survey of cultural anthropology emphasizing contributions to applied anthropology. Open to non-majors.

ANT 6737 (ANT 641) METHODS IN MEDICAL ANTHROPOLOGY (4)
PR: Three of the core courses, or CI. Field techniques, methods of collection, analysis and interpretation of data. May be repeated up to 8 credit hours as topics vary. Open to non-majors. Lec-lab, field trips.

ANT 6446 (ANT 644) METHODS IN URBAN ANTHROPOLOGY (4)
PR: Three of the core courses, or CI. Field techniques, methods of collection, analysis, and interpretation of data. May be repeated up to 8 credit hours as topics vary. Open to non-majors. Lec-lab, field trips.

ANT 6196 (ANT 647) METHODS IN PUBLIC ARCHAEOLOGY (4)
PR: Three of the core courses, or CI. Field techniques, methods of collection, analysis, and interpretation of data. May be repeated up to 8 credit hours as topics vary. Open to non-majors. Lec-lab, field trips.

ANT 6469 (ANT 651) SELECTED TOPICS IN MEDICAL ANTHROPOLOGY (4)
PR: Three of the core courses, or CI. Current topical issues in medical anthropology. May be repeated up to 8 credit hours as topics vary. Open to non-majors.

ANT 6447 (ANT 654) SELECTED TOPICS IN URBAN ANTHROPOLOGY (4)
PR: Three of the core courses, or CI. Current topical issues in urban anthropology. May be repeated up to 8 credit hours as topics vary. Open to non-majors.

ANT 6197 (ANT 657) SELECTED TOPICS IN PUBLIC ARCHAEOLOGY (4)
PR: Three of the core courses, or CI. Current topical issues in public archaeology. May be repeated up to 8 credit hours as topics vary. Open to non-majors.

ANT 6463 (ANT 661) REGIONAL PROBLEMS IN MEDICAL ANTHROPOLOGY (4)
PR: Three of the core courses, or CI. Contemporary problems in medical anthropology in the context of a specific region. May be repeated up to 8 credit hours as topics vary. Open to non-majors.

ANT 6448 (ANT 664) REGIONAL PROBLEMS IN URBAN ANTHROPOLOGY (4)
PR: Three of the core courses, or CI. Contemporary problems in urban anthropology in the context of a specific region. May be repeated up to 8 credit hours as topics vary. Open to non-majors.

ANT 6198 (ANT 667) REGIONAL PROBLEMS IN PUBLIC ARCHAEOLOGY (4)
PR: Three of the core courses, or CI. Contemporary problems in archaeology in the context of a specific region. May be repeated up to 8 credit hours as topics vary. Open to non-majors.

ANT 6908 (ANT 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

ANT 6908 (ANT 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

ANT 6971 (ANT 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

ART (ART)

Chairperson: G. Pappas; *Professors:* O. W. Bailey, H. W. Covington, E. L. Cox, C. J. Fager, J. M. Kronsnoble, G. Pappas, D. J. Saff; *Associate Professors:* A. B. Eaker, R. W. Gelinas, W. M. Hindle, C. W. Houk, M. L. Larsen, C. P. Lyman, B. L. Marsh, B. J. Nickels, T. F. Wujcik; *Assistant Professors:* L. S. Dietrich, M. A. Miller, S. H. Pevnick; *Instructors:* J. Hayakawa, D. Yager.

ART 2202 (ART 201) VISUAL CONCEPTS I (4)
Studio problems supplemented by reading and discussion. Consideration of spatial organization of the two-dimensional surface.

ART 2203 (ART 202) VISUAL CONCEPTS II (4)
Studio programs supplemented by reading and discussion. Consideration of three-dimensional organization of space and mass.

ART 3002 (ART 301) BASIC SEMINAR (2)
Philosophical dimensions of art. Discussion of purposes of art and the relationship of art to life.

ART 3301 (ART 304) DRAWING I (4)
PR: ART 201 and ART 301. Drawing as a means of formal organization. Introduction to intermediate drawing methods and media.

ARH 3000 (ART 310) INTRODUCTION TO ART (3)
An introductory course for the student who does not intend to major in art. (S/U only.)

ART 3510 (ART 311) PAINTING I (4)
PR: ART 201, 301, 304. Intermediate problems in painting with an emphasis on the exploration of methods and media and the development of individual concepts.

ART 3701 (ART 321) SCULPTURE I (4)
PR: ART 202 and ART 301. Intermediate problems in sculpture with emphasis on the exploration of materials and media and the development of individual concepts.

ART 3110 (ART 331) CERAMICS I (4)
PR: ART 202 and ART 301. Intermediate problems in ceramics with an emphasis on the exploration of methods and media and the development of individual concepts.

ART 3400 (ART 340) GRAPHICS I (4)
PR: ART 201, 301, 304. Introduction to the graphics media: Intaglio, Lithography, Silkscreen.

ART 3600 (ART 361) PHOTOGRAPHY I (4)
PR: ART 201 and ART 301. Intermediate problems in photography with emphasis on the exploration of materials and media and the development of individual concepts.

ART 3630 (ART 365) CINEMATOGRAPHY I (4)
PR: ART 201 and ART 301. Intermediate problems in cinematography with emphasis on the exploration of materials and media and development of individual concepts.

ART 3935 (ART 391) STUDIO TECHNIQUES: SELECTED PROJECTS (2)
PR: ART 201, ART 202, ART 301 and CI. Concentration in specialized technical data and process. May be repeated for credit for different topics only.

ART 4320 (ART 401) DRAWING II (4)
PR: ART 304. Continued problems in drawing. May be repeated.

ART 4520 (ART 411) PAINTING II (4)
PR: ART 311. Continued problems in painting. May be repeated.

ART 4702 (ART 421) SCULPTURE II (4)
PR: ART 321. Continued problems in sculpture. May be repeated.

ART 4111 (ART 431) CERAMICS II (4)
PR: ART 331. Continued problems in ceramics. May be repeated.

ART 4421 (ART 441) LITHOGRAPHY II (4)
PR: ART 340. Continued problems in lithography. May be repeated.

ART 4471 (ART 442) INTAGLIO II (4)
PR: ART 340. Continued problems in intaglio. May be repeated.

ART 4431 (ART 443) SILKSCREEN II (4)
PR: ART 340. Continued problems in silkscreen. May be repeated.

ART 4935 (ART 453) ART SENIOR SEMINAR (3)
PR: Senior Status. To aid majors to understand, appraise and perfect their own art and technique through critical and aesthetic judgments of their colleagues. Discussion and critical evaluation.

ART 4601 (ART 461) PHOTOGRAPHY II (4)
PR: ART 361. Continued problems in photography. May be repeated.

ARH 4743 (ART 464) INTRODUCTION TO THE PERSONAL FILM (4)
PR: ART 365. Comparison of philosophical and technical distinctions between the personal film and theatrical or commercial release.

ART 4631 (ART 465) CINEMATOGRAPHY II (4)
PR: ART 365. Continued problems in cinematography. May be repeated.

ARH 5746 (ART 466) ANATOMY OF THE COLLABORATIVE FILM (4)
PR: ART 465. Analysis of aesthetic and other selected aspects of film produced through collaborative efforts. May be repeated. (Formerly ART 566).

ART 4633 (ART 467) SOUND TECHNIQUES (4)
PR: ART 365. The recording and editing of sound for film. Collaboration with other departments, particularly Music and Theatre, is encouraged. To be taken concurrently with ART 465 or ART 565 whenever possible.

ARH 5790 (ART 468) SELECTED TOPICS IN THE HISTORY OF FILM (4)
In depth investigation of a selected period, development or school in the history of film as art. May be repeated. (Formerly ART 568.)

ARH 4100 (ART 470) PREHISTORIC AND ANCIENT ART (4)
A comprehensive study of Paleolithic, Neolithic, Egyptian, Assyrian and Mesopotamian painting, sculpture and architecture.

ARH 4170 (ART 471) GREEK AND ROMAN ART (4)
A comprehensive study of Aegean, Mycenaean, Etruscan, Greek and Roman painting, sculpture and architecture.

ARH 4200 (ART 472) MEDIEVAL ART (4)
A comprehensive study of early Christian, Byzantine and Medieval painting, sculpture, architecture and manuscript illumination.

ARH 4301 (ART 473) RENAISSANCE ART (4)
A comprehensive study of Renaissance and Mannerist painting, sculpture and architecture in Italy and Northern Europe

ARH 4350 (ART 474) BAROQUE AND ROCOCO ART (4)
A comprehensive study of the painting, sculpture and architecture in France, Italy, Spain and the Netherlands in the seventeenth and early eighteenth centuries.

ARH 4430 (ART 475) NINETEENTH CENTURY ART (4)
A comprehensive study of nineteenth century painting, sculpture and architecture in France and England.

ARH 4450 (ART 476) TWENTIETH CENTURY ART (4)
A comprehensive study of painting, sculpture and architecture from Cezanne to the present in Europe and the United States. Required of all art majors.

ARH 4530 (ART 477) ORIENTAL ART (4)
An introduction to concepts of the arts of China, Japan and other Far Eastern countries.

ART 4905 (ART 481) DIRECTED STUDY (1-6)
PR: CC. Independent studies in the various areas of Visual Arts. Course of study and credits must be assigned prior to registration. May be repeated.

ART 4900 (ART 485) DIRECTED READING (1-6)
PR: CI and CC. A course of reading and study in an area of special concern governed by student demand, instructor interest, and/or departmental requirements. Selection of study area and materials for the course must be agreed upon and appropriate credit must be assigned prior to registration. A contract with all necessary signatures is required for registration. May be repeated for credit for different study areas only.

ART 4930 (ART 491) IDEA SEMINAR (2)
PR: ART 301. Readings, discussion. Subjects will change each quarter, determined by mutual student and faculty interests. May be repeated.

ARH 4796 (ART 498) CRITICAL STUDIES IN ART HISTORY (4)
PR: CI. Specialized intensive studies in art history. Specific subject matter varies. To be announced at each course offering. May be repeated for different topics only. (Formerly ART 570.)

ARH 4937 (ART 499) SEMINAR IN THE HISTORY OF ART HISTORY (4)
PR: Four courses in Art History at the 400 level, CI. An examination of the origins of Art History as a discipline and the changing nature of Art History from Vasari to the present. (Formerly ART 573.)

Admission to all 500-level studio courses by Consent of Instructor.

ART 5340 (ART 501) DRAWING (4)
PR: ART 401. Advanced problems in various drawing techniques. Emphasis on individual creative expression. May be repeated.

ART 5532 (ART 511) PAINTING (4)
PR: ART 411. Advanced problems in the various painting techniques. Emphasis on individual creative expression. May be repeated.

ART 5730 (ART 521) SCULPTURE (4)
PR: ART 421. Advanced problems in the various techniques of sculpture. Emphasis on individual creative expression. May be repeated.

ART 5125 (ART 531) CERAMICS (4)
PR: ART 431. Advanced problems in the various ceramic techniques, including throw and glaze calculation. May be repeated.

ART 5422 (ART 541) LITHOGRAPHY (4)
PR: ART 441. Advanced problems in various lithographic techniques. Emphasis on individual creative expression. May be repeated.

ART 5472 (ART 542.) INTAGLIO (4)
PR: ART 442. Investigations into more complex intaglio processes including photoengraving and color printing procedures. Emphasis on personal conceptual development in graphic media. May be repeated.

ART 5432 (ART 543) SILKSCREEN (4)
PR: ART 443. Advanced problems in the various silkscreen techniques. Emphasis on individual creative expression. May be repeated.

ART 5604 (ART 561) PHOTOGRAPHY (4)
PR: CI. Advanced work in photography and related media leading to development of personal/expressive statements. May be repeated.

ART 5642 (ART 565) CINEMATOGRAPHY (4)
PR: ART 465. Advanced studio work using black and white, color and sound as technical and aesthetic factors in visual, artistic productions. May be repeated.

ART 5910 (ART 581) RESEARCH (1-6)
PR: CC. May be repeated.

ART 5936 (ART 591) STUDIO TECHNIQUES: SELECTED PROJECTS (2)
PR: ART 201, ART 202, ART 301, the topic-technique-related 300-400 level studio sequence, and CI. Concentration in specialized technical data and process. May be repeated for credit for different topics only.

ART 6341 (ART 601) DRAWING (4)
PR: CI. May be repeated.

ART 6580 (ART 611) PAINTING (4)
PR: CI. May be repeated.

ART 6731 (ART 621) SCULPTURE (4)
PR: CI. May be repeated.

ART 6126 (ART 631) CERAMICS (4)
PR: CI. May be repeated.

ART 6423 (ART 641) LITHOGRAPHY (4)
PR: CI. May be repeated.

ART 6473 (ART 642) INTAGLIO (4)
PR: CI. May be repeated.

ART 6450 (ART 643) SILKSCREEN (4)
PR: CI. May be repeated.

ART 6620 (ART 661) PHOTOGRAPHY (4)
PR: CI. May be repeated.

ART 6645 (ART 665) CINEMATOGRAPHY (4)
PR: CI. May be repeated.

ARH 6055 (ART 670) ART HISTORY (4)
PR: CI. May be repeated.

ART 6911 (ART 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

ART 6936 (ART 682) GRADUATE SEMINAR (2)
PR: CI. Advanced course in theoretical and conceptual foundations of the visual arts. The specific structure and content to be determined by the instructor. Must be repeated for a minimum of four hours.

ART 6940 (ART 683) SELECTED TOPICS IN ART (1-6)
PR: Graduate Standing and CI. A variable credit depending upon the scope and magnitude of the work agreed to by the student and the responsible member of the faculty. May be repeated.

ART 6911 (ART 684) GRADUATE STUDIO THESIS DOCUMENTATION (2)
PR: CI. An advanced seminar focused on the problems of documenting in verbal form the development of a body of work in the visual arts.

ART 6937 (ART 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (ART 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

ART 6972 (ART 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

ASTRONOMY (AST)

Chairperson: H. K. Eichhorn; *Professors:* H. K. Eichhorn, J. H. Hunter Jr., S. Sofia, R. E. Wilson; *Associate Professors:* E. J. Devinney Jr., C. A. Williams; *Assistant Professor (Visiting):* H. Smith Jr.; *Courtesy Assistant Professor:* F. W. Fallon; *Planetarium Director;* J. A. Carr.

AST 2005 (AST 203) DESCRIPTIVE ASTRONOMY I (5)
History of astronomy, celestial phenomena, timekeeping, astronomical instruments, properties of light, contents and elementary dynamics of the solar system. Descriptive approach with a minimum of mathematics. *No credit for astronomy majors.*

AST 2006 (AST 204) DESCRIPTIVE ASTRONOMY II (5)
Distances, fundamental properties and evolution of stars; the sun as a star, unusual stars (exploding stars, pulsating stars, etc.); the nature of the Galaxy and other galaxies, cosmology. Descriptive approach with a minimum of mathematics. *No credit for astronomy majors.*

AST 2032 (AST 271) ILLUSTRATIVE ASTRONOMY (4)
Constellations, use of small telescopes, etc., apparent motions of celestial objects, comets and meteors, seasons and weather. Current events in the space program. Planetarium and open sky demonstrations. Lecture-laboratory. *No credit for astronomy majors.*

AST 3015 (AST 301) INTRODUCTORY ASTRONOMY I (4)
CR: MTH 212 or MTH 302 or CI, AST 311. Aspects of sky, coordinate systems, timekeeping, elementary mechanics of planetary motion, nature and properties of light, eclipses, instrumentation. A quantitative first course for science and math majors.

AST 3016 (AST 302) INTRODUCTORY ASTRONOMY II (4)
CR: MTH 212 or MTH 302. Determination of star positions, distance and motions; solar systems, qualitative spectroscopy and spectral classification of stars; binary stars and clusters, variable stars, photometry, telescopes and instrumentation.

AST 3017 (AST 303) INTRODUCTORY ASTRONOMY III (4)
CR: MTH 302 or MTH 212 or CI. Introduction to basic astrophysics and stellar structure and evolution; interstellar medium, nebulae and pulsars; nature and dynamics of the Milky Way and other galaxies, quasars and cosmology. A quantitative introduction to stellar and galactic astronomy for science and math majors.

AST 3022 (AST 311) ASTRONOMICAL LABORATORY I (1)
CR: AST 301, required of majors, open to non-majors. Exercises in connection with AST 301. Use of small telescopes, introduction to the use of small calculators.

AST 3023 (AST 312) ASTRONOMICAL LABORATORY II (2)
Required of majors. Introduction to astronomical instruments and observing practice, and actual observations at the telescope. Use of auxiliary instruments and reduction of observations.

AST 3652 (AST 313) NAVIGATION (3)
PR: Some knowledge of geometry, algebra and trigonometry. Timekeeping, use of sextant, constellations, navigation with minimum equipment, some spherical astronomy.

AST 3043 (AST 351) HISTORY OF THE SCIENCE OF ASTRONOMY (5)
To familiarize seriously interested students with the history of Astronomy and the influence of this discipline on the development of human knowledge.

AST 3033 (AST 371) CONTEMPORARY THINKING IN ASTRONOMY (5)
PR; Junior or senior standing or CI. Current concepts of astronomy and space science of general interest; background facts; artificial satellites, space probes; surface conditions of planets and evolution of the star; cosmology. *No credit for astronomy majors or mathematics majors.*

AST 4622 (AST 413) GEOMETRY AND KINEMATICS OF THE UNIVERSE (4)
PR: CI. Astronomical coordinate systems and their mutual relationships, time.

ASI 4165 (AST 414) ANALYTICAL TECHNIQUES IN ASTRONOMY (4)
PR: Calculus and analytic geometry, AST 301, AST 302, AST 303. Newton's and Kepler's laws, two body problem, elementary perturbation theory, rigid body dynamics, tides, numerical analysis, planetary interiors and atmospheres, solar system cosmogony.

AST 4213 (AST 443) STELLAR ASTROPHYSICS (5)
PR; AST 302 or CI, MTH 303. The physical characteristics of stars, their measurement, and their distribution. Analysis of stellar radiation. Double stars, associations, clusters, galaxies.

AST 4910 (AST 481) UNDERGRADUATE RESEARCH (1-6)
PR: Senior or advanced junior standing and CI. Participation in professional research with a view to publication of results. May be repeated. (S/U only.)

AST 4933 (AST 491) ASTRONOMY SEMINAR (1)
PR: Senior or advanced junior standing. May be repeated twice. (S/U only.)

AST 5506 (AST 521) INTRODUCTION TO CELESTIAL MECHANICS (5)
PR: AST 302, or CI, MTH 302 and some knowledge of differential equations, or CI. The two-body problem, artificial satellites, elements of perturbation theory.

AST 5274 (AST 522) BINARY STARS (4)
PR: AST 302, or CI, MTH 302 or CI. Principles used to find the properties of astrometric, eclipsing, spectroscopic and visual binaries.

AST 5215 (AST 533) STELLAR CONSTITUTION AND EVOLUTION (4)
PR: AST 443 or CI, PHY 405. CR: MTH 405. Internal constitution of stars, physics of gas spheres, energy generation in stars, theories of stellar evolution.

ASI 5205 (AST 536) INTRODUCTION TO RADIO ASTRONOMY (4)
PR: AST 302 or CI, MTH 303. Radio telescopes: principles and applications. Main results in planetary, solar, galactic and extra-galactic radio astronomy. Radio galaxies and quasars.

AST 5932 (AST 583) SELECTED TOPICS IN ASTRONOMY (1-6)
PR: Senior or advanced junior standing or CI. Intensive coverage of special topics to suit needs of advanced students.

AST 6605 (AST 611) POSITIONAL ASTRONOMY (6)
PR: AST 413 or CI. The accurate determination of relative and absolute star positions, and related problems.

AST 6507 (AST 621) CELESTIAL MECHANICS (6)
PR: AST 521 or CI. Planetary theory, lunar theory, Hamiltonian systems, canonical variables, restricted three-body problem, artificial satellite theory, equilibrium and resonance. Certain topics will be emphasized according to the needs of the students.

AST 6216 (AST 631) STELLAR ATMOSPHERES (4)
PR: AST 443 and MTH 406 or CI. Basic observational data. Thermodynamics of the gaseous state. Elements or spectroscopy. The transfer equation (continuum and lines). The problem of calculation of atmospheres.

ASI 6125 (AST 661) PHOTOMETRY (4)
PR:AST 302 or CI. MTH 305. Theoretical, observational and instrumental concepts required in astronomical photometry.

AST 6915 (AST 681) DIRECTED RESEARCH (credit varies)
PR: GR. Master's level. Repeatable. (S/U only.)

AST 6931 (AST 683) SELECTED TOPICS IN ASTRONOMY (1-6)
PR: CI.

AST 6935 (AST 691) GRADUATE SEMINAR (2)
PR: CI. May be repeated. (S/U only).

AST 6945 (AST 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

AST 6916 (AST 695.) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

AST 6907 (AST 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

AST 6971 (AST 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

BIOLOGY (BIO, BOT, MIC, ZOO)

Chairperson: S. L. Swihart; *Professors:* M. R. Alvarez, J. C. Briggs, C. J. Dawes, F. E. Friedl, J. M. Lawrence, R. L. Mansell, N. M. McClung, A. J. Meyerriecks, G. E. Nelson, Jr., J. D. Ray, Jr., C. D. Riggs, W. S. Silver, S. L. Swihart, G. E. Woolfenden; *Associate Professors:* J. V. Betz, L. N. Brown, B. C. Cowell, F. I. Eilers, G. W. Hinsch, C. E. King, J. R. Linton, R. W. McDiarmid, D. T. W. Merner, G. G. Robinson, J. L. Simon; *Assistant Professors:* G. R. Babbel, F. Essig, D. A. Hessinger, D. V. Lim, H. C. Tipton, B. Williamson, R. P. Wunderlin; *Lecturers:* C. Hendry, A. A. Latina, T. B. Michaelides; *Affiliate Faculty:* J. S. Binford, D. F. Martin; *Courtesy Faculty:* D. S. Correll, E. C. Hartwig, J. N. Layne, L. D. Miller, S. White-Schuler

Biology (BIO)

BSC 2010 (BIO 201) FUNDAMENTALS OF BIOLOGY I (4)
A brief overview of living organisms, respiration, photosynthesis, cell structure, and specialization. Lec.-Lab. Qtr. I, II.

BSC 2011 (BIO 202) FUNDAMENTALS OF BIOLOGY II (4)
Cell division, genetics, reproduction and development, physiology, Lec.-Lab Qtr. II, III.

BSC 2012 (BIO 203) FUNDAMENTALS OF BIOLOGY III (4)
Neurophysiology, behavior patterns, genetics, and evolution; ecology. Lec-Disc. Qtr. I, III.

APB 2140 (BIO 205) FOODS AND DRUGS (4)
The application of basic biological principles to relevant problems and topics in nutrition and drugs through the consideration of scientific and popular literature. *For non-majors.*

APB 2160 (BIO 206) GENES AND PEOPLE (4)
The application of basic biological principles of human heredity to relevant problems and topics through the consideration of scientific and popular literature. *For non-majors.*

APB 2120 (BIO 207) ENVIRONMENT (4)
The application of basic principles of ecology to relevant problems and topics relating to man's environmental interactions through consideration of scientific and popular literature. *For non-majors.*

APB 2550 (BIO 255) SEX, REPRODUCTION AND POPULATION (4)
The application of basic biological principles from subject areas to relevant problems and topics through the consideration of scientific and popular literature. *For non-majors.* Qtr. I-IV.

PCB 2167 (BIO 256) EVOLUTION (4)
The application of basic principles of evolution with an emphasis upon man through the consideration of scientific and popular literature. *For non-majors.*

BSC 2930 (BIO 271) TOPICS IN BIOLOGY (4)
Lectures, individual reading, movies, classroom discussion and evaluation of selected biological topics reflecting biological principles. *For non-majors.*

PCB 3183 (BIO 315) HISTOLOGICAL TECHNIQUES (5)
PR: BIO 201-203. Theory and practice of tissue fixation, imbedding, sectioning, and staining; chromosomal squash preparations; nuclear isolation techniques; photomicrography. Lec.-Lab.

PCB 3060 (BIO 331) GENERAL GENETICS (4)
PR: BIO 201-203. Introduction to genetics including the funda-

mental concepts of Mendelian, molecular and population genetics. Lec. Qtr. I, II, III.

APB 3120 (BIO 345) MAN'S BIOLOGICAL ENVIRONMENT (4)
PR: BIO 201-203. A biological consideration of man's deteriorating relationship with his environment. Emphasis on pollution, pesticides and population.

APB 3150 (BIO 372) MAN, MICROBE AND MOLECULE (4)
Origin of life, control of diseases, environmental quality and the use of microorganisms as tools in searching for molecular explanations of living phenomena. *For non-majors.*

PCB 4103 (BIO 401) CELL BIOLOGY I (5)
PR: CHM 333, 334, and BIO 331. A discussion of the concept and significance of the cell to biology; biological molecules and metabolic processes within the cell; cellular energy conversion systems; and control of cellular metabolism. Qtr. I, II.

PCB 4104 (BIO 402) CELL BIOLOGY II (5)
PR: BIO 401. A continuation of Cell Biology I. The structure and function of cells and their organelles; irritability and contraction; cell differentiation, growth, and integration of cellular activity. Qtr. II, III.

BOT 4663 (BIO 412) INTRODUCTION TO TROPICAL BIOLOGY (5)
PR: BIO 201-203 or CI. The tropical environment and its effect on plant and animal communities. Plant and animal interactions and man's impact on the environment.

PCB 4063 (BIO 431) EXPERIMENTAL GENETICS (4)
PR: BIO 331 or CI. Experimental analysis of genetic systems. Lec-Lab.: 2 hr. lec.; 2-3 hr. labs.

PCB 4033 (BIO 445) PRINCIPLES OF ECOLOGY (4)
PR: BIO 201-203. An introduction to the basic principles and concepts of ecology at the ecosystem, community, and population level of organization. Lec.-Disc.

PCB 4674 (BIO 465) ORGANIC EVOLUTION (4)
PR: BIO 331 or CI. An introduction to modern evolutionary theory. Lecture on population genetics, adaptations, speciation theory, phylogeny, human evolution and related areas.

BSC 4910 (BIO 481) UNDERGRADUATE RESEARCH (1-6)
PR: CI. Individual investigation with faculty supervision. (S/U only).

BSC 4930 (BIO 483) SELECTED TOPICS IN BIOLOGY (1-4)
PR: CI.

BSC 4930 (BIO 491) SEMINAR IN BIOLOGY (1)
PR: CI. Senior or advanced junior standing. May be repeated once. (S/U only).

PCB 5115 (BIO 510) CYTOLOGY (4)
PR: BIO 201-203. Survey of the structure and function of cytoplasmic and nuclear components of plant and animal cells. Lec-Lab.

PCB 5125 (BIO 515) SUBCELLULAR CYTOLOGY (4)
PR: BIO 201-203. A review of biophysical techniques used in biology to include an introduction of X-ray diffraction, bright field, phase, ultra-violet, interference, and electron microscopy. The course will consist of three hours of lecture and one three-hour lab for demonstration of techniques. Lec.-Lab.

PCB 5835 (BIO 522) NEUROPHYSIOLOGY (4)
PR: ZOO 423. A comparative analysis of the physiochemical basis and evolution of nervous systems and sensory mechanisms. Lec.-Lab.

PCB 5525 (BIO 532) MOLECULAR GENETICS (4)
PR: BIO 331. Detailed examination of DNA, RNA and protein synthesis; the effects of mutations on proteins, cellular control; selected aspects of viral, bacterial, and fungal genetics. Lec.-Lab. Qtr. II.

PSC 5615 (BIO 535) EVOLUTIONARY GENETICS (4)
PR: BIO 331 or CI. Examination of factors such as mutation, migration, natural selection, and genetic drift which modify the genetic structure of populations.

PCB 5235 (BIO 558) PRINCIPLES OF IMMUNOLOGY (4)
PR: BIO 401 or CI. Course will emphasize the biological principles involved in the vertebrate immune response. It will present the homeostatic, defense, and detrimental aspects of the immune system in terms of basic cellular and molecular mechanisms. Techniques will be described to familiarize the student with the types of immunological tools available to the cellular and molecular biologist.

BSC 5931 (BIO 583) SELECTED TOPICS IN BIOLOGY (1-4)
PR: CI. Each topic is a course in directed study under supervision of a faculty member.

BSC 6106 (BIO 601) HISTORY OF BIOLOGY (3)
PR: CI. The historical development of biology with emphasis on the origin of important theories and principles.

PCB 6566 (BIO 612) CHROMOSOME STRUCTURE AND CHEMISTRY (4)
PR: BIO 510. Introduction to the molecular organization of the Eukaryotic chromosome.

PCB 6176 (BIO 615) ULTRASTRUCTURE TECHNIQUES IN ELECTRON MICROSCOPY (6)
PR: BIO 201-203, BIO 515 or CI. Discussion of theory and techniques in electron microscopy. Emphasis on preparation of biological specimens, electron microscopic optics and use of the electron microscope. Lec.-Lab.

PCB 6456 (BIO 616) BIOMETRY (4)
PR: MTH 211-223 or CI. An introduction to statistical procedures for research in the bioloical sciences. Experimental design, analysis of data and presentation of results are emphasized.

PCB 6426 (BIO 636) POPULATION BIOLOGY (4)
PR: BIO 535 and BIO 616 or CI. Introduction to the theory of population dynamics with emphasis on the genetic and ecological components of population growth, natural selection, and competition between species. Lec.

PCB 6356 (BIO 641) TROPICAL ECOLOGY (4)
PR: BIO 445. Graduate Standing or CI. A discussion of a series of related ecological topics to illustrate the features peculiar to the tropics.

ZOO 6296 (BIO 651) MARINE PLANKTON SYSTEMATICS (4)
(Also listed as MSC 651, *q.v.*).

BSC 6912 (BIO 653) MARINE PLANKTON ECOLOGY (4)
(Also listed as MSC 653, *q.v.*).

BSC 6912 (BIO 681) DIRECTED RESEARCH. (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

BSC 6932 (BIO 683) SELECTED TOPICS IN BIOLOGY (1-6)
PR: CI.

BSC 6935 (BIO 691) GRADUATE SEMINAR IN BIOLOGY (1)
PR: CI. (S/U only.)

BSC 6945 (BIO 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

BSC 6912 (BIO 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (BIO 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

BSC 7912 (BIO 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

BSC 7980 (BIO 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Biology-Botony (BOT)

BOT 3010 (BOT 300) INTRODUCTION TO BOTANY (5)
PR: BIO 201-203 or equivalent. Knowledge of basic biological principles will be assumed. A presentation of the fundamentals of plant life; structure and function of flowering plants; history of agriculture, plants and man; plant distribution and ecology; survey of major plant groups, algae, fungi, bryophytes, ferns, gymnosperms, and flowering plants.

BOT 3713 (BOT 311) SYSTEMATIC BOTANY (5)
PR: BOT 300. Identification and classification of the more interesting vascular plants of Florida; angiosperm evolution; principles of taxonomy. Conducted largely in the field.

BOT 3823 (BOT 313) HORTICULTURAL BOTANY (3)
PR: Course in botany, biology or CI. Application of principles of botany to give an understanding of basic horticultural operations; seed sowing, dormancy growth requirements, vegetative propagation, pruning, and related problems. Lec.-Lab.

BOT 3143 (BOT 314) FIELD BOTANY (3)
PR: BIO 201-203 or CI. Identification and classification of native and naturalized flowering plants of Florida including historical, climatic and floristic aspects of plant communities. Conducted largely in the field. Lec.-Lab.

APB 3100 (BOT 371) PLANTS AND MAN (4)
PR: Junior or Senior Standing or CI. The relation of plants to human history and contemporary life. Botanical and economic aspects of plants used as sources of foods, drugs, and other products of importance in everyday life. Origins of cultivated plants. For non-majors.

BOT 4353 (BOT 415) MORPHOLOGY OF VASCULAR PLANTS (5)
PR: BOT 300. An intensive survey of the morphology, evolution and taxonomy of the various groups of vascular plants, both living and extinct. The course will focus primarily on lower groups such as the fern and gymnosperms but will conclude with an analysis of the origins and general features of the Angiosperms.

BOT 4433 (BOT 417) MYCOLOGY (5)
PR: BOT 300 or CI. A survey of the fungi with emphasis on their taxonomy, morphology, physiology and economic importance. Lec.-Lab.

BOT 4223 (BOT 419) PLANT ANATOMY (5)
PR: BOT 300. Comparative studies of tissue and organ systems of fossil and present-day vascular plants. Functional and phylogenetic aspects stressed. Lec.-Lab.

BOT 4503 (BOT 423) PLANT PHYSIOLOGY (5)
PR: BIO 401; CR: BIO 402. Fundamental activities of plants; absorption, translocation, transpiration, metabolism, growth, and related phenomena. Lec.-Lab.

BOT 4933 (BOT 491) SEMINAR IN BOTANY (1)
PR: Senior or advanced junior standing and CI. May be repeated once. (S/U only.)

BOT 5725 (BOT 511) TAXONOMY OF FLOWERING PLANTS (4)
PR: BOT 311 or CI. A phylogenetic study of Angiosperms; relationship of the principal orders and families, problems of nomenclature, identification of specimens, comparisons of recent systems of classification, dissection of representative flower types. Field trips and lab work. Lec.-Lab.

BOT 5495 (BOT 517) PHYSIOLOGY OF THE FUNGI (3)
PR: BOT 417 or CI. The biochemical, physiological and hormonal basis involved in morphogenesis and cellular control in fungi. Lec.

BOT 5565 (BOT 521) PHYSIOLOGY OF PLANT GROWTH AND DEVELOPMENT (3)
PR: BOT 421, BIO 201-203 and CI. A study of plant development with emphasis of the role of light and growth hormones on the process of flowering, fruit set, ripening, and senescence.

BOT 5405 (BOT 543*) PHYCOLOGY (5)
PR: BOT 300 or CI. A detailed survey of the algae emphasizing both taxonomy and morphology of fresh and marine water forms; field and laboratory investigations, including individual projects. Lec.-Lab.

BOT 5605 (BOT 546*) PLANT ECOLOGY (4)
PR: BOT 300, BIO 445, or CI. Distribution and nature of vegetation in relation to climatic, physiographic, edaphic, and biotic factors; field investigations of subtropical Florida plant communities. Lec.-Lab.

BOT 5185 (BOT 547*) MARINE BOTANY (5)
PR: BOT 300, BIO 445, or CI. A field course in marine plants with emphasis on ecology and functional morphology. Field work will stress the ecological aspects of plants in a subtropical marine environment in Florida. Lec.-Lab.

BSC 5931 (BOT 583) SELECTED TOPICS IN BOTANY (1-4)
PR: CI. Each topic is a course in direct study under supervision of a faculty member.

BOT 6716 (BOT 611) BIOSYSTEMATICS (4)
PR: BOT 311 or equivalent. Application of cytology, ecology, genetics, biochemistry, and morphological analyses to the study of evolution and classification of species of higher plants. Lec.

BOT 6666 (BOT 612) BIOLOGY OF TROPICAL PLANTS (3)
PR: BIO 412. Special topics in the systematics, morphology, physiology, genetics, and ecology of tropical plants with consideration of habitat diversity that leads to rich floras. Lec.

BOT 6666 (BOT 613*) LABORATORY IN TROPICAL PLANTS (2)
PR: Must be taken concurrently with BOT 612. Extended field trip to some area of the New World Tropics to examine major types of vegetation and gain familiarity with field techniques; research problem development. Lab.

BOT 6516 (BOT 621) PLANT METABOLISM LECTURE (3)
PR: BOT 421, CHM 336 or CI. A study of plant metabolism with emphasis on the biosynthetic pathways and their regulation.

BOT 6516 (BOT 622) PLANT METABOLISM LABORATORY (4)
PR: BOT 421, CHM 336, or CI. An intensive exposure to the methods used in experimenting with plant material.

BOT 6636 (BOT 650) MARINE ALGAL ECOLOGY (3)
(Also listed as MSC 650, *q.v.*). (Formerly BIO 650)

——— (BOT 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

BOT 6971 (BOT 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

Biology-Microbiology (MIC)

MCB 3010 (MIC 351) INTRODUCTION TO MICROBIOLOGY (4)
PR: BIO 201-203, CHM 211-213, one quarter of organic chemistry and a course in genetics is recommended. Introduction to the biology of microorganisms; structure, physiology and ecology of bacteria, algae, viruses, rickettsiae, and protozoa. Qtr. I, II, and III.

**Students will be required to pay travel expenses for field trips.*

MCB 3020 (MIC 352) GENERAL MICROBIOLOGY LABORATORY (2)
CR: MIC 351. An introduction to the laboratory practice of microbiology; preparation of culture media, staining, pure culture methodology, isolation of microbes from nature, enumeration techniques, resistance to infectious disease.

MCB 4163 (MIC 401) LABORATORY METHODS IN DIAGNOSTIC MICROBIOLOGY (3)
CR: MIC 452 or CI. Laboratory procedures necessary to identify pathogenic and commonly encountered bacteria, fungi, and other parasites will be individually performed. These procedures will include determinations of morphology, physiological reactions, and immunological responses as appropriate.

MCB 4030 (MIC 402) LABORATORY IN EXPERIMENTAL MICROBIOLOGY (3)
PR: MIC 352, CI; CR: MIC 423. Course will consist of individually performed exercises to teach major techniques in quantitative, experimental microbiology with emphasis on biochemical and physiological examination of bacteria and viruses, their chemical composition, enzymatic, molecular and physical properties.

MCB 4404 (MIC 423) MICROBIAL PHYSIOLOGY (3)
PR: MIC 351, BIO 401 or CI. A study of physiological and metabolic phenomena pertinent to the growth, development, regulation, inhibition, and death of microorganisms and to the chemical alterations they catalyze. (Formerly MIC 456.)

APB 4050 (MIC 451) APPLIED BACTERIOLOGY (5)
PR: MIC 352. A study of the applications of microbiology to industry, agriculture, medicine, and sanitary engineering. Lec.-Lab.

MCB 4115 (MIC 453) DETERMINATIVE BACTERIOLOGY (4)
PR: MIC 352, CHM 331-336. Survey of bacterial classification; detailed examinations of bacteria important to man in agriculture, in industry and as pathogens. Qtr. II.

MCB 4505 (MIC 457) VIROLOGY (4)
PR: MIC 352 and CI. The biology of viruses associated with plants, animals, and bacteria will be considered; the nature of viruses, mechanisms of viral pathogenesis, and interactions with host cells.

MCB 4934 (MIC 491) SEMINAR IN MICROBIOLOGY (1)
PR: Senior or advanced junior standing and CI. May be repeated. (S/U only.)

APB 5575 (MIC 518) MEDICAL MYCOLOGY (5)
PR: MIC 352 or CI. A survey of the yeasts, molds, and actinomycetes most likely to be encountered by the bacteriologists, with special emphasis on the forms pathogenic for man.

MCB 5115 (MIC 552) ADVANCED BACTERIOLOGY (4)
PR: MIC 352. Ultrastructure, growth, metabolism, genetics and ecology of the bacteria and related procaryotes.

MCB 5605 (MIC 558) MICROBIAL ECOLOGY (3)
PR: MIC 352, CI. A study of the theory and methodology of the quantification of microbial processes in natural habitats with special emphasis on aquatic and terrestrial systems.

MCB 5605 (MIC 559) LABORATORY METHODS IN MICROBIAL ECOLOGY (2)
CR: MIC 558 or CI. A study of the application of laboratory methods of microbiology to assess microbiological activities in natural systems in both qualitative and quantitative terms.

MCB 5936 (MIC 583) SELECTED TOPICS IN MICROBIOLOGY (1-4)
PR: CI. Each topic is a course in directed study under supervision of a faculty member.

——— (MIC 653) ADVANCED TOPICS IN CHEMICAL MICROBIOLOGY (3)
PR: MIC 423, Biochemistry or CI. An in depth study of metabolic and physiological phenomena associated with microorganisms, especially bacteria, including: growth, regulation, unique metabolic traits, morphogenesis, cell division, cell death and survival mechanisms.

PCB 6606 (MIC 654) BACTERIAL GENETICS (3)
PR: BIO 331, MIC 423 or CI. A survey of the recombinational systems found among the bacteria and bacterial viruses with emphasis on the molecular mechanisms of gene transfer, replication and expression and on the significance of these systems for our understanding of cellular functions.

PCB 6236 (MIC 655) ADVANCED IMMUNOLOGY (5)
PR: BIO 558 or CI. Discussion of the basic immune reaction, nature of antigenicity; basic immunological techniques and their use in biological research and the medical sciences.

——— (MIC 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

MIC 6971 (MIC 699) THESIS: MASTERS'S (var.)
Repeatable. (S/U only.)

Biology-Zoology (ZOO)

ZOO 3713 (ZOO 311) COMPARATIVE VERTEBRATE ANATOMY (6)
PR: BIO 201-203. Anatomy of selected vertebrate types emphasizing evolutionary trends. Lec.-Lab.

ZOO 3203 (ZOO 313) INTRODUCTORY INVERTEBRATE ZOOLOGY (5)
PR: BIO 201-203. An introduction to the major invertebrate groups, with emphasis on local forms. Field work will be required. Lec.-Lab.

PCB 3700 (ZOO 371) HUMAN PHYSIOLOGY (4)
Lectures and discussions on the mechanisms of function of the human body. For non-majors credit only.

PCB 4184 (ZOO 411) HISTOLOGY (4)
PR: ZOO 311 and/or ZOO 422. Comparative approach to the study of tissues and the relation of their structure and function. Lec.-Lab.

ENY 4008 (ZOO 415) INTRODUCTION TO ENTOMOLOGY (4)
PR: BIO 201-203. An introduction to general aspects of insect morphology, development, and classification. The identification of local forms will be emphasized. Lec.-Lab. Qtr. III, IV.

ZOO 4303 (ZOO 416) VERTEBRATE ZOOLOGY (5)
PR BIO 201-203. Natural history, morphology, phylogeny and taxonomy of vertebrates. Lec.-Lab.

PCB 4253 (ZOO 422) DEVELOPMENTAL BIOLOGY (5)
PR: BIO 401-402. Structural and functional events involved in differentiation and morphogenesis. Lec.-Lab. Qtr. I, III.

PCB 4743 (ZOO 423) ANIMAL PHYSIOLOGY (5)
PR: BIO 401; CR: BIO 402. Advanced presentation of mechanisms employed by animals to interact with their environment, and to maintain their organization.

ZOO 4893 (ZOO 460) WILDLIFE AND FISH MANAGEMENT (3)
PR: BIO 201-203, BIO 445. An introduction to the principles of wildlife and fisheries management. Certain methods and techniques utilized in the management of exploited animal species will be introduced. Designed primarily for students interested in the wildlife and fish management profession.

ZOO 4503 (ZOO 461) ANIMAL SOCIAL BEHAVIOR (4)
PR: CI. An introduction to comparative animal behavior (Ethology), with emphasis on communication, social use of space, and behavioral evolution.

ZOO 4583 (ZOO 462) PRIMATE SOCIAL BEHAVIOR (4)
PR: BIO 201, 202, 203. An introduction to primate social behavior and behavioral ecology based on field-oriented research.

ZOO 4932 (ZOO 491) SEMINAR IN ZOOLOGY (1)
PR: Upper level. May be repeated once. (S/U only.)

ZOO 5235 (ZOO 513) PARASITOLOGY (5)
PR: BIO 201-203. Fundamentals of animal parasitology and parasitism; the biology of selected animal parasites, including those of major importance to man. Lec.-Lab. Qtr. II.

ENY 5501 (ZOO 514) AQUATIC ENTOMOLOGY (4)
PR: ZOO 415. Taxonomy, development, and ecology of aquatic insects with emphasis on local forms. Lec-Lab, Qtr. II (odd numbered years).

PCB 5306 (ZOO 515) LIMNOLOGY (5)
PR: CI. An introduction to the physical, chemical, and biological nature of fresh-water environments. Lec.-Lab. Qtr. III.

ZOO 5475 (ZOO 517) ORNITHOLOGY (4)
PR: ZOO 416 or ZOO 311 and CI. The biology of birds. Field trips emphasize local avifauna. Lec.-Lab. Qtr. III.

ZOO 5485 (ZOO 518) MAMMALOGY (5)
PR: ZOO 416 or ZOO 311 and CI. The biology of mammals, including systematics, ecology, natural history, and geographical distribution. Lec-Lab.

ZOO 5455 (ZOO 519) ICTHYOLOGY (5)
PR: ZOO 416 or ZOO 311 and CI. Systematics of fishes, including major classification, comparative anatomy, embryology, and general distribution. Lec-Lab. (Also offered as MSC 519.)

ZOO 5285 (ZOO 520) BIOLOGY OF ECHINODERMS (5)
PR: ZOO 313, BIO 402. A study of the anatomy, physiology, and ecology of echinoderms. Lec-Lab. Qtr. I (even numbered years).

PCB 5725 (ZOO 521) COMPARATIVE PHYSIOLOGY (5)
PR: BIO 401-402. The evolution of physiological mechanisms. Lec.-Lab. Qtr. I.

ZOO 5415 (ZOO 525) BIOLOGY OF THE AMPHIBIA (5)
PR: ZOO 416 or ZOO 311 and CI. Major aspects of amphibian biology emphasizing fossil history, evolutionary morphology, sensory physiology, life history, and reproductive behavior. Lec-Lab. Field Trips. Qtr. III (even-numbered years).

ZOO 5425 (ZOO 526) BIOLOGY OF THE REPTILIA (5)
PR: ZOO 416 or ZOO 311 and CI. Major aspects of reptilian biology emphasizing fossil history, evolutionary morphology, sensory physiology, life history, and reproductive behavior. Lec-Lab. Field Trip. Qtr. III (odd numbered years).

ZOO 5815 (ZOO 545) ZOOGEOGRAPHY (3)
PR: BIO 445. Zoogeographic principles and general patterns of terrestrial and marine distributions.

PCB 5325 (ZOO 556) TERRESTRIAL ANIMAL ECOLOGY (4)
PR: BIO 445. Field and laboratory investigations of the basic principles of ecology as applied to terrestrial animals. Lec-Lab.

ZOO 5555 (ZOO 557) MARINE ANIMAL ECOLOGY (5)
PR: BIO 445 and ZOO 313. Investigations of energy flow, biogeochemical cycles and community structure in marine environments. Lec.-Lab.

ZOO 5535 (ZOO 562) MECHANISMS OF ANIMAL BEHAVIOR (3)
PR: ZOO 461 or CI. A comparative approach to communication and orientation in animals including homing behavior and biological clocks.

ZOO 5926 (ZOO 583) SELECTED TOPICS IN ZOOLOGY (1-4)
PR: CI. Each topic is a program in directed study under supervision of a faculty member.

ZOO 6616 (ZOO 611) EXPERIMENTAL EMBRYOLOGY (4)
PR: BIO 401-402, ZOO 422 and CI. Lectures, laboratories, readings and discussions relating to contemporary advances in the area of biochemistry of development. Experimental techniques will be studies.

ZOO 6486 (ZOO 618) ADVANCED MAMMALOGY (4)
PR: ZOO 518. Important literature and developments in mammalogy. Students will undertake individual research problems. Lec.-Lab.

PCB 6376 (ZOO 621) PHYSIOLOGICAL ECOLOGY (5)
PR: CI. Effect of environmental factors on animal function at the cellular and organ system level with emphasis on control and mechanism. Lec.-Lab.

PCB 6776 (ZOO 623) PHYSIOLOGY OF MARINE ANIMALS (5)
PR: BIO 401-402. A study of the physiological mechanisms of animals in the marine environment. Lec.-Lab.

PCB 6816 (ZOO 624) COMPARATIVE ENDOCRINOLOGY (5)
PR: ZOO 521 or CI. An analysis of the similarities and differences between the hormonal mechanisms of mammals, other vertebrates and invertebrates. Lec.-Lab.

PCB 6756 (ZOO 625) COMPARATIVE METABOLISM (3)
PR: BIO 401-402. CHM 331-334, or CHM 351, or their equivalents. Some knowledge of Animal Phylogeny will be assumed. A presentation of various metabolic pathways found in invertebrate animals including specializations related to parasitism and facultative anaerobiosis.

ZOO 6626 (ZOO 630) INVERTEBRATE REPRODUCTION AND DEVELOPMENT (5)
PR: ZOO 313 and CI. An analysis of modes of reproduction and patterns of larval development in major invertebrate phyla. Emphasis is on classical descriptive embryology, modern mariculture techniques, and larval ecology. Lec.-Lab.

ZOO 6506 (ZOO 661) ADVANCED ANIMAL BEHAVIOR (4)
PR: ZOO 461 and CI. Recent advances in comparative animal behavior (ethology). Lec.-Lab.

——— (ZOO 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

ZOO 6971 (ZOO 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

CHEMISTRY (CHM)

Chairperson; T. C. Owen; *Professors:* T. A. Ashford, J. S. Binford, R. S. Braman, J. C. Davis, J. E. Fernandez, D. F. Martin, P. C. Maybury, E. D. Olsen, T. C. Owen, T. W. G. Solomons, B. Stevens, R. D. Whitaker; *Associate Professors:* D. L. Akins, F. M. Dudley, G. R. Jurch, D. J. Raber, S. W. Schneller, J. A. Stanko, G. R. Wenzinger, J. H. Worrell; *Assistant Professors;* M. D. Johnston, D. O. Lambeth, W. E. Swartz, J. O. Tsokos, J. E. Weinzierl; *Visiting Assistant Professor:* W. J. Nixon, P. E. Whitson; *Adjunct Lecturer:* L. Kranc; *Affiliate Faculty:* R. Mansell, L. Monley; *Courtesy Faculty:* R. Davis, J. H. Hsu, B. Martin.

CHM 1015 (CHM 101) FOUNDATIONS OF UNIVERSITY CHEMISTRY (5)
A survey of modern chemistry designed particularly for those with a poor preparation in algebra and/or chemistry as a preliminary to CHM 211. Lec. Qtr. I, III, IV.

CHM 2045 (CHM 211) GENERAL CHEMISTRY I* (3)
CHM 211 students are expected to have performed well in the

* Placement examination for admission to CHM 211 and CHM 215 offered the first day of registration each quarter, during the summer FOCUS program, and is available during weeks of scheduled classes. Students should consult registration schedules or Chemistry office for time and place.

placement exam* or to have satisfactorily completed CHM 101. Fundamentals of chemistry; mass and energy relationships in chemical changes, equilibrium, chemical kinetics, atomic and molecular structure, descriptive chemistry of selected elements. Lec. and discussion. Qtr. I, II, III, IV.

CHM 2046 (CHM 212) GENERAL CHEMISTRY II (3)
PR: CHM 211 or equivalent. Continuation of General Chemistry. Lec. and discussion. Qtr. I, II, III, IV.

CHM 2047 (CHM 213) GENERAL CHEMISTRY III (3)
PR: CHM 212 or equivalent. Continuation of General Chemistry. Lec. and discussion. Qtr. I, II, III, IV.

CHM 2030 (CHM 214) ENVIRONMENTAL CHEMISTRY LABORATORY (4)
PR: CHM 212 or equivalent. Fundamental techniques used in environmental chemistry, including basic manipulations and equipment. Lec.-lab.

CHM 2055 (CHM 215) ACCELERATED GENERAL CHEMISTRY I* (5)
This course is designed for the beginning student who has a superior background in science and mathematics. The laboratory is project oriented. Entrance is by examination only. CHM 215-216 is equivalent to CHM 211-212-213 and 217-218-219. Lec.-lab and discussion. Qtr. I.

CHM 2056 (CHM 216) ACCELERATED GENERAL CHEMISTRY II (5)
PR: CHM 215. Continuation of Accelerated General Chemistry. Lec-lab and discussion. Qtr. II.

CHM 2045 (CHM 217) GENERAL CHEMISTRY I LAB (1)
PR: CHM 211. Laboratory portion of General Chemistry I. Introduction to laboratory techniques; study of properties of elements and compounds; synthesis and analysis of natural and commercial materials. May not be taken concurrently with CHM 211. Qtr. I, II, III, IV.

CHM 2046 (CHM 218) GENERAL CHEMISTRY II LAB (1)
PR: CHM 212, 217. Laboratory portion of General Chemistry II. Continuation of chemistry laboratory. May not be taken concurrently with CHM 212. Qtr. I, II, III, IV.

CHM 2047 (CHM 219) GENERAL CHEMISTRY III LAB (1)
PR: CHM 213, 218. Laboratory portion of General Chemistry III. Continuation of chemistry laboratory. May not be taken concurrently with CHM 213. Qtr. I, II, III, IV.

CHM 2020 (CHM 271) CURRENT ISSUES IN CHEMISTRY (4)
A survey of the important current issues in which chemistry affects our lives; e.g., environment, drugs, cancer, warfare, etc. *No credit for chemistry majors.*

CHM 2930 (CHM 291) JUNIOR SEMINAR (1)
PR: CHM 213 or CHM 216. Interrelations of previous courses, the chemical literature, and examination of the nature of the industrial, government, and academic chemistry. Lecture and discussion. (S/U only.) Qtr. I, III, IV.

CHM 3610 (CHM 311) INTERMEDIATE INORGANIC CHEMISTRY (5)
PR: CHM 213-219 or CHM 216. Fundamental principles of inorganic chemistry. Lec.-lab. Qtr. II, IV.

CHM 3120 (CHM 321) ELEMENTARY ANALYTICAL CHEMISTRY (5)
PR: CHM 213-219 or CHM 216. Fundamentals of gravimetric, volumetric, and spectrophotometric analysis. Lec.-lab. Qtr. I, II, III, IV.

CHM 3210, 3210 (CHM. 331-332) ORGANIC CHEMISTRY I (3:2)
PR: CHM 213-219 or CHM 216. Fundamental principles of organic chemistry and lab. Lecture and lab may not be taken concurrently. Qtr. I, II, III, IV.

CHM 3211, 3211 (CHM 333-334) ORGANIC CHEMISTRY II (3:2)
PR: CHM 331-332 or equivalent. Continuation of Organic Chemistry and lab. Lecture and lab may not be taken concurrently. Qtr. II, III, IV.

CHM 3212,3212 (CHM 335-336) ORGANIC CHEMISTRY III (3:2)
PR: CHM 333-334 or equivalent. Continuation of Organic Chemistry and lab. Lecture and lab may not be taken concurrently. Qtr. I, III, IV.

CHM 3400 (CHM 341) ELEMENTARY PHYSICAL CHEMISTRY (3)
PR: CHM 213/219 or CHM 216, CHM 321, MTH 212, PHY 205-206. Introduction to equilibrium properties of macroscopic systems. Properties of solutions.

CHM 3401 (CHM 342) ELEMENTARY PHYSICAL CHEMISTRY II (3)
PR: CHM 341. Kinetic behavior of systems, macromolecular solutions, and colloidal dispersions, nuclear chemistry, and spectroscopy.

CHM 3402 (CHM 343) ELEMENTARY PHYSICAL CHEMISTRY LAB (2)
PR: Co-requisite with CHM 341 and/or CHM 342. A physical chemistry laboratory with emphasis on modern techniques and instruments. Lab.-lec.

BCH 3030 (CHM 351) INTRODUCTORY BIOCHEMISTRY (4)
PR:CHM 333. Introduction to the chemistry and intermediary metabolism of biologically important substances. Lec. Qtr. I, II, III, IV.

BCH 3030 (CHM 354) BASIC BIOCHEMISTRY LABORATORY (3)
PR: CHM 351. Practical work in determination and characterization of important biomolecules. Lec.-lab.

CHM 3021 (CHM 371) MODERN CHEMICAL SCIENCE (4)
An introduction to some of the major problems in chemistry, its relation to other sciences, and its relevance to contemporary culture. Designed for non-science majors. *No credit for Chemistry majors.* Qtr. I, IV.

CHM 4610 (CHM 411) ADVANCED INORGANIC CHEMISTRY (4)
PR: CHM 441 or CI. An advanced theoretical treatment of inorganic compounds. Lec. Qtr. I, III. (Formerly CHM 511.)

CHS 4310 (CHM 421) INSTRUMENTAL ANALYSIS (4)
PR: CHM 443 or CI. Theory and practice of instrumental methods. Clinical Chemistry applications may be elected in the laboratory. Lec.-lab. Qtr. II, III. (Formerly CHM 521.)

CHS 4100 (CHM 423) RADIOCHEMISTRY (4)
PR: CHM 321. Theory and applications of natural and induced radioactivity. Emphasis on the production, properties, measurement, and uses of radioactive tracers. Lec.-lab. Qtr. I, II, (Formerly CHM 523.)

CHS 4300 (CHM 425) FUNDAMENTALS OF CLINICAL CHEMISTRY (4)
PR: CHM 321, 351. Theoretical and practical aspects of the analysis of various body fluids, with emphasis on the medical significance. Clinical chemistry majors must take CHM 426 concurrently. Lec. Qtr. I, III. (Formerly CHM 525.)

CHS 4301 (CHM 426) CLINICAL LABORATORY (2)
PR: CHM 321, 351, and CI. Laboratory experience in some of the most important clinical determinations. CHM 425 must be taken concurrently. Lec-lab. Qtr. I, III. (Formerly CHM 526.)

CHM 4300 (CHM 431) BASIC BIO-ORGANIC CHEMISTRY (4)
PR: CHM 335 (or CHM 333 and CI). Nature, structure elucidation, synthesis and (in selected cases) organic chemical mecha-

* Placement examination for admission to CHM 211 and CHM 215 offered the first day of registration each quarter, during the summer FOCUS program, and is available during weeks of scheduled classes. Students should consult registration schedules or Chemistry office for time and place.

nisms of biochemical involvement of the major classes of organic compounds found in living systems. Lec. only.

CHM 4410 (CHM 441) PHYSICAL CHEMISTRY I (4)
PR: CHM 321 and MTH 304. CR: PHY 205 or 305. Thermodynamics, the states of matter, solutions. Lec. Qtr. I, II.

CHM 4411 (CHM 442) PHYSICAL CHEMISTRY II (4)
PR: CHM 441. Introduction to quantum mechanics and molecular spectroscopy. Lec. Qtr. II, III.

CHM 4412 (CHM 443) PHYSICAL CHEMISTRY III (4)
PR: CHM 441. Electrochemistry, kinetic theory of gases, chemical kinetics, surface and nuclear chemistry. Lec. Qtr. I, III, IV.

CHM 4130 (CHM 445) METHODS OF CHEMICAL INVESTIGATION I. ANALYTICAL-PHYSICAL (4)
PR: CHM 321, 335-336. CR: CHM 441. Theory and applications of instrumental methods in chemical research with emphasis on electrochemical techniques. Lec.-lab . Qtr. I, II.

CHM 4131 (CHM 446) METHODS OF CHEMICAL INVESTIGATION II. ANALYTICAL-PHYSICAL (4)
PR: CHM 445. Continuation of CHM 445. Emphasis on spectroscopic techniques. Lec.-lab. Qtr. II, III.

CHM 4132 (CHM 447) METHODS OF CHEMICAL INVESTIGATION III. CHEMICAL SYSTEMS (3)
PR: CHM 446. Continuation of CHM 446. Emphasis on studies of chemical systems using a variety of techniques. Lec.-lab. Qtr. III, IV.

CHM 4070 (CHM 471) HISTORICAL PERSPECTIVES IN CHEMISTRY (4)
PR: CHM 213; or senior standing, and CI. A study in depth of the historical and philosophical aspects of outstanding chemical discoveries and theories. Lec-disc. Qtr. II.

CHM 4071 (CHM 475) THE MICROWORLD OF MOLECULES, ATOMS AND ELECTRONS (4)
The nature of the material world from the philosophic discussion of antiquity, through some speculations of the Middle Ages and the Renaissance to the quantitative thinking and measurements of modern science. No previous background in science of mathematics is necessary. *No credit for Chemistry majors.*

CHM 4970 (CHM 481) UNDERGRADUATE RESEARCH (1-6)
PR: CI.(S/U only.) Qtr. I-IV.

CHM 4932 (CHM 483) SELECTED TOPICS IN CHEMISTRY (1-6)
PR: CI. The course content will depend on the interest of faculty members and student demand.

BCH 4941 (CHM 485) CLINICAL CHEMISTRY PRACTICE (3-12)
PR: CI. Laboratory practice in clinical chemistry laboratories in the Tampa Bay area. (S/U only.) Qtr. I-IV.

CHM 4931 (CHM 491) CHEMISTRY SEMINAR (1)
PR: Senior standing. Discussions of selected significant chemical topics of recent interest. (S/U only.) Qtr. II, III.

CHM 5621 (CHM 512) PRINCIPLES OF INORGANIC CHEMISTRY (4)
PR: CHM 442 or CI. Chemical forces, reactivity, periodicity, and literature in inorganic chemistry; basic core course. Lec. Qtr. I.

CHM 5225 (CHM 532) INTERMEDIATE ORGANIC CHEMISTRY (4)
PR: CHM 335, 336 or equivalent. A study of stereochemistry, spectroscopy, theories of bonding, acid-base chemistry, and their application to the understanding of organic reactions. Lec.

CHM 5430 (CHM 541) CHEMICAL THERMODYNAMICS (4)
PR: CHM 443 or CI. The applications of thermodynamic theory to the study of chemical systems with emphasis on the energetics of reactions and chemical equilibria. Lec.

CHM 5425 (CHM 542) APPLICATIONS IN PHYSICAL CHEMISTRY (4)
PR: CHM 443 . Applications of chemical theory to chemical systems with emphasis on chemical kinetics and molecular spectroscopy. Lec.

BCH 5105 (CHM 554) TECHNIQUES IN BIOCHEMISTRY (2)
PR: CHM 555 or 657. Biochemistry laboratory with emphasis on modern techniques for use in biochemical research. Qtr. III.

BCH 5065 (CHM 555) BIOCHEMISTRY CORE COURSE (4)
PR: *Either* CHM 335-6 and CHM 341 or 441 *or* graduate standing. A one-quarter survey course in biochemistry for graduate students in chemistry, biology, and other appropriate fields and for particularly well-qualified undergraduates. Lec. Qtr. III.

CHM 5931 (CHM 583) SELECTED TOPICS IN CHEMISTRY (1-6)
PR: CI. The following courses are representative of those that are taught under this title: Natural Products, Stereochemistry, Reactive Intermediates, Photochemistry, Instrumental Electronics, Advanced Lab Techniques, Heterocyclic Chemistry, etc.

——— (CHM 601) CURRENT TOPICS IN CHEMISTRY (1)
PR: Admission to graduate program in chemistry. Required every quarter (when offered) for all students enrolled in chemistry graduate program. Requires participation in and contribution to weekly lecture series in a particular division (analytical, biochemistry, inorganic, organic or physical). Up to 4 credit hours of CHM 601 may be used to satisfy the 600-level structured course requirement. Must be repeated. (S/U only.)

CHM 6650 (CHM 611) STRUCTURAL INORGANIC CHEMISTRY (4)
PR: CHM 512 or CI. Modern theories of bonding and structure of inorganic compounds, including coordination theory, stereochemistry, solution equilibria, kinetics, mechanisms of reactions, and use of physical and chemical methods. Lec. Qtr. II.

CHM 6625 (CHM 613) CHEMISTRY OF THE LESS FAMILIAR ELEMENTS (4)
PR: CI. An integrated treatment of the conceptual and factual aspects of the traditionally less familiar elements, including noble-gas elements, unfamiliar non-metals, alkali and alkaline-earth metals and the transition elements. Lec. Qtr. III.

CHM 6150 (CHM 621) ADVANCED ANALYTICAL CHEMISTRY (4)
PR: CI. A study of complete analytical process, including sample handling, separations, the analysis step, and statistical interpretation of data. Emphasis placed on separations and statistics. Lec. Qtr. II.

CHM 6153 (CHM 623) ELECTROCHEMISTRY (4)
PR: CI. Introduction to the theory of ionic solutions and electrode processes. Theory and applications of electrochemical measurements. Lec. Qtr. III.

CHM 6280 (CHM 631) ADVANCED ORGANIC CHEMISTRY I. NATURAL PRODUCTS (4)
PR: CHM 532 or CI. A study of any of several of the following topics: terpenes, steroids, vitamins, alkaloids, porphyrins, purine, and antibiotics. Qtr. III.

CHM 6260 (CHM 632) ADVANCED ORGANIC CHEMISTRY II. PHYSICAL-ORGANIC (4)
PR: CHM 532. A study of organic reaction mechanisms emphasizing the interpretation of experimental data. Lec. Qtr. I.

CHM 6250 (CHM 633) ADVANCED ORGANIC CHEMISTRY III. SYNTHESIS (4)
PR: CHM 532. Detailed consideration of modern synthetic methods. Lec. Qtr. I.

CHM 6380 (CHM 634) ADVANCED ORGANIC CHEMISTRY IV (4)
PR: CHM 532. The emphasis will vary from year to year.

CHM 6460 (CHM 641) STATISTICAL THERMODYNAMICS (4)
PR: CI. Application of statistical mechanics to thermodynamics, the relation of molecular structure to thermodynamic properties. Lec. Qtr. II.

CHM 6480 (CHM 643) QUANTUM CHEMISTRY I (4)
PR: CI. Introduction to elementary quantum mechanism. Atomic structure and spectra. Lec. Qtr. III.

CHM 6481 (CHM 645) QUANTUM CHEMISTRY II (4)
PR: CHM 643. PR: CI. Introduction to elementary quantum mechanics. Atomic structure and spectra. Lec. Qtr. I.

CHM 6440 (CHM 647) CHEMICAL KINETICS (4)
PR: CI. Theory and methods for the study of reaction rates and the elucidation of reaction mechanisms. Lec. Qtr. II.

BCH 6506 (CHM 654) ADVANCED BIOCHEMISTRY I. ENZYMES (4)
PR: CHM 659 or CI. A study of biochemical systems with emphasis on enzymes. Lec.

BCH 6706 (CHM 655) ADVANCED BIOCHEMISTRY II. BIOORGANIC MECHANISMS (4)
PR: CHM 659 or CI. A study of biochemical systems with emphasis on mechanisms of biological reaction. Lec. Qtr. III.

BCH 6746 (CHM 656) ADVANCED BIOCHEMISTRY III. BIOPHYSICAL CHEMISTRY (4)
PR: CHM 659 or CI. A study of biochemical systems with emphasis on physical methods of experimentation and interpretation. Lec.

BCH 6066 (CHM 657) GENERAL BIOCHEMISTRY I (4)
PR: CHM 555 or CI. First quarter of a rigorous three-quarter general biochemistry course for chemistry and biology graduate students whose primary interests are in this field. Lec. Qtr. I. (Formerly CHM 551.)

BCH 6067 (CHM 658) GENERAL BIOCHEMISTRY II (4)
PR: CHM 657. Continuation of General Biochemistry I. Lec. Qtr. II. (Formerly CHM 552.)

BCH 6068 (CHM 659) GENERAL BIOCHEMISTRY III (4)
PR: CHM 658. Continuation of General Biochemistry II. Lec. Qtr. III. (Formerly CHM 553.)

OCC 6061 (CHM 661) MARINE CHEMISTRY (4)
PR: MSC 521 or CI. Chemical and physical properties of sea water, energy flow in a marine ecosystem, development of the concepts of biogeochemical cycles and master variables, thermodynamics of the carbon dioxide-seawater system, other related topics.

CHM 6973 (CHM 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

CHM 6938 (CHM 683) SELECTED TOPICS IN CHEMISTRY (1-6)
PR: CI. The following titles are representative of those that are taught under this title: Symmetry and Group Theory, Photochemical Kinetics, Quantum Mechanical Calculations, Advanced Chemical Thermodynamics, Reaction Mechanisms, Advanced Instrumentation, Separations and Characterizations, Spectroscopy, etc.

CHM 6950 (CHM 688) RECENT ADVANCES IN CHEMISTRY WITH EMPHASIS ON THEIR IMPACT ON BEGINNING COURSES (3-6)
PR: Graduate Standing. A course designed to consider and study the recent developments of a given field especially those developments that have an effect on altering the basic concepts and ideas of the field and imply a change in the presentation of introductory material in the field. (S/U only.) Qtr. I-IV.

CHM 6935 (CHM 691) GRADUATE SEMINARS IN CHEMISTRY (1)
PR: Admission to graduate program in chemistry. Required every quarter (when offered) for all students enrolled in chemistry graduate program. Requires participation in and attendance at the weekly departmental seminar. Must be repeated. (S/U only.)

CHM 6936 (CHM 692) CHEMISTRY COLLOQUIUM (1)
PR: Admission to graduate program in Chemistry. Frequent (usually weekly) small-group analysis of current developments. May be repeated up to a cumulative total of 10 hours. (S/U only.)

CHM 6946 (CHM 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

CHM 6947 (CHM 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (CHM 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

CHM 6971 (CHM 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

CHM 7820 (CHM 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

CHM 7980 (CHM 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

COMMUNICOLOGY (CLY)

Chairperson: S. W. Kinde; *Professors:* L. H. Ricker, S. I. Ritterman, D. C. Shepherd; *Associate Professors:* J. B. Crittenden, S. W. Kinde; *Assistant Professors:* A. M. Guilford, J. W. Scheuerle; *Instructors: R. L. Carlson, J. E. Falany, J. P. Glover, M. C. Guilford, C. F. Kuffel;* Lecturer: *E. L. Kasan;* Speech and Hearing Clinician: *K. K. Hollahan;* Adjunct: *S. L. Ainsworth;* Courtesy Professors: *T. E. Edwards, F. X. Frueh, E. T. Gray;* Courtesy Associate Professor: *W. W. Wittish;* Courtesy Assistant Professor: *G. H. Horsfall.*

SPA 2001 (CLY 201) SURVEY OF COMMUNICATION DISORDERS (3)
A general survey course concerning the nature and prevention of disorders of communication.

SPA 3020 (CLY 301) INTRODUCTION TO SPEECH PATHOLOGY (6)
The scope of speech pathology as a profession and field of study. An introduction to speech and language disorders (articulation, stuttering, voice, aphasia, etc.): etiologies, major treatment approaches, and research findings.

SPA 3110 (CLY 302) INTRODUCTION TO AUDIOLOGY (6)
The scope of audiology as a profession and field of study. An introduction to the study of hearing impairments: classifications, etiologies, major treatment approaches, and research findings.

SPA 3101 (CLY 311) ANATOMY OF THE SPEECH AND HEARING MECHANISM (6)
The neurological and anatomical basis of communication disorders. Comparisons of normal and pathological organic strutures and their functional dynamics. Separate sections concentrating on normal and abnormal aural physiology are scheduled for those students with a primary emphasis in audiology.

SPA 3080 (CLY 312) INTRODUCTION TO RESEARCH PROCEDURES IN COMMUNICOLOGY (6)
Perspective on research in speech pathology and audiology. Introduction to multivariate design considerations as they apply to research, speech and hearing laboratory and clinical settings. Analysis of basic hypothesis testing.

LIN 3260 (CLY 313) APPLIED PHONOLOGY (6)
An examination of phoneme systems and distinctive features of their alophonic variants with particular emphasis upon those superfixes and suprasegmental modifiers necessary to the understanding and recording of early developmental and deviant speech patterns.

SPA 4363 (CLY 482) NATURE AND NEEDS OF THE HEARING IMPAIRED (6)
A study of the effects of auditory disorders upon the organization and expression of behavioral patterns as they relate to motivation, adjustment and personality.

SPA 4930 (CLY 483) SELECTED TOPICS (4)
PR: CI. A reading program of topics in speech pathology and/or audiology conducted under the supervision of a faculty member. May be repeated three times.

SPA 4050 (CLY 498) INTRODUCTION TO SPEECH PATHOLOGY AND AUDIOLOGY PRACTICUM (1-12)
Observation and participation in speech pathology and audiology practicum in the University clinical laboratory.

SPA 5131 (CLY 511) SPEECH PATHOLOGY INSTRUMENTATION (6)
PR: CI. Calibration, usage and specific applications of specialized instruments available in dealing with speech and language disorders. Includes: recording, sonograph, audiofeedback, video equipment, behavior measuring devices.

SPA 5132 (CLY 512) AUDIOLOGY INSTRUMENTATION (6)
PR: CI. Calibration, usage and specific applications of specialized instruments available in dealing with the identification and measurement of hearing disorders, Includes: sound level recorders, audiometers, and the electrophysiological measurement devices.

SPA 5002 (CLY 513) THE SCIENCE OF COMMUNICATION DISORDERS (6)
PR:CLY 301 or 302 or CI. The application of behavioral and learning principles to the study of the normal development of speech, language and hearing and to the management of disorders.

SPA 5552 (CLY 571) EVALUATION OF ORAL COMMUNICATION DISORDERS (6)
PR: Admittance to the Program or CI. The administration, evaluation, and reporting of diagnostic tests and procedures used in the assessment of speech and language disorders.

SPA 5303 (CLY 572) AUDIOLOGY: HEARING SCIENCE (6)
PR: Admittance to the Program or CI. Introduction to psychoacoustical phenomenon as it relates to the measurement of hearing. Overview of principles and methods of identification audiometry with emphasis on neonatal, preschool, and school age populations. Procedures for determining pure tone thresholds including the application of masking techniques. Fundamental concepts related to hearing aids and their benefits. Management of hearing impaired individuals including counseling.

SPA 5312 (CLY 573) AUDIOLOGY: SPEECH AUDIOMETRY (6)
PR: CLY 572 or CI. Advanced study of psychoacoustical phenomenon as it relates to the measurement of hearing. Instruction emphasizing principles and methods of determining hearing acuity through the use of speech stimuli. Management of clients from pertinent case histories through post-evaluation recommendations. Thorough consideration of hearing aids with special attention on techniques of selecting and fitting aids in clinical setting.

SPA 5550 (CLY 574) METHODS FOR ORAL COMMUNICATION DISORDERS (6)
PR: CLY 571 or CI. An in-depth analysis of classic and contemporary methods employed in the management of communicatively impaired individuals. Experimental approaches are reviewed through current medical, psychological, speech, language and hearing journals.

SPA 5600 (CLY 575) MANAGEMENT OF COMMUNICATION DISORDERS (4)
PR: CI. The planning of programs for individuals with speech, language, and hearing impairments. Includes administration of programs in public schools, clinics, and private practice.

SPA 5210 (CLY 576) COMMUNICATION DISORDERS: VOICE (4)
PR: CI. A comprehensive study of the medical and physical aspects of voice disorders. Primary emphasis is on therapeutic management.

SPA 5201 (CLY 577) COMMUNICATION DISORDERS: ARTICULATION (4)
PR: CI. An examination of normal and deviant articulatory acquisition and behavior. Presentation of major theoretical orientations and the therapeutic principles based upon them.

SPA 5222 (CLY 578) COMMUNICATION DISORDERS: STUTTERING (4)
PR: CI. A comprehensive study of the diagnosis and modification of stuttering based on a two-factor model. Other major theories are considered and evaluated.

SPA 5324 (CLY 579) TECHNIQUES OF AUDITORY TRAINING (4)
PR: CI. An analysis of theories of auditory reception and amplification. A study of the methods and techniques employed in the development and habilitation of auditory skills for the hearing impaired.

SPA 5402 (CLY 580) COMMUNICATION DISORDERS: LANGUAGE (4)
PR: CI. Examination of research and clinical literature presenting major theoretical orientations pertaining to the etiology, evaluations, and treatment of those factors that hinder or interrupt normal language acquisition or function.

SPA 5910 (CLY 581) SUPERVISED RESEARCH (1-12)
PR: CI. Individualized programs of student research approved and supervised by a faculty member.

SPA 5930 (CLY 583) SELECTED TOPICS (4)
PR: CI. A reading program of topics in speech pathology and/or audiology conducted under the supervision of a faculty member. May be repeated three times.

SPA 5557 (CLY 598) SPEECH PATHOLOGY AND AUDIOLOGY PRACTICUM (1-12)
PR: CI. Participation in speech pathology and audiology practicum in the University clinical laboratory and selected field settings.

SPA 6245 (CLY 620) CLEFT PALATE (4)
PR: CI. An in-depth study of speech, language and hearing problems associated with cleft lip and cleft palate. Consideration is given to a multidisciplinary approach to therapy and rehabilitation.

SPA 6410 (CLY 621) APHASIA (4)
PR: CI. A consideration of the neurological and psychological aspects of aphasia as they relate to communication disorders.

Specific language therapy approaches are discussed and evaluated.

SPA 6231 (CLY 622) CEREBRAL PALSY (4)
PR: CI. A study of the medical, physical, occupational, speech, language, and hearing problems of the cerebral palsied. Therapy techniques are reviewed and evaluated.

SPA 6205 (CLY 623) DIALECT AS A COMMUNICATION DISORDER (4)
PR: CI. Research and clinical literature on dialect as a communication disorder.

SPA 6305 (CLY 673) CHILD AUDIOLOGY (4)
PR: CLY 573. Etiologies and manifestations of hearing loss within a pediatric population. Survey of procedures used in early identification and quantified measurement of hearing loss in young and non-communicative children.

SPA 6307 (CLY 674) SPECIAL AUDITORY TESTS (4)
PR: CLY 573 or CI. History, development, rationale and techniques for administering hearing tests to determine site of lesion, including those requiring special instrumentation. The detection and clinical management of pseudohypocusis including the use of objective audiometry.

SPA 6325 (CLY 675) TECHNIQUES OF SPEECH READING (4)
PR: CI. Speech reading as a language skill for the deaf and hard of hearing child and adult. Analysis of theories, methods, and systems.

SPA 6345 (CLY 676) HEARING DISORDERS (4)
PR: CLY 674 or CI. The compilation and interpretation of hearing test data for diagnosing hearing impairment. Investigation of medical and surgical techniques for the treatment of hearing loss, coordinating information for planning the treatment and rehabilitation of the hearing impaired, including the involvement of other professionals.

SPA 6354 (CLY 677) HEARING CONSERVATION (4)
PR: CLY 573 or CI. A comprehensive study of all apects of hearing conservation, especially those relating to the detection and prevention of hearing loss in both children and adult populations. Special attention is given to problems encountered by industry.

SPA 6825 (CLY 680) RESEARCH PROCEDURES IN SPEECH PATHOLOGY AND AUDIOLOGY (4)
PR: CI. Advanced research and experimental design techniques employed in clinical and laboratory settings in speech pathology and audiology. Introduction to research technologies: review of stylistic considerations in research writing.

SPA 6910 (CLY 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

SPA 6930 (CLY 683) SELECTED TOPICS (4)
PR: CI. A reading program of topics in speech pathology and/or audiology conducted under the supervision of a faculty member. May be repeated three times.

SPA 6423 (CLY 684) LANGUAGE FOR THE HEARING IMPAIRED (6)
PR: CLY 301, 302, 482 or CI. Techniques and materials of teaching language to children with auditory disorders. Evaluation and analysis of contemporary methods.

SPA 6332 (CLY 685) COMMUNICATIVE SKILLS FOR THE HEARING IMPAIRED (6)
PR: CLY 301, 302, 482. Application and evaluation of techniques for teaching symbolic functioning to children with hearing impairments. Consideration of developmental and remedial aspects of reading.

——— (CLY 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

SPA 6505 (CLY 698) PRACTICUM (1-12)
PR: CI. Participation in speech pathology and audiology practicum in the University clinical laboratory and selected field settings.

SPA 6971 (CLY 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

COOPERATIVE EDUCATION (COE)

Coordinating Staff: G. F. Lentz, L. Berman, G. R. Card, E. R. Knight, E. V. Hess

——— (COE 171) COOPERATIVE EDUCATION, 1ST TRAINING PERIOD (0)
PR: 45 hours of academic credit, acceptance in Cooperative Education Program (S/U only.)

——— (COE 172) COOPERATIVE EDUCATION, 2ND TRAINING PERIOD (0)
PR: COE 171. (S/U only.)

——— (COE 271) COOPERATIVE EDUCATION, 3RD TRAINING PERIOD (0)
PR: COE 172. (S/U only.)

——— (COE 272) COOPERATIVE EDUCATION, 4TH TRAINING PERIOD (0)
PR: COE 271. (S/U only.)

——— (COE 371) COOPERATIVE EDUCATION, 5TH TRAINING PERIOD (0)
PR: COE 272. (S/U only.)

——— (COE 372) COOPERATIVE EDUCATION, 6TH TRAINING PERIOD (0)
PR: COE 371. (S/U only.)

——— (CE 471) COOPERATIVE EDUCATION, 7TH TRAINING PERIOD (0)
PR: COE 372. (S/U only.)

——— (COE 472) COOPERATIVE EDUCATION, 8TH TRAINING PERIOD (0)
PR: COE 471. (S/U only.)

——— (COE 571) COOPERATIVE EDUCATION, 9TH TRAINING PERIOD (0)
PR: COE 472. (S/U only.)

——— (COE 572) COOPERATIVE EDUCATION, 10TH TRAINING PERIOD (0)
PR: COE 571. (S/U only.)

CRIMINAL JUSTICE (CJP)

Chairperson: W. R. Blount (Acting); *Professor:* H. Vetter; *Associate Professors:* W. R. Blount, M. C. Dertke, D. P. Geary, P. W. Lewis, J. T. Reilly, I. J. Silverman, M. Silverman, M. Vega; *Assistant Professor:* H. Harper; *Instructor:* D. L. Agresti; *Adjunct:* S. Oster.

CCJ 2030 (CJP 200) MAN, CRIME, AND SOCIETY (4)
Designed to give the undergraduate non-major a non-techincal survey of the American criminal justice system. The nature of crime, law enforcement, the court system, and correctional practices and institutions will be covered. *Not for major credit.*

CCJ 2020 (CJP 300) SURVEY OF CRIMINAL JUSTICE SYSTEM (5)
PR: PSY 200, SOC 201, or equivalent or CI. An introduction

to the major institutions associated with criminal justice, their structure, personnel, objectives, resources, and operation. Course content also includes developing an understanding of criminal law, terminology and procedure. This course is designed to provide a broad overview of the activities, language, concepts and career opportunities of the entire Criminal Justice System. The course may include an exploratory project, encouraging the student to use his or her own initiative to explore, observe and interview in one or more local institutions of criminal justice. (Formerly CJP 201.)

CCJ 3620 (CJP 301) NATURE OF CRIME (4)
PR: CJP 300. This course is designed to provide a basic understanding of the complex factors related to crime in America. Focus will be centered on reviewing the basic issues, scope, and costs stemming from criminal activities.

CCJ 3280 (CJP 302) LEGAL FOUNDATIONS OF CRIMINAL JUSTICE (4)
PR: CJP 300, POL 200 or CI. Content of this course examines the effects upon the criminal justice system of the freedoms of habeas corpus, bills of attainders and ex post facto. Thereupon, the course follows the accused through the paths of criminal justice from arrest, to pretrial procedures, to the court and ultimately through corrections.

CCJ 3610 (CJP 315) CHARACTERISTICS OF THE OFFENDER (4)
PR: Junior standing plus CJP 301 or CI. A four-course series focusing on those individuals being processed through the criminal justice system. Each course will examine the characteristics of a special offender group, its impact on the system, and the system's potential to change this class of offender behavior patterns. (May be taken with different subject matter up to 16 hours.)

CCJ 4110 (CJP 410) THEORY AND PRACTICE OF LAW ENFORCEMENT (4)
PR: Junior standing plus CJP 302 or CI. Designed to provide an in-depth summary of current philosophies and techniques used in the field of law enforcement with special attention given to the roles of law enforcement officers. Attention will be given to the new experimental programs and techniques.

CCJ 4130 (CJP 412) THE LAW ENFORCEMENT OFFICER AND THE COMMUNITY (4)
PR: Junior standing plus CJP 410, or CI. This course examines the area of human relations especially as it applies to police functions within the community. Topics of prejudice and discrimination are emphasized.

CCJ 4360 (CJP 420) THEORY AND PRACTICE OF CORRECTIONS (4)
PR: Junior standing plus CJP 301 or CI. The scope of this course relates to the analysis of the different treatment philosophies and techniques currently in use in the field. Attention will be given to experimental and demonstration programs as well as to generally accepted and established methods.

CCJ 4540 (CJP 421) JUVENILE CORRECTIONS (5)
PR: Junior standing plus CJP 420, or CI. Provides an in-depth analysis of the different treatment philosophies and techniques used in the field of juvenile corrections today. Special attention is given to experimental and demonstration programs as well as to traditional and established methods. Students will be required to work in a juvenile corrections agency and to attend field trips.

CCJ 4330 (CJP 422) THE PROBATION AND PAROLE PROCESS (5)
PR: Junior standing plus CJP 420, or CI. The concepts of probation and parole will be thoroughly explored and related to actual and potential treatment situations.

CCJ 4340 (CJP 425) INDIVIDUAL AND GROUP PROCESSES IN CORRECTIONAL TREATMENT I (3)
PR: Senior standing, PSY 200, CJP 421. Designed to introduce the student to theories and methods underlying treatment modalities currently employed in corrections.

CCJ 4341 (CJP 426) INDIVIDUAL AND GROUP PROCESSES IN CORRECTIONAL TREATMENT II (3)
PR: Senior standing plus CJP 425. The student will be introduced to practical applications within a correctional setting involving both individual and group situations.

——— (CJP 430) ABNORMAL BEHAVIOR AND CRIMINALITY (4)
PR: CJP 301 or CI. This course will provide a systematic introduction to the relationship between mental illness and criminality. Attention will be given to psychiatric labeling of deviant behavior and its implications for the handling of the criminal offender who may be diagnosed as "mentally ill."

CCJ 4700 (CJP 480) RESEARCH METHODS IN CRIMINAL JUSTICE (4)
PR: Junior standing plus CJP 300, or CI. Designed to give the criminal justice major an introduction to research methodology and the evaluation of research. This course may not be taken for credit if the student has already successfully completed SSI 301, Social Science Statistics, ECN 231, Business and Economic Statistics I, or MTH 345, Introductory Statistics I.

CCJ 4910 (CJP 481) DIRECTED RESEARCH (1-5)
PR: CI. This course is designed to provide students with a research experience in which they will work closely with faculty on the development and implementation of research projects in the area of criminal justice.

CCJ 4900 (CJP 485) DIRECTED READINGS (1-5)
PR: CI. This course is specifically designed to enable advanced students the opportunity to do in-depth independent work in the area of criminal justice. Each student will be under the close supervision of a faculty member of the program.

NOTE: CJP 481 & CJP 485. (a) Students wishing to enroll must make arrangements with a faculty member during the quarter *prior* to actually taking the course, (b) a minimum of four (4) CJP courses must have been completed satisfactorily prior to enrollment, (c) first consideration will be given to CJP majors, and (d) individual faculty members may add additional requirements at their discretion.

CCJ 4934 (CJP 491) SEMINAR IN CRIMINAL JUSTICE (3)
PR: Senior standing and CI. The seminar (multi-course series — variable topics) will consider the various changes occurring in the field of criminal justice with added emphasis placed on the responsibilities of careers in the field. (May be taken with different subject matter up to 12 hours).

CCJ 4940 (CJP 499) INTERNSHIP FOR CRIMINAL JUSTICE MAJORS (3-12)
PR: Senior standing. The internship will consist of placement with one or more of the agencies comprising the criminal justice system. This course will enable the students to gain meaningful field experience related to their future careers. Each three-hour block of credit will require a minimum of ten hours of work per week within the host agency in addition to any written work or reading assignments. (S/U only.)

CCJ 6605 (CJP 601) THEORIES OF DEVIANCY (4)
An introduction and comparison of major historical and contemporary theories as they relate to the explanation of criminal behavior. Attention will be given to developing, on the part of the student, a frame-of-reference by which he can organize and understand the empirical factors operating in the Criminal Justice System.

CCJ 6705 (CJP 602) INTRODUCTION TO RESEARCH AND EVALUATION IN CRIMINAL JUSTICE (4)
An introduction to research, evaluation, statistics, data man-

agement and management information procedures. Emphasis will be given to the role of each of these topics as monitors and change agents in criminal justice, particularly in police management and corrections.

CCJ 6285 (CJP 603) LAW AND CRIMINAL JUSTICE (4)
An exposition of historical and contemporary legal principles, procedures and issues as reflected in Constitutional provisions, statutes and case law.

CCJ 6455 (CJP 610) COMMUNITY CORRECTIONAL ADMINISTRATION (3)
This course consists of an analysis of the complex issues and controversies related to the development and management of modern community-based corrections programs. May be repeated up to 9 hours.

——— (CJP 611) CORRECTIONAL TREATMENT METHODS (3)
Designed to acquaint the beginning graduate student with general conditions, skills and techniques required in order to provide satisfactory treatment for both adult and juvenile offenders. Emphasis will be placed on familiarizing the student with those factors and conditions which facilitate treatment and the goals of treatment in a community correctional setting. In addition, several specific and widely used treatment approaches will be extensively covered and practiced during this course. May be repeated up to 9 hours.

CCJ 6725 (CJP 612) CORRECTIONAL PLANNING (3)
This course will provide the student with an in-depth examination of urban correctional planning processes. Topics included will deal with the development of personnel, budgets, and facility plans and their implementation. May be repeated up to 9 hours.

——— (CJP 613) SEMINAR IN COMMUNITY CORRECTIONS (3)
This course will provide a mechanism by which staff and students can focus on the latest events, issues, and problems confronting community corrections programming. May be repeated up to 6 hours.

CCJ 6405 (CJP 620) POLICE ADMINISTRATION (3)
This course is designed to cover the major elements of urban police administration including personnel selection and promotion, program development, and management techniques. May be repeated up to 9 hours.

CCJ 6135 (CJP 621) URBAN POLICE PROBLEMS (3)
This course addresses itself to the major problems confronting urban police departments. Areas of concentration will be racial tensions; police corruption, politicalization, etc. May be repeated up to 9 hours.

CCJ 6726 (CJP 622) URBAN POLICE PLANNING (3)
This course will examine contemporary law enforcement planning and will focus on techniques and skills required to forecast future needs of police agencies in rapidly expanding metropolitan areas. May be repeated up to 9 hours.

——— (CJP 623) SEMINAR IN URBAN LAW ENFORCEMENT (3)
Designed to provide an in-depth review of contemporary issues and problems as they relate to urban police administration. May be repeated up to 9 hours.

CCJ 6709 (CJP 630) RESEARCH AND EVALUATION METHODS (3)
A detailed coverage of statistical research and evaluation techniques utilized for research and reporting practices in Criminal Justice. Data management, field experimentation and research methodology will be included as they apply. May be repeated up to 6 hours.

CCJ 6475 (CJP 631) SYSTEMS ANALYSIS IN CRIMINAL JUSTICE (3)
Time will be spent on the design and analysis of both existing and student created systems, with emphasis on the role of system analysis as it applies to management information systems, computer based systems. In addition, attention will be directed to retrieval strategies, reducing work loads, simplification, formatting, form design and control, data organization costs. May be repeated up to 6 hours.

CCJ 6466 (CJP 632) RESOURCE DEVELOPMENT AND ACQUISITION (3)
Required for Planning and Evaluation tract students, optional for others, this course will survey organizations which provide financial assistance to Criminal Justice agencies. In all cases, an analysis of criteria, limitations and availability will be made. Practical experience in proposal planning and submission will be provided.

CCJ 6946 (CJP 660) GRADUATE PRACTICUM IN CRIMINAL JUSTICE* (1-4)
Practicum will consist of placement with a criminal justice agency selected by the student in consultation with his committee. This placement will enable the student to gain high level field experience related to their chosen career field. A minimum of 24 graduate hours in Criminal Justice must be completed prior to enrollment. (S/U only.) (Formerly CJP 681.)

CCJ 6910 (CJP 681) DIRECTED RESEARCH. (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

CCJ 6935 (CJP 690) TOPICS IN CRIMINAL JUSTICE (3)
PR: Graduate standing in the Criminal Justice Program. The field of criminal justice is characterized by a wide variety of issues and controversies that are of topical concern. This seminar provides a forum for analyzing and discussing these topics as their importance and the accumulation of data warrants. Classics in the criminal justice literature may be included among the topics for treatment in this course.

CCJ 6947 (CJP 691) CRIMINAL JUSTICE INTERNSHIP* (12)
The internship will place the student in a criminal justice position commensurate with his skills so that he may be able to blend theory with experience. Placement, which will be full-time for one year, will be worked out between the agency, the student, and the student' s committee. All graduate academic course work must be completed prior to enrollment. (S/U only.)

CCJ 6920 (CJP 693) PRO SEMINAR IN CRIMINAL JUSTICE (1)
One hour is required for all students. This variable topic listing is a forum primarily for the presentation and discussion of ethical and research ideas by faculty, guests, and students to aid students in linking theory and research, in understanding contemporary, problem oriented research, and in developing thesis subjects. Any issue of professional concern may be treated. May be repeated up to 5 hours. At least one hour should be taken during first quarter in the program.

CCJ 6971 (CJP 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

** Practicum is required of all student who are not selected for or who choose not to participate in the alternative one-year internship. To be completed during the second year in the program.*

DANCE (DAN)

Chairperson: W. G. Hug. *Professor:* W. G. Hug. *Associate Professor:* C. Robinson. *Assistant Professors:* R. Sias, M. Starbuck.

DAA 2160 (DAN 201) BEGINNING MODERN (3)
PR: Admission by audition. Study of basic principles of modern dance technique. Practical work in beginning exercises and movement phrases, utilizing changing rhythms and dynamics. May be repeated.

DAA 2200 (DAN 202) BEGINNING BALLET (3)
PR: Admission by audition. Basic positions and fundamental barre exercises. Stress on correct alignment of the body and the application of simple step combinations in centre work. The use of ballet vocabulary (French terms). Material is covered almost totally as practical work in class with a few outside projects. Concert and performance attendance required. May be repeated.

DAA 2140 (DAN 203) CHOREOGRAPHY I (3)
Study and execution of basic principles of improvising. Preparation of studies in theme and variations, breath phrases and metric phrases. May be repeated.

DAA 3161 (DAN 301) INTERMEDIATE MODERN (4)
PR: Admission by audition. Continuation of DAN 201. Further emphasis on style and phrasing. Work in projecting mood and quality by dancing and rehearsing in more advanced student choreography, leading to performance. Rehearsal hours to be arranged. May be repeated.

DAA 3201 (DAN 302) INTERMEDIATE BALLET (4)
PR: Admission by audition. Continuation of DAN 202. Intensification of barre exercises for the development of strength and form. Centre exercises to develop quickness of mind/body coordination. Most of the ballet steps are introduced. Application of phrasing and quality of movement. Adagio, pirouettes, and allegro are specifically stressed. Materal covered as practical work in class with concerts and performances. Rehearsal hours to be arranged. May be repeated.

DAA 3142 (DAN 303) CHOREOGRAPHY II (3)
PR: DAN 203 or CI. Preparation of studies in rhythm, dynamics, form and motivation, culminating in a solo. May be repeated.

DAA 3502 (DAN 304) JAZZ DANCE (2)
PR: DAN 301 or DAN 302 or CI. A technique class with an emphasis on highly stylized, percussive movement on a strong rhythmic base. Required is the performance of a short dance sequence encompassing these skills. May be repeated.

DAN 3603 (DAN 305) MUSIC FOR DANCE (3)
Development of practical music skills in relation to dance. Emphasis on rhythm and the relationship of music forms to dance. May be repeated up to 6 credit hours.

DAA 3492 (DAN 311) REPERTORY (1)
The development and performance of solo and/or group dances. Open to all University students by audition. May be repeated.

DAA 3222 (DAN 312) POINTE TECHNIQUE (1)
PR: DAN 302. This course introduces fundamental exercises for the development of pointe technique. Material covered as practical work in class with a few outside projects, concerts, and performances. Rehearsal hours to be arranged. Must be repeated for a total of 6 hours by Ballet Majors. May be repeated.

DAN 3110 (DAN 313) WORLD HISTORY OF DANCE (3)
Study of the development of dance from its inception through the Middle Ages. Reading, lecture.

DAN 3100 (DAN 370) INTRODUCTION TO DANCE (3)
For non-dance majors, a study of the art of dance. Lecture and activities including Modern, Ballet, Jazz, Ethnic and Tap. DAN 370 may be used for University General Distribution Requirement by the non-major, and may be used to satisfy part of the 9 hour in-College Requirement for Fine Arts Majors in Art, Music and Theatre.

DAA 3700 (DAN 371) HATHA YOGA (2)
A course to experience and practice the basic *asanas* (bodily postures) *pranayoma* (breath control), and deep relaxation of body and mind. Hatha Yoga prepares the student for dance movement. May be used for University General Distribution Requirement by the non-major, and may be used to satisfy part of the 9-hour in-College requirement for Fine Arts Majors in Art, Music and Theatre.

DAA 4162 (DAN 401) ADVANCED MODERN (5)
PR: Admission by audition. Continuation of DAN 301 on an advanced level. Work in improvisation and individual invention creating an awareness of many possibilities of movement. Intensive work on the growth of personal performance styles as a means of communication. Equal emphasis will be given to training the body in the development of technical excellence. Dancing in student choreography leading to performance. Rehearsal hours to be arranged. Must be repeated for a minimum of 20 hours by the Modern Major. May be repeated.

DAA 4202 (DAN 402) ADVANCED BALLET (5)
PR: Admission by audition. Continuation of DAN 302. Perfecting the execution of barre work including body alignment, quality of movement, strength, form, quickness of mind and alertness. Intensification of centre work. More stress on aesthetic quality of movement and phrasing. Perfecting the execution of classical ballet technique and a continuing awareness of performing projection and audience communication for those with professional performing career in mind. Complete background and knowledge of the classical ballet techniques required. Students expected to be proficient in pointe work. Material covered as practical work in class with a few outside projects, concerts, and performances. Rehearsal hours to be arranged. Must be repeated for a minimum of 20 hours by the Ballet Major. May be repeated.

DAN 4800 (DAN 403) CHOREOGRAPHY III (3)
PR: DAN 303 or CJ. Work directed toward duets and group dances. The students will submit choreographic ideas for instructor's approval, then proceed with rehearsals. The best dances will be performed and fully produced under supervision of student choreographers. Reading, lecture, laboratory. May be repeated.

DAN 4151 (DAN 413) HISTORY OF 20TH CENTURY BALLET (3)
A study of the development of 20th Century ballet in Europe and America. Emphasis on concepts, choreographers and artists. Reading, film, lecture.

DAN 4171 (DAN 453) DANCE SENIOR SEMINAR (3)
PR: Senior or CC. To aid majors to understand, appraise and perfect their own art and technique through critical and aesthetic judgements of their colleagues.

DAA 4143 (DAN 463) CHOREOGRAPHY IV (3)
PR: DAN 403. The student will prepare studies based on free form, minimal art, and chance methods. Reading, lecture, laboratory. May be repeated. (Formerly DAN 503.)

DAN 4131 (DAN 464) HISTORY OF MODERN DANCE (3)
Study of the development of modern dance in the 20th Century in America; the different techniques, concepts in choreography and leading artists of our time. Reading, film, and lecture. (Formerly DAN 513).

DAN 4905 (DAN 481) DIRECTED STUDY (1-6)
PR: CC. May be repeated. Independent studies in the various areas of Dance. Course of study and credits must be assigned prior to registration.

DAN 4930 (DAN 483) SELECTED TOPICS IN DANCE (1-6)
PR: CI and CC. The content of the course will be governed by student demand and instructor interest. May be repeated for credit for different topics only.

DAN 4905 (DAN 485) DIRECTED READING (3)
PR: CI and CC. Readings in a topic of special interest to the student. Selection of topic and materials must be agreed upon and appropriate credit must be assigned prior to registration. A contract with all necessary signatures is required for registration. May be repeated for credit for different topics only.

ECONOMICS (ECN)

Chairperson: J.P. Cooke (Acting). *Professors:* G. Brunhild, T. D. Curtis, H. S. Dye. *Associate Professors:* R. H. Burton, J. P. Cooke, J. A. Dalton, E. J. Ford, W. J. Herman, J. B. Kennedy, G. H. Mellish, R. J. Murphy, R. F. Shannon, E. W. Shows, G. C. Steinike. *Assistant Professors:* K. W. Davey, R. L. Finley, E. A. Hanni, R. James, R. L. Moss, J. E. Weaver. *Instructors:* J. M. Grant, J. G. Spence.

ECO 1000 (ECN 100) CONTEMPORARY ECONOMIC PROBLEMS (5)
An introduction to economics in the context of contemporary social issues. The problem of economic scarcity, the role of ethical value in economics, economic processes and the economic analysis of social issues.

ECO 2023 (ECN 201) ECONOMIC PRINCIPLES I: MICROECONOMICS (4)
The fundamental economic concept of scarcity, alternative courses of action and the problem of choice. How an economy decides what to produce, how to produce and how to reward participants in the economy. Attention is focused on factors affecting consumer wants and on the behavior of price in different types of markets.

ECO 2013 (ECN 202) ECONOMIC PRINCIPLES II; MACROECONOMICS (4)
An introduction to the modern theory of income determination with emphasis upon the application of monetary and fiscal policy oriented toward the accomplishment of the macro-economic objectives of full employment, economic growth, and balance of payments stability.

ECO 2410 (ECN 231) BUSINESS AND ECONOMIC STATISTICS I (3)
PR: MTH 211. College Algebra or equivalent. Description of sample data; calculation of probabilities; frequency functions of random variables; the binomial and normal distributions; sampling theory and estimation; tests of hypotheses; elements of Bayesian decision theory.

ECO 3101 (ECN 301) INTERMEDIATE PRICE THEORY (5)
PR: ECN 201-202. Advanced analysis of supply and demand as related to competition and monopoly; application of economic theory to product pricing and resource pricing.

ECP 3703 (ECN 305) MANAGERIAL ECONOMICS (5)
PR: ECN 201, 202. Analysis of the concepts and tools of microeconomic analysis for decision-makers in business. Emphasizes demand and production analysis, decision-making within the different market structures of the American Economy. Stresses applications. Recommended for non-majors.

ECO 3431 (ECN 306) BUSINESS FLUCTUATION AND ECONOMIC FORECASTING (5)
PR: ECN 201, 202, ECN 331. Introduction to business cycles and forecasting business fluctuations. Forecasting techniques for GNP and GNP components developed and appraised. Use and implications of macroeconomic forecasting and business.

ECP 3203 (ECN 311) LABOR ECONOMICS (4)
PR: CI. History of the trade union movement; economic analysis of trade union philosophies and practices; examination of basic influences affecting labor force, real wages and employment; collective bargaining and labor law.

ECO 3203 (ECN 323) INTERMEDIATE INCOME AND MONETARY ANALYSIS (5)
PR: ECN 201-202. An advanced exposition of the neo-Keynesian analysis explaining the determination of income, employment, prices, and the interest rate. Emphasis is placed upon the interaction of aggregate demand, as determined by consumption, investment, money, and the government budget, and aggregate supply.

ECO 3411 (ECN 331) BUSINESS AND ECONOMIC STATISTICS II (5)
PR: MTH 211. College Algebra or equivalent and ECN 231. Theory and use of statistical inference for decision and prediction. Point and interval estimation; criteria for choosing estimators and decision rules; hypotheses tests and prob values; analysis of variance; correlation and regression.

ECP 3433 (ECN 341) ECONOMICS OF TRANSPORTATION (4)
Functions of transportation agencies, rate structure of transportation companies, problems of state and federal regulations and coordination of transportation facilities.

ECP 3423 (ECN 343) ECONOMICS OF PUBLIC UTILITIES (4)
PR: ECN 201-202. The economic characteristics of natural monopolies and the economic problems of regulation and public ownership.

ECO 3703 (ECN 351) INTERNATIONAL ECONOMICS (4)
PR: ECN 201-202. The role of international trade in the U.S. economy in world trade. The bases of trade and the nature of gains from it. The balance of payments. Exchange rate determination and the foreign market. Equilibrating mechanisms for restoring balance of payments stability. International commercial policy.

ECO 3622 (ECN 371) AMERICAN ECONOMIC HISTORY (4)
The growth and evolution of American economic institutions from Colonial times to the present

ECP 3613 (ECN 373) ECONOMICS OF THE URBAN ENVIRONMENT (5)
PR: CI. Economic analysis of the phenomena of cities as well as urban social problems including poverty, discrimination, housing, transportation, pollution, crime and fiscal considerations.

ECO 4303 (ECN 401) HISTORY OF ECONOMIC THOUGHT (5)
PR: ECN 201-202, 301, or CI. The development of the economic schools (Scholasticism, Mercantilism, Physiocratic, Classicism, Utopian Socialism, Anarchism, Marxism, Historicism, Marginalism, Neo-Classicism, Institutionalism, and Keynesianism) in connection with their philosophical and political convictions in relation to their times.

ECO 4401 (ECN 404) INTRODUCTION TO MATHEMATICAL ECONOMICS (4)
PR: MTH 212, ECN 201-202 and ECN 331 or CI. Economic processes expressed as equations and economic systems as mathematical models. Investigation of their static and dynamic properties by mathematical analysis and computer simulation. (Formerly ECN 361.)

ECS 4003 (ECN 405) COMPARATIVE ECONOMIC SYSTEMS (4)
Analysis of the major types of economies in industrially developed countries: competitive capitalism (e.g.; West Germany), regulated capitalism (e.g.; France), "command" communism (e.g.; the Soviet Union) and "worker-controlled" communism (e.g.; Yugoslavia). Each is subject to economic evaluation with particular reference to their ability to meet changing consumer demands and technological innovations.

ECO 4323 (ECN 407) MARXIST POLITICAL ECONOMY (4)
PR: ECN 201 and 202 or CI. An examination of the Marxist tradition and other "left" perspectives in economics. Application of Marxist economic theory to problems of advanced capitalist and socialist societies.

ECP 4232 (ECN 410) COLLECTIVE BARGAINING (5)
PR: ECN 311. The administration of labor-management arguments, mediation and arbitration of industrial disputes and governmental role in collective bargaining. (Formerly ECN 313.)

ECP 4214 (ECN 411) LABOR RELATIONS AND PUBLIC POLICY (4)
PR: ECN 311. Problems resulting from legislative and judicial interpretation of the rights, duties and responsibilities of labor unions and employers; public policy in labor-management negotiations; survey of legislation designed to protect workers.

ECO 4504 (ECN 423) PUBLIC FINANCE (5)
PR: ECN 301. An examination of the public sector and its contribution to economic welfare. Government expenditures and revenues are examined in relation to their impact on resource allocation, income distribution, stabilization, and economic growth.

ECO 4213 (ECN 425) MONETARY THEORY (5)
PR: ECN 301, 323. An examination of the impact of the financial sector upon real economic magnitures. The course approaches its subject matter through the theory of portfolio and capital adjustments with emphasis upon the contributions of Pigou, Fisher, Keynes, Patinkin, Friedman and Tobin.

ECO 4402 (ECN 431) SELECTED TOPICS IN QUANTITATIVE ECONOMICS (4)
PR: MTH 212, ECN 331 or CI. Analysis of relevant problems of social policy by application of economic criteria and econometric method. Survey of contemporary research.

ECP 4003 (ECN 437) BUSINESS-GOVERNMENT RELATIONSHIPS (4)
Analysis of the three public policy approaches; competitive, regulatory, and ownership; evaluation of each in terms of ability to bring about economically desirable price-cost relationships, reductions in cost, invention and innovation and an optimal allocation of resources.

ECO 4723 (ECN 451) INTERNATIONAL COMMERCIAL POLICIES (4)
PR: ECN 351. An advanced analysis of balance of payments equilibrating mechanisms and of international commercial policy.

ECS 4013 (ECN 461) THEORY OF ECONOMIC DEVELOPMENT (4)
PR: ECN 323 or CI. Problems, policies, and dynamics of economic growth in emerging nations. The benefits and relevance of the theory of economic development is examined within the context of the social and political milieu of today's underdeveloped areas.

ECO 4264 (ECN 471) THEORY OF ECONOMIC DYNAMICS (4)
PR: ECN 323. An examination of macroeconomic processes as they occur through time. The determination and characteristics of long run growth paths based upon both Keynesian and Neoclassical models are discussed and business cycles are then treated as short run deviations from these growth paths. Empirical studies, forecasting, and policy issues are also considered.

ECO 4905 (ECN 481) INDEPENDENT RESEARCH (1-5)
PR: CI. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 10 hours.

ECO 4935 (ECN 483) SELECTED TOPICS IN ECONOMICS (1-5)
PR: Senior standing and CI. Topics to be selected by the instructor or instructors on pertinent economic issues. (Formerly ECN 489.)

——— (ECN 497) INDEPENDENT STUDY (1-4)
PR: CI. Specialized independent study determined by the student' needs and interests. May be repeated up to 8 credit hours. (S/U only.)

ECO 5111 (ECN 501) MICROECONOMICS (3)
An accelerated introduction to the price system as a mechanism for allocating scarce resources. Models are developed to explain the workings of both product and resource markets. This course is intended for students with no previous courses in economics and no credit towards degrees will be received in the graduate programs of the College of Business.

ECO 5204 (ECN 502) MACROECONOMICS (3)
PR: ECN 501. An accelerated introduction to the understanding of the post-Keynesian system through the development of a theoretical supply and demand model and the application of this model to the fiscal and monetary possibilities inherent within it. This course is intended for students with no previous study in economics and no credit towards degrees will be received in the graduate programs of the College of Business.

ECO 5413 (ECN 503) STATISTICS FOR BUSINESS (3)
PR: ECN 231 and College Algebra. Statistical inference and decision theory applied to problems of business management.

ECP 5510 (ECN 507) ECONOMIC EDUCATION I (3)
Basic economic processes affecting price determination, income distribution, national income and employment, growth, price levels, and balance of payments. This course is essentially designed for inservice teaching personnel.

ECP 5511 (ECN 508) ECONOMIC EDUCATION II (3)
Basic economic processes affecting price determination, income distribution, national income and employment, growth, price levels, and balance of payments. This course is essentially designed for inservice teaching personnel.

ECP 5512 (ECN 509) ECONOMICS EDUCATION III (3)
This course will be concerned with current economic problems. Emphasis will be placed on an analysis of those topical problems which secondary social science teachers would find particularly important to include in their courses. This course is essentially designed for inservice teaching personnel.

ECP 5403 (ECN 519) INDUSTRIAL ORGANIZATION I—STRUCTURE (4)
PR: ECN 201 and 202, or equivalent. Extent, level, trends and dimensions of economic concentration; competitive conduct of large enterprises; casual factors underlying changes in industrial structure; technology, managerial economies and diseconomies, invention and innovation, and mergers.

ECP 5404 (ECN 520) INDUSTRIAL ORGANIZATION II—CONDUCT AND BEHAVIOR (4)
PR: ECN 301 and ECN 519. Non-price competition, predatory practices, government intervention; oligopolistic pricing; differences from competitive pricing, standards of, constraints upon, effects on income distribution, production and governmental policy.

ECO 5404 (ECN 531) ECONOMIC PROGRAMMING AND CONTROL (5)
PR: MTH 213, ECN 331 or CI. Replication of economic structures by quantitative models and policy selection by optimization procedures. Preference functions and certainty equivalence. Deterministic and stochastic linear economic models. Dynamic and chance-constrained programming. Review of work of Leontief, Von Neumann, Tinbergen, Theil, Pontryagin and Harsanyi.

ECO 5424 (ECN 561) ECONOMETRICS (5)
PR: ECN 301, 323, 331, or CI. Theory and use of multiple regression to explain, forecast and influence economic behavior. Applications to demand, cost and production functions. Model specification. Ordinary least squares and instrumental variables methods. Analysis of errors. BMD and TSP computer programs. Design and conduct of individual empirical research projects.

ECP 5614 (ECN 573) URBAN ECONOMICS (4)
PR: ECN 201-202 or ECN 501-502. The economics of urban areas including analysis of their growth and development as well as intra-urban location patterns. Economic analysis at an advanced level of urban social problems.

ECO 6916 (ECN 601) RESEARCH METHODOLOGY (3)
PR: CI. Theoretical and empirical research. Selection of assumptions. Model construction. Specification of critical hypotheses. Design of experimental tests. Sources of data. Model evaluation and revision in light of test results. Scientific reporting.

ECO 6305 (ECN 602) HISTORY OF ECONOMIC THOUGHT (5)
PR: ECN 605 and ECN 607. An intense analysis of the main currents of modern economic thought during the last one hundred years.

ECO 6414 (ECN 603) MANAGERIAL STATISTICS (3)
PR: ECN 331 or 503 or equivalent. Techniques for statistical decisions under incomplete information. Prior probabilities, likelihoods and revised probabilities. Loss functions. Bayesian decision rules. Sequential decision strategies. Optimal decision revision.

ECO 6435 (ECN 604) APPLIED FORECASTING (3)
PR: ECN 331 or 503 or equivalent. Use of time series and cross sectional data for managerial control forecasting. Construction of index numbers. Extraction of time series components. Leading economic indicators, diffusion indices and intentions surveys. Cyclical fluctuations and spectral analysis. Input-output models, econometric studies and linear forecasts.

ECO 6115 (ECN 605) MICRO-ECONOMICS (3)
PR: ECN 201-202 or ECN 501-502. An intensive study of microeconomics examining the behavior of consumers, and producers. Topics covered include the general concept of scarcity and conceptual models in the areas of demand, production, cost, and the firm and market organization. Advanced readings in theoretical and applied microeconomics will be emphasized.

ECO 6206 (ECN 607) AGGREGATE ECONOMICS (3)
PR: ECN 201-202 or ECN 501-502. An analysis of the macroeconomic interrelationships determining the level of income, employment, prices and interest rates over time and the impact of government policy upon these variables.

ECP 6006 (ECN 608) APPLIED ECONOMIC ANALYSIS (3)
PR: ECN 605, 607. Application of micro and macro economic analysis to problems of policy and procedure in business and government.

ECP 6206 (ECN 610) MANPOWER ECONOMICS SEMINAR (5)
PR: ECN 201-202, 501-502, or CI. This course is designed to provide the student with a background in labor force statistics, labor institutions, and problems of employment and unemployment. This background then allows for further study of the causes and remedies for unemployment and under-employment.

ECP 6705 (ECN 611) ADVANCED MANAGERIAL ECONOMICS (3)
PR: ECN 201-202 or 501-502, GBA 603 or equivalent. Advanced study of decision-making in households, firms and not-for-profit institutions. Topics cover demand, production and cost, organizational goals, efficiency vs. effectiveness, environmental influences on decision-making. Both problems of analysis and measurement are emphasized.

ECO 6436 (ECN 612) ADVANCED BUSINESS FLUCTUATION AND ECONOMIC FORECASTING (3)
PR: ECN 201-202 or ECN 501-502, GBA 605. May be waived by instructor. Applications of statistical techniques to forecasting aggregate business activity, GNP and GNP components. Critical analysis of forecasting techniques and applications of forecasting methods to business decisions.

ECP 6230 (ECN 614) LABOR RELATIONS LAW (3)
A survey of the various legal constraints applicable to the employer-employee relationship. Included are such areas as collective bargaining, civil rights, and fair labor standards. (Also offered as MAN 614.)

ECO 6506 (ECN 623) PUBLIC FINANCE I (4)
PR: ECN 201-202 or 501-502 or equivalent. An examination of the role of the public sector and its contribution to economic welfare. Tax and expenditure policies are examined in relation to their effects on resource allocation and income distribution.

ECO 6507 (ECN 624) PUBLIC FINANCE II (4)
PR: ECN 623. Topics in public economics including cost functions for public goods, redistributive techniques, fiscal federalism, major issues in government expenditures, environmental policies, stabilization, growth and debt policy.

ECO 6216 (ECN 625) MONETARY THEORY (5)
PR: ECN 605, 607. Advanced discussion of the impact of the financial sector upon real economic magnitudes. The course emphasizes theoretical and empirical contributions found in the current literature as an extension of earlier work done in the field on monetary theory.

ECO 6917 (ECN 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

ECO 6936 (ECN 683) SELECTED TOPICS IN ECONOMICS (1-6)
PR: Graduate standing and CC. The course content will depend on student demand and instructor's interest.

ECO 6906 (ECN 697) INDEPENDENT STUDY (var.)
Independent study in which student mut have a contract with an instructor. Repeatable. (S/U only.)

ECO 6971 (ECN 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

EDUCATION

Professors: E. C. Anderson, M. L. Austin, J. W. Barnard, J. A. Battle, W. F. Benjamin, J. C. Bondi, W. K. Bott, L. E. Bowers, H. F. Boyd, W. W. Burley, M. E. Crickenberger, J. C. Dickinson, V. J. Drapela, C. W. Engel, D. G. Ferguson, J. C. Follman, H. A. Hoffman, J. A. Howell, C. W. Hunnicutt, R. M. Jaeger, E. V. Johanningmeier, G. O. Johnson, R. E. Johnson, H. J. Keeler, E. Kimmel, D. L. Lantz, B. K. Lichtenberg, D. R. Lichtenberg, C. C. Manker, J. L. Mazur, H. C. Merriam, L. E. Monley, D. D. Neville, P. J. Newcombe, R. L. Ober, D.E. Orlosky, R. A. Patouillet, D. M. Purdom, J. H. Robinson, J. Selman, R. L. Shannon, J. T. Sisco, D. D. Sisk, A. G. Smith, D. E. Stone, A. E. Uprichard, R. A. Urbanek, A. Ward, C. Weingartner, W. W. West, R. E. Wilk. *Associate Professors:* L. V. Anderson, B. L. Beasley, W. W. Beasley, D. E. Bostow, H. G. Brady, B. C. Brantley, F. D. Breit, V. A. Bridges, R. G. Bruce, H. C. Bryant, J. T. Bullock, D. L. Carroll, J. A. Chambers, L. P. Cleary, C. H. Collier, C. J. Craig, J. Croft, W. P. Danenburg, L. D. Dubois, R. C. Dwyer, T. D. Freijo, F. W. Freshour, J. K. Gates, O. G. Geiger, F. S. Goforth, L. Greabell, B. W. Hall, D. P. Jaeschke, F. F. Johnson, H. G. Karl, L. T. Karns, T. W. Keene, F. B. Keiter, G. H. Kincaid, M. Kleg, S. E. Klesius, J. Knego, C. D. Lavely, B. Lax, J. Levy, R. Linder, J. A. Long, R. L. Loveless, A. J. Lowe, M. Mann, L. McClellan, P. E. McClendon, W. J. Musgrove, R. E. Palmer. E. E. Panther, G. E. Patterson, D. D. Peterson, F. C. Pfister, H. P. Pfost, E. R. Phillips, F. L. Prince, D. J. Puglisi, I. M. Sexton, S. H. Silverman, S. P. Singh, C. D. Smith, H. E. Steiner, C. M. Story, P. W. Tanner, T. S. Tocco, R. C. Toothman, A. M. Troutman, A. E. Unruh, M. G. Villeme, G. M. Weeks, H. Weinberg, V. W. Whitney, T. C. Wilson. *Assistant Professors:* W. T. Bridges, R. Cline, P. Czyzewski, M. W. Durso, S. Forseth, W. D. Hall, S. P. Harter, T. K. Hearn, R. Hill, J. Kase,

B. W. Kazanis, J. A. Merica, R. I. Mumme, R. F. Pride, N. L. Raybon, R. A. Scott, H. A. Sproles, D. J. Stapleton, M. S. Swafford, S. Thompson, G. M. Towery. *Visiting Assistant Professor:* E. Guetzloe. *Instructors:* G. R. Barkholz, R. Higbee, A. F. Kerns, J. Klesius, B. V. LeBaron, G. S. Marin, W. E. Pearcey, J. E. Radloff, C. J. Schwartz. *Lecturers:* J. Borg, R. E. Dwyer, M. S. Holland, J. C. Moore, C. J. Pierce, L. R. Stewart, J. F. Young. *Coordinators:* C. A. Gordon, L. G. Roberts. *Counselors/Advisers:* R. G. Brightwell, N. Cooke, M. P. Nesman, S. Pinner, P. M. Robertson, B. Wagner.

Art Education (EDA)

ARE 3044 (EDA 308) EXPERIENTIAL BASIS IN ART EDUCATION (4)
PR: Admission to College of Education. Designed to help the individual student discover and develop meanings and values in art and education with emphasis on communicative skills, both verbal and visual. Focus will be on the individual and potential alternatives in the teaching of art. (Formerly EDA 377).

ARE 3354 (EDA 310) ART TEACHING STRATEGY AND MEDIA WORKSHOP I (5)
PR: Admission to College of Education and EDA 308. A combination of theory, philosophy and practice in both public and private learning centers to provide the student with a variety of teaching concepts and media exploration in art education and to further enable the student to understand stages of young people, three to eighteen. (Formerly EDA 379).

——— (EDA 408) SEMINAR IN ART EDUCATION ADMINISTRATION (2)
PR: Admission to College of Education and EDA 308. The concepts and areas of skill essential to successful practice in art education management. To include understanding of how art programs are funded, art facility planning, art curriculum development, art exhibition techniques, public relations promotion and supply and equipment requirements.

ARE 4642 (EDA 410) URBAN ENVIRONMENT ARTS WORKSHOP (5)
PR: Admission to College of Education and EDA 308. Identification, exploration, and experimentation with unique urban spaces and populations as potential new environments for teaching and learning in the arts.

ARE 4440 (EDA 412) ART TEACHING STRATEGIES AND MEDIA WORKSHOP II (5)
PR: Admission to College of Education and EDA 308. Media and the learning process as a means of self-expression will be explored. Media experience in sound exploration, visiual exploration through photographic arts, cinematography and video-television systems. Exploration of local business and industrial technology for developing experimental media forms. Designing of teaching strategies for creative media experiences as well as skills in media criticism to include application at elementary and secondary levels. (Formerly EDA 441.)

ARE 4441 (EDA 450) CRAFTS WORKSHOP IN ART EDUCATION (4)
PR: Admission to College of Education and EDA 308. The study of processes and media involved in the expression of individual ideas through crafts. Emphasis placed on crafts in a contemporary society with skills in metals, weaving, fibers, and ceramics and their application in a public school curriculum.

ARE 4112 (EDA 452) ART MEDIA FOR CHILDREN (5)
An in-depth study of arts and craft media for children. Emphasis will be placed on innovative use of new materials. (Formerly EDA 521.)

ARE 4411 (EDA 455) EXPERIMENTAL FILMMAKING FOR CHILDREN (5)
A study of basic experimental film techniques and laboratory experiences with children in the public schools, community centers and non-school arts programs. (Formerly EDA 531.)

ARE 6844 (EDA 660) HISTORICAL AND PHILOSOPHICAL FOUNDATION OF ART EDUCATION (4)
Past and contemporary philosophies and practices in art education.

ARE 6262 (EDA 661) ADMINISTRATION AND SUPERVISION OF ART EDUCATION (4)
Principles of administration and supervision of art programs in the school.

ARE 6706 (EDA 682) RESEARCH SEMINAR IN ART PROGRAM (4)
PR: EDA 660 or CI. Literature and research in art education. Various approaches to problem solving and evaluation with emphasis on individual research.

ARE 6944 (EDA 698) FIELD WORK IN ART EDUCATION (2-6)
For students with degree-seeking status. Supervised participation in activities related to art education in community centers, non-school arts program, planned workshop and research.

Curriculum (EDC)

EDG 1300 (EDC 101) INTRODUCTION TO TEACHING (4)
PR: Freshman only or CI. The people with whom teachers work, the types of tasks they perform and the challenges they can anticipate. Observation of teaching at several grade levels. (S/U only.)

EDG 4200 (EDC 401) CURRICULUM AND INSTRUCTION (5)
PR: EDF 305 and 307, and admission to a teacher education program. Structure and purposes of curriculum organization with special emphasis on the quality of curriculum. Students enrolled in EDC 401 are required to spend six hours a week in public schools as pre-interns in addition to regular class hours.

EDG 4905 (EDC 480) DIRECTED STUDY (1-4)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

EDG 4910 (EDC 481) INDIVIDUAL RESEARCH (1-4)
PR: Senior standing and consent of program coordinator.

EDG 4901 (EDC 485) DIRECTED READINGS (1-4)
May be repeated for a total of 4 quarter hours.

EDG 4905 (EDC 497) INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated when subjects vary. (S/U only.)

EDG 4936 (EDC 498) SENIOR SEMINAR IN EDUCATION (3)
PR: Senior standing. Synthesis of teacher candidate's courses in his complete college program. Required concurrently with internship.

EDG 4940 (EDC 499) INTERNSHIP (1-12)
One full quarter of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. In special programs where the intern experience is distributed over two or more quarters, students will be registered for credit which accumulates to 12 quarter hours. (S/U only.)

EDG 5691 (EDC 501) CURRICULUM AND INSTRUCTION: ELEMENTARY OR SECONDARY (5)
Curriculum scope, sequence and interrelationships, with a critical evaluation of current trends.

EDE 5391 (EDC 552) CREATIVE PROBLEM SOLVING FOR THE CHILD (4)
Exploration of the concept of creativity, its factors, measurement, and application to education. Opportunities are given to work with children in a laboratory setting and to prepare materials to be used with small groups of children.

LAE 5131 (EDC 557) CURRICULUM PLANNING AND DEVELOPMENT IN SECONDARY ENGLISH (4)
PR: Certification in English or Mass Communications. Examination of new curricular policies and procedures relating to the teaching of English in the secondary school.

LAE 5137 (EDC 559) CURRICULUM EVALUATION IN SECONDARY ENGLISH (4)
PR: Certification in English or Mass Communications. Examination of new evaluation policies and procedures relating to curricula in English in the secondary school.

EDG 5925 (EDC 585) EDUCATION WORKSHOP (1-5)
Professional in-service workshop in various areas of education. May be repeated when subjects differ. Not normally used in degree programs. (S/U only.)

EDG 6205 (EDC 601) THEORETICAL ISSUES IN CURRICULUM AND INSTRUCTION (4)
PR: 8 quarter hours at the graduate level in the Foundations areas. Open only to degree-seeking graduate students. Advanced study of basic concepts and their practical application. Persistent issues and problems and development of rationale for their examination.

EDS 6050 (EDC 661) PRINCIPLES OF EDUCATIONAL SUPERVISION (5)
PR: Courses in general curriculum. Instructional leadership with emphasis on organization for curriculum improvement and in-service growth for professional school personnel.

EDA 6061 (EDC 671) PRINCIPLES OF EDUCATIONAL ADMINISTRATION (5)
Educational administration as a profession. Consideration is given to organization, control, and support of the educational system.

EDA 6232 (EDC 673) SCHOOL LAW (4)
Basic essentials of school law, a review of court decisions affecting American education, with emphasis upon the study of Florida State Statutes as they pertain to the question of Florida public schools.

EDA 6931 (EDC 674) CASE STUDIES IN SCHOOL ADMINISTRATION (4)
PR: Consent of the program and/or EDC 671. Case studies presented are designed to help prospective administrators think through various administrative problems, identify feasible solutions, and critically examine the decisions that are made. The skill of decision making is an integral focus of the course.

EDA 6242 (EDC 675) SCHOOL FINANCE (4)
PR: EDC 671 or CI. Support of public education by local, state, federal sources, with emphasis on Florida; funding for equal educational opportunity; budgeting methods.

——— (EDC 676) SCHOOL FISCAL RESOURCE ALLOCATION (4)
PR: CI. Concepts and practices in allocation and accountability of financial resources in the schools. The use of systems concepts in development, implementation, and evaluation of school budgets. PPBS and zero-base budget as decision-making techniques. Prioritizing of fiscal alternatives; allocation models. Instructional cost effectiveness. Emphasis on decision-making and accountability rather than mechanical aspects of school budgeting. Also available in non-credit workshop version. Availble to majors and non-majors.

EDA 6262 (EDC 677) PLANNING EDUCATIONAL FACILITIES (4)
PR: CI. Study of problems in the planning, construction, and utilization of educational facilities. Visitation and/or evaluation of selected school plants.

EDS 6239 (EDC 678) PROBLEMS IN SUPERVISION: SECONDARY (4)
PR: Consent of the program and/or EDC 661. The analysis of instructional problems in schools. Emphasis of the course is directed to supervisory tasks, case studies, and the application of problem solving techniques and strategies.

EDA 6106 (EDC 679) ADMINISTRATIVE ANALYSIS AND CHANGE (4)
A competency based course on the application of function analysis, the Critical Incident technique and the Delphi technique to the identification, assignment, and evaluation of administrative tasks within selected organizational settings.

EDA 6945 (EDC 680) ADMINISTRATION PRACTICUM (4-10)
PR: Completion of a significant amount of the student's program. Field experiences in school systems for the purpose of identifying and analyzing educational problems. Application of concepts developed in the student's program to the solution of these problems. (Formerly EDC 695.)

EDA 6910 (EDC 681) DIRECTED RESEARCH (var.)
PR. GR. Master's level. Repeatable. (S/U only.)

——— (EDC 683) SELECTED TOPICS IN EDUCATION (1-5)
PR: Graduate Standing and CI. Each topic is a course under the supervision of a faculty member. The title and content will vary according to the topic.

EDG 6251 (EDC 685) SCHOOL CURRICULUM IMPROVEMENT (4)
Workshop for the improvement of the curriculum of an elementary or secondary school. Open only to teachers in service. Complete faculty participation required.

ESE 6306 (EDC 689) SUBJECT SPECIALIZATION PLANNING SECONDARY (4)
Individually planned course in a secondary school subject area for in-service teachers.

EDG 6947 (EDC 691) INTERNSHIP (1-9)
PR: CI. Open to graduate degree candidates only. Supervised teaching at the secondary or junior college level as appropriate. (S/U only.)

EDG 6906 (EDC 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

EDG 6971 (EDC 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

EDG 7910 (EDC 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

EDG 7931 (EDC 783) SELECTED TOPICS (1-5)
PR: CC. Selected topics in advanced Education. May be repeated for credit to a maximum of 15 hours.

EDG 7937 (EDC 791) GRADUATE SEMINAR (1-5)
PR: CC. Seminar in advanced Education. May be repeated for credit to a maximum of 15 hours.

EEX 7980 (EDC 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Elementary Education (EDE)

EEC 2001 (EDE 201) INTRODUCTION TO EARLY CHILDHOOD EDUCATION (4)
An overview of early childhood education with emphasis on its historical development, current theories, and practices.

EDE 409 through EDE 440 open only to upper-level majors in Early Childhood, Elementary, or Exceptional Child Education.

RED 4310 (EDE 409) READING FOR THE CHILD (5)
PR: Admission to College of Education and EDF 305. Prereading, word recognition, comprehension and basic study skills and various reading approaches and reading interests; in-school work required.

LAE 4314 (EDE 411) LANGUAGE ARTS FOR THE CHILD (4)
PR: Admission to College of Education. Speaking, writing,

reading and listening experiences of children and ways these skills are developed for individual creative expression.

LAE 4414 (EDE 413) LITERATURE FOR THE CHILD (4)
PR: Admission to College of Education. History and development of children's literature. Study of bibliographic sources, criteria and techniques for selection and use.

MAE 4314 (EDE 415) ARITHMETIC FOR THE CHILD (5)
PR: Admission to College of Education and MTH 331, 332, 333, or equivalent. Methods of teaching elementary school mathematics.

SCE 4310 (EDE 417) SCIENCE FOR THE CHILD (5)
PR: Admission to College of Education and completion of General Distribution Requirement biological or physical science in sequence. Techniques and materials for teaching science in the elementary school.

SSE 4313 (EDE 419) SOCIAL STUDIES FOR THE CHILD (5)
PR: Admission to College of Education and completion of General Distribution Social Science sequence. Significant concepts in the subjects concerned with human relationships. Emphasis upon teaching pupils to solve rather than be engulfed by social problems.

ARE 4313 (EDE 421) ART FOR THE CHILD (4)
PR: Admission to College of Education. Art and the intellectual, creative, emotional, and esthetic growth of children.

MUE 4313 (EDE 423) MUSIC FOR THE CHILD: SKILLS (2)
PR: Admission to College of Education. Voice production, music reading, creative composition and some intrumental experience. School song materials used to support this work.

MUE 4311 (EDE 424) MUSIC FOR THE CHILD: METHODS (3)
PR: Admission to College of Education & EDE 423. Music Literature and teaching aids for children including singing, rhythmic, creative, instrumental and listening experiences and their presentation.

HLP 4460 (EDE 425) HEALTH AND PHYSICAL EDUCATION FOR THE CHILD (4)
PR: Admission to the College of Education. A study of the importance of movement competency and its contribution to the development of a positive self-concept in children; content and methodology for developing appropriate movement experiences for children; content and methodology for teaching elementary health science.

EEC 4303 (EDE 426) CREATIVE EXPERIENCES IN EARLY CHILDHOOD EDUCATION (4)
PR: Admission to College of Education. The development of the child's creative expression through art, music, dance, play, and drama; included are the materials content, and teaching techniques.

EEC 4203 (EDE 429) PROGRAMS IN EARLY CHILDHOOD EDUCATION (5)
PR: Admission to College of Education. A study of school programs for children ages 3-8. Analysis and evaluation of these programs in the light of the most effective current classroom practices. Observation and participation included. (Formerly EDE 529.)

EEC 4706 (EDE 435) LANGUAGE AND LEARNING IN EARLY CHILDHOOD (4)
PR: Admission to College of Education. The study of the acquisition of language in young children and the development of basic communications skills in the Language Arts Curriculum, infancy through age 8 years. (Formerly EDE 531.)

EDE 4301 (EDE 440) TEACHING METHODS IN THE ELEMENTARY SCHOOL (4)
PR: Admission to the College of Education. Suggested corequisite: EDC 401. Process of teaching elementary school subjects. To be taken quarter prior to internship. Six hours per week as pre-intern in public schools required.

MAE 4545 (EDE 445) DIAGNOSIS AND TREATMENT OF LEARNING DISABILITIES IN SCHOOL MATHEMATICS (4)
PR: EDE 415 or equivalent. Presentation and analysis of teaching methods and models appropriate for use with children experiencing learning disabilities in mathematics; supervised conduct of a case study. (Formerly EDE 515.)

EEC 5406 (EDE 519) SOCIAL GROWTH IN CHILDHOOD (4)
PR: Admission to College of Education. A study of the principal factors which influence the social development of young children with particular emphasis upon those cultural influences which affect both child development and the educational programs for the young child.

EEC 5705 (EDE 527) DEVELOPMENTAL PROCESSES IN EARLY CHILDHOOD (4)
PR: Admission to College of Education. The normal processes of development among children ages 3-8, the relation between these characteristics and the curriculum: child study through observation required.

EEC 5926 (EDE 539) WORKSHOP IN EARLY CHILDHOOD EDUCATION (4)
PR: Admission to College of Education. Individual problems and innovations related to methods and materials of instruction in the early childhood grades.

LAE 5325 (EDE 551) TEACHING METHODS IN THE MIDDLE SCHOOL—ENGLISH LANGUAGE ARTS (4)
PR: CI. Analysis of nature and communication needs of students in grades 5-8 with emphasis on laboratory methods of teaching language.

EDG 6935 (EDE 603) SEMINAR IN CURRICULUM RESEARCH (1-5)
PR: EDF 607. Critical evaluation of current research and curriculum literature, design and analysis of individual research topics leading to satisfaction of research requirements.

RED 6116 (EDE 609) TRENDS IN READING IN THE ELEMENTARY SCHOOL (4)
PR: EDE 409 and EDR 430. Extensive study of recent trends in materials, approaches, and procedures in teaching reading in the elementary school.

LAE 6616 (EDE 611) TRENDS IN LANGUAGE ARTS INSTRUCTION (4)
PR: EDE 411 and 413. Advanced materials and processes of instruction in elementary school language arts programs.

ARE 6248 (EDE 613) CREATIVE ARTS INSTRUCTION (4)
Creative processes in the teaching of visual arts, music, dance, and drama to elementary school pupils.

MAE 6116 (EDE 615) TRENDS IN MATHEMATICS INSTRUCTION (4)
PR: EDE 415 or equivalent. Philosophy, content and process of qualitative instruction in modern mathematics in elementary school programs.

SCE 6616 (EDE 617) TRENDS IN SCIENCE INSTRUCTION (4)
PR: EDE 417. Topics in the biological and physical sciences appropriate for teaching in excellent elementary school programs. Analysis of modern curriculum materials used in presenting science as a process of inquiry.

SSE 6617 (EDE 619) TRENDS IN SOCIAL STUDIES INSTRUCTION (4)
PR: EDE 419. Crucial concepts drawn from the social sciences. Analysis of the problems approach. Students will select an area of independent study on an advanced level.

ARE 6358 (EDE 621) ART FOR THE ELEMENTARY SCHOOL TEACHER (4)
Exploration of various materials and techniques in rela-

tionship to current theories about art and the intellectual, creative, emotional and esthetic growth of children.

EEC 6261 (EDE 629) ADVANCED PROGRAMS IN EARLY CHILDHOOD EDUCATION (4)
PR: EDE 429, EDF 605 or CI. A study of innovative curriculum designs in Early Childhood Education, with emphasis given to related research.

LAE 6415 (EDE 631) CHILDREN'S LITERATURE IN THE ELEMENTARY CLASSROOM (4)
PR: EDE 413. CI. A study of significant concepts, emerging trends and classroom techniques for implementation and utilization of children's literature in all areas of the curriculum.

EEC 6405 (EDE 639) HOME-SCHOOL-COMMUNITY INTERACTION IN EARLY CHILDHOOD EDUCATION (4)
PR: EDE 429, EDF 605 or CI. An intensive study of the roles of parents, teacher aides, and community agencies involved in the education of the young child.

EDS 6142 (EDE 641) PROBLEMS IN SUPERVISION (4)
PR: EDF 607 or equivalent and EDC 661. Problems in supervising for curriculum improvement within the elementary school.

MAE 6548 (EDE 645) ADVANCED DIAGNOSIS AND TREATMENT OF LEARNING DISABILITIES IN SCHOOL MATHEMATICS (4)
PR: EDE 415 or equivalent. Study of the symptoms etiologies and consequences of children's learning disabilities in mathematics; study and guided application of theoretical models used in diagnosis and treatment; supervised conduct of a case study. (Formerly EDE 515.)

MAE 6949 (EDE 646) ADVANCED PRACTICUM IN DIAGNOSIS AND TREATMENT OF CHILDREN'S LEARNING DISABILITIES IN MATHEMATICS (1-8)
PR: EDE 645. Supervised conduct of a case study with a child experiencing learning difficulties in mathematics. Procedures used and reporting practice employed developed in EDE 645 reviewed and extended. (Formerly EDE 516.)

LAE 6617 (EDE 651) THEORIES AND PATTERNS OF ADVANCED LANGUAGE ARTS INSTRUCTION (4)
PR: EDE 611 or equivalent. This course is organized to present new research findings and theories relating to language patterns and contemporary programs designed for teaching the language arts.

LAE 6746 (EDE 652) APPLICATIONS OF THEORIES TO THE DEVELOPMENT OF LANGUAGE ARTS PROGRAMS (4)
PR: EDE 611 or equivalent, EDE 651. This course is designed to apply research findings and theories for developing and organizing instructional improvement of the language arts.

EDE 6515 (EDE 687) SUBJECT SPECIALIZATION PLANNING: ELEMENTARY (4)
Individually planned course in an elementary school subject area for in-service teachers.

English Education (EDT)

LAE 4642 (EDT 431) CURRENT TEACHING OF ENGLISH LANGUAGE AND MEDIA (4)
PR: Acceptance into College of Education. EDT 431, EDT 447, and EDC 401 are typically taken concurrently. Methods of teaching language and media. Includes current findings on teaching usage, dialect, grammar, and semantics, as well as approaches to media in English.

SED 4334 (EDT 447) METHODS OF TEACHING ENGLISH— LITERATURE AND READING (4)
PR: EDT 431, EDT 447, and EDC 401 are typically taken concurrently. A survey of materials available to adolescent readers plus an overview of organizational strategies for teaching literature and reading.

——— (EDT 471) EDUCATION THROUGH DRAMA (4)
A study of the dramatic process as intrinsic in human development, this course is designed to enrich the education of preservice teachers by providing training in the use of creative drama and related forms of improvised drama in the classroom.

LAE 5932 (EDT 583) SELECTED TOPICS IN THE TEACHING OF ENGLISH (4)
PR: Certification in English and/or Mass Communications and approval of graduate adviser. Investigation of topics which are of special interest to the student and are related to the teaching of English in the secondary school. Topics will be selected by the student in accordance with his particular goals and will be approved by the student's graduate adviser.

LAE 6637 (EDT 631) CURRENT TRENDS IN SECONDARY ENGLISH EDUCATION (4)
Curricular patterns and instructional practices in secondary English.

LAE 6644 (EDT 633) CURRENT TEACHING OF THE ENGLISH LANGUAGE (4)
Application of recent techniques of language study to classroom teaching of English, especially in relation to current textbooks.

LAE 6336 (EDT 651) NEW PERSPECTIVES ON THE TEACHING OF LITERATURE IN SECONDARY SCHOOLS (4)
PR: Certification in English or Mass Communications. Survey of recent investigation into adolescents' perception of and responses to literature and implications for organization and presentation of literature curricula.

LAE 6634 (EDT 661) NEW PERSPECTIVES ON THE TEACHING OF MEDIA IN SECONDARY ENGLISH (4)
PR: Certification in English of Mass Communications. An examination of new methods and materials designed specifically for media based activities in the secondary English classroom.

——— (EDT 671) EDUCATION THROUGH ADVANCED DRAMA (4)
Theories and methods of teaching creative drama and related forms of improvised drama and playmaking with supervised teaching of creative dramatics in a school environment.

Exceptional Child Education (EDS)

EEX 3010 (EDS 311) EXCEPTIONAL CHILDREN AND YOUTH (4)
Characteristics and needs of Specific Learning Disabilities. Emotional Disturbance and Socially Maladjusted, Gifted, Hearing Impaired, Mentally Retarded, Physically Handicapped, Speech Impaired, and Visually Limited.

EMR 3011 (EDS 322) INTRODUCTION TO MENTAL RETARDATION (4)
PR: EDS 311. Introduction to the classification, diagnosis, characteristics, and treatment of the mentally retarded.

EMR 3800 (EDS 329) UNDERGRADUATE SUPERVISED PRACTICUM IN MENTAL RETARDATION (6)
PR: EDS 322 and major in Mental Retardation. Supervised Practicum experiences in the educational, social and vocational programming for mentally retarded individuals. A one hour per week Seminar is required concurrently.

EGI 3011 (EDS 350) INTRODUCTION TO GIFTED CHILDREN (4)
PR: Junior class standing. Diagonosis, characteristics, and educational provision of the gifted and talented.

EGI 3941 (EDS 359) FIELD WORK WITH GIFTED CHILDREN (1-6)
Organized, supervised experiences with gifted children. Specific experiences may be either a combination of observation

and assistance with gifted children or individualized projects.

EEX 4221 (EDS 411) EDUCATIONAL ASSESSMENT OF EXCEPTIONAL CHILDREN (4)
PR: EDF 305, EDS 311, EDS 322 or EDS 431 or EDS 481 and an Exceptional Child Education major. Introduction to and familiarization with formal and informal techniques used to measure and evaluate all exceptional children. The interpretation of information so derived for utilization in educational programming and individualization of instruction. Lecture-Lab.

EMR 4310 (EDS 423) PROCEDURES AND MATERIALS FOR ELEMENTARY AGE EDUCABLE MENTALLY RETARDED CHILDREN (4)
PR: EDS 322 and an Exceptional Child Education major. Special class organization, curriculum development, procedures and materials for elementary age educable mentally retarded children.

EMR 4321 (EDS 424) EDUCATIONAL PROCEDURES FOR THE TRAINABLE MENTALLY RETARDED (4)
PR: EDS 322 and an Exceptional Child Education major. Special class organization, curriculum development, methods and techniques of teaching the trainable retarded.

EMR 4313 (EDS 425) PROCEDURES AND MATERIALS FOR SECONDARY AGE EDUCABLE MENTALLY RETARDED YOUTH AND ADULTS (4)
PR: EDS 322 and an Exceptional Child Education major. Special class organization, curriculum development, procedures and materials for secondary age educable mentally retarded youth and adults.

EED 4011 (EDS 431) BEHAVIOR DISORDERS IN THE SCHOOLS (4)
PR: EDF 305, EDS 311, or CI. Survey of emotional and social disorders in children and youth manifested as behavior problems in the classroom; intervention techniques; implications for management techniques in educational programs.

EED 4321 (EDS 432) EDUCATIONAL PROGRAMMING FOR CHILDREN AND YOUTH WITH BEHAVIOR DISORDERS (5)
PR: EDF 305, EDS 311, EDS 411, EDS 431. Acceptance in Program for Emotional Disturbance. Methods and techniques for teaching children and youth with behavior disorders; individualization of instruction; planning and implementation of educational programs; precision teaching and behavior modification techniques as applied to the education of children and youth with behavior disorders.

EED 4941 (EDS 439) UNDERGRADUATE SUPERVISED PRACTICUM IN BEHAVIOR DISORDERS (1-10)
PR: Acceptance in undergraduate program for Emotionally Disturbed. Supervised undergraduate practicum experiences with children and youth with behavior disorders. A one hour per week Seminar is required concurrent with practicum.

EGI 4231 (EDS 451) EDUCATION PROCEDURES FOR THE GIFTED (4)
PR: Junior class standing, EDS 350. Curriculum adjustment, methods, and techniques appropriate for the education of gifted children. Supervised experiences exploring creative techniques and the development of innovative teaching techniques will be provided.

ELD 4011 (EDS 481) THEORIES IN SPECIFIC LEARNING DISABILITIES (4)
PR: EDS 311. Characteristics, needs and abilities of children with specific learning disabilities. Emphasis is on theories, issues, trends, and philosophy of problems for such children.

ELD 4110 (EDS 482) SKILLS IN DIAGNOSIS AND INSTRUCTION FOR CHILDREN WITH SPECIFIC LEARNING DISABILITIES (4)
PR: EDS 481 and an Exceptional Child Education major. Instructional diagnosis and individualizing instruction for children with specific learning disabilities.

——— (EDS 489) UNDERGRADUATE SUPERVISED PRACTICUM IN SPECIFIC LEARNING DISABILITIES (6)
PR: EDS 311, EDS 481, EDS 482 and major in Specific Learning Disabilities. Supervised practicum experiences in classes for children with specific learning disabilities. (Formerly EDS 389.)

EMR 5012 (EDS 511) THE SLOW LEARNER IN THE SCHOOL (4)
Characteristics, needs and educational planning for the slow learning child. Appropriate for special class teachers and regular class teachers.

EMR 5803 (EDS 529) GRADUATE SUPERVISED PRACTICUM IN MENTAL RETARDATION (1-14)
Supervised graduate practicum encompassing teaching and supervising experiences in public school classes for the mentally retarded.

EDG 5734 (EDS 541) THE CULTURALLY DISADVANTAGED AND THE SCHOOLS (4)
Characteristics and needs of the culturally disadvantaged and their implications for educational programming.

EGI 5051 (EDS 550) NATURE AND NEEDS OF THE GIFTED (4)
Characteristics and educational needs of gifted children and youth.

EGI 5232 (EDS 551) EDUCATIONAL PROCEDURES FOR THE GIFTED (4)
PR: EDS 550 or CI. Curriculum adjustments, methods and techniques, classroom organization necessary for teaching the gifted.

EGI 5942 (EDS 559) SUPERVISED PRACTICUM FOR THE GIFTED (1-14)
Planned supervised participation in activities related to specific areas of the gifted.

EVI 5311 (EDS 560) THE VISUALLY HANDICAPPED IN THE CLASSROOM (4)
PR: EDS 311 and CI. The visually handicapped in the classroom, structure, hygiene and educational implications.

EPH 5051 (EDS 561) EDUCATIONAL PROBLEMS OF THE PHYSICALLY HANDICAPPED (4)
PR: EDS 311 or CI. Introduction to the educational, psychological and social problems of the physically disabled child in the public schools.

EPH 5321 (EDS 562) TEACHING THE CEREBRAL PALSIED CHILD (4)
PR: EDS 311 or CI. Introduction to the educational, psychoaspects of cerebral palsy and its implications for classroom teachers.

EEX 6936 (EDS 610) SEMINAR IN EXCEPTIONAL CHILD EDUCATION (4)
A critical survey of the literature related to the psychological, sociological, and education problems of exceptional children.

EEX 6201 (EDS 611) PSYCHO-EDUCATIONAL APPRAISAL OF EXCEPTIONAL CHILDREN (4)
PR: EDS 311 or EDS 610, EDS 411, EDF 605. Educational planning for exceptional children based on diagonostic information. Includes both lecture and practicum experiences in evaluative and instructional techniques for exceptional children.

EEX 6510 (EDS 612) SUPERVISION OF EXCEPTIONAL CHILD PROGRAMS (4)
PR: CI. Principles of supervision and their application to exceptional child education.

EEX 6511 (EDS 613) ADMINISTRATION OF EXCEPTIONAL CHILD PROGRAMS (4)
PR: CI. Procedure which local, state, and national adminis-

trators may use to implement services for exceptional children.

EMR 6932 (EDS 620) BIOLOGICAL ASPECTS OF MENTAL RETARDATION (4)
PR: EDS 322 or CI. The contribution of biological factors towards the causation of mental deficiency; implications for casefinding, care, and education.

EEX 6934 (EDS 621) SOCIOLOGICAL AND EDUCATIONAL ASPECTS OF MENTAL RETARDATION (4)
PR: EDS 311 or EDS 610. Evaluation of relevant literature.

EEX 6303 (EDS 622) ADVANCED EDUCATIONAL PROCEDURES FOR THE MENTALLY RETARDED (4-8)
PR: EDS 423 or EDS 424. Specific curriculum and methodological problems in teaching the retarded.

EEX 6935 (EDS 623) CURRENT TRENDS AND ISSUES IN THE EDUCATION OF THE MENTALLY RETARDED (4)
Survey of current trends and issues related to the education of the mentally retarded.

EED 6201 (EDS 631) EDUCATIONAL IMPLICATIONS OF PATHOLOGICALLY DISTURBED CHILDREN AND YOUTH (4)
PR: EDS 431. In depth survey of mild, moderate, and severe behavioral pathologies of children and youth. Includes such topics as autism, schizophrenia, and other neurotic and psychotic disorders. Guided exploration of exemplary services, and methodologies.

EED 6221 (EDS 632) MANAGEMENT METHODS AND TECHNIQUES FOR DISTURBED CHILDREN IN AN EDUCATIONAL SETTING (4)
PR: EDS 631 or EDF 635, graduate standing. Management methods with disturbed children in an ongoing educational setting. Includes behavior modification, reality therapy, psychodynamic interventions, and humanistic approaches. Basic evaluation techniques of intervention strategies, including Precision Teaching, are covered. Practical applications are stressed.

EED 6211 (EDS 633) EDUCATIONAL PROGRAMMING FOR EMOTIONALLY DISTURBED CHILDREN (4)
PR: Acceptance in Masters Degree Program in Emotional Disturbance, EDS 611, EDS 631, EDS 632. Advanced methods and materials in planning and implementing appropriate educational interventions with disturbed students.

——— (EDS 634) PROCEDURES FOR EDUCATING DISTURBED ADOLESCENTS AND YOUTH (4)
PR: EDS 631, EDS 632, EDF 502. Procedures in implementing educational programs for the disturbed adolescent including community resource utilization, educational programming, advocacy, and alternative programs.

EED 6943 (EDS 639) SUPERVISED PRACTICUM IN EMOTIONALLY DISTURBED (1-14)
PR: EDS 680 (may be taken concurrently). Supervised graduate practicum experiences with emotionally disturbed children. A one hour per week Seminar is required concurrent with practicum.

EEX 6732 (EDS 643) GUIDANCE AND COUNSELING OF EXCEPTIONAL CHILDREN AND THEIR PARENTS (5)
PR: EDS 610 and CI. Investigation of the guidance needs of exceptional children and parents. Through child study techniques, opportunities wll be provided for the development of skills in guiding parents of exceptional children in providing assistance/support in their total development and use of potential.

EDG 6946 (EDS 649) FIELD WORK WITH POTENTIALLY HANDICAPPED (CULTURALLY DISADVANTAGED) (1-9)
Teaching and participation in activities related to teaching disadvantaged young children (N-3).

EGI 6936 (EDS 653) SEMINAR IN EDUCATION OF THE GIFTED: RECENT RESEARCH (4)
A critical survey of the literature related to the psychological and educational problems of gifted children.

EGI 6937 (EDS 654) SEMINAR IN EDUCATION OF THE GIFTED: PROGRAMS (4)
A survey of existing programs for the gifted and evaluation of relevant literature. Individual students will plan and present a model program for the gifted.

ELD 6141 (EDS 680) CURRENT TRENDS AND ISSUES RELATED TO EDUCATING SPECIFIC LEARNING DISABILITIES CHILDREN (4)
PR: CI. Trends and issues related to educating children with specific learning disabilities. (Formerly EDS 681.)

ELD 6115 (EDS 682) ADVANCED ASSESSMENT AND PROCEDURES FOR SPECIFIC LEARNING DISABLED YOUNGSTERS (4)
PR: CI. Concepts related to the assessment and teaching of specific learning disabled children.

EEX 7741 (EDS 700) PHILOSOPHY AND PROCESS IN THE PREPARATION OF SPECIALISTS IN EXCEPTIONAL CHILD EDUCATION (4)
PR: Admission in the Program for ED.S. and Ph.D. in Education. In depth exploration of the philosophy and theory in special education. A theoretical basis for the preparation of specialists in the field of exceptional child education.

EEX 7930 (EDS 710) SEMINARS IN EXCEPTIONAL CHILD EDUCATION (1-10)
PR: Preliminary Admission to the Graduate Program and CI. Seminar Topics will vary to include neurophysiological mechanisms, current trends, issues, and curriculum development in Special Education. May be repeated for a maximum of 10 hours.

EEX 7341 (EDS 712) RESEARCH STUDIES AND THEIR IMPLICATIONS IN THE EDUCATION OF EXCEPTIONAL CHILDREN (5)
PR: EDF 605, 607 or equivalent- CI. This course will involve a study of current research in exceptional child education. The transition from theory into practice will be made through the examination and discussion of implications to the field of special education that can be drawn from the research.

EEX 7203 (EDS 714) EDUCATIONAL IMPLICATIONS OF PSYCHOSOCIAL ASPECTS OF EXCEPTIONAL CHILDREN (1-8)
PR: CI. This course will be concerned with the identification of the psycho-social needs and characteristics of exceptional children. Opportunity will also be given to the analysis of the educational implications of these needs and characteristics. May be repeated for a maximum of 8 hours.

EEX 7841 (EDS 719) FIELDWORK WITH EXCEPTIONAL CHLDREN (1-8)
PR: CI. Practical field experience in curriculum development, classroom teaching, supervision and/or administrative areas in special education. May be repeated for a maximum of 8 hours.

EEX 7301 (EDS 783) SELECTED TOPICS IN EXCEPTIONAL CHILD EDUCATION (1-12)
PR: EDS 712 or CI. Identification and specification of a research problem in special education. Opportunity will be provided for the student to gather and process data, culminating in a written report and/or oral presentation to fellow student researchers. May be repeated for a maximum of 12 hours.

EEX 7911 (EDS 785) SPECIALIZED STUDY IN: MENTAL RETARDATION, EMOTIONAL DISTURBANCE, SPECIFIC LEARNING DISABILITIES, AND GIFTED EDUCATION (1-12)
PR: CI. Exploration and demonstration of knowledge in an area of interest to the student in special education. The specialized study may also include areas for which the student needs to demonstrate a higher level of competency. May be repeated for a maximum of 12 hours.

Foreign Language Education (EDX)

FLE 4333 (EDX 449) TEACHING METHODS IN THE SECONDARY SCHOOL—FOREIGN LANGUAGE (4)
PR: EDC 401 or concurrent registration in EDC 401. Techniques and materials of instruction in foreign languages. To be taken in the quarter prior to internship.

FLE 4335 (EDX 465) TEACHING METHODS IN THE SECONDARY SCHOOL—LATIN (4)
PR: EDC 401 or concurrent registration in EDC 401. Techniques and materials of instruction in Latin.

FLE 6665 (EDX 649) CURRENT TRENDS IN SECONDARY FOREIGN LANGUAGE EDUCATION (4)
PR: Consultation with instructor, plus foreign language fluency. Curricular patterns and instructional practices in the teaching of secondary foreign languages.

Foundations (EDF)

EDF 3430 (EDF 303) INTRODUCTION TO MEASUREMENT AND EVALUATION (4)
PR: Upper level standing. Elementary concepts basic to a general understanding of measurement and evaluation procedures.

EDF 3214 (EDF 305) HUMAN DEVELOPMENT AND LEARNING (4)
PR: General Psychology and admission to College of Education or CC. Application of respondent and operant learning principles to classroom learning, teaching models for different instructional goals, analysis of teacher behavior, microteaching.

EDF 3604 (EDF 307) SOCIAL FOUNDATIONS OF EDUCATION (4)
PR: Admission to College of Education. Social, economic and political context within which schools function and the values which provide direction for our schools; the culture as a motivating influence in instruction. Should not be taken concurrently with EDF 305.

EDF 3542 (EDF 309) PHILOSOPHY OF EDUCATION (4)
PR: Upper level standing. A critical analysis of selected philosophies of education in terms of their beliefs about the nature of man and society and their related assumptions about the nature of reality, knowledge and value.

EDF 3710 (EDF 311) COMPARATIVE EDUCATION (4)
PR: Upper level standing. A comparison of contemporary educational systems of selected countries with that of the United States.

EDF 3554 (EDF 313) VALUES CLARIFICATION FOR TEACHERS (4)
PR: Junior standing recommended. Techniques for teachers in identifying and analyzing values and value orientations of individuals and groups of students in the school.

EDF 3210 (EDF 377) EDUCATIONAL PSYCHOLOGY (4)
PR: Upper Level standing. The application of behavioral principles to human behavior in educational institutions, home and community settings. May not be counted for EDF 305. (For non-education majors only.)

EDF 3228 (EDF 379) BEHAVIOR MODIFICATION TECHNIQUES (5)
PR: EDF 305. Special techniques in behavior modification for children with learning difficulties. Minimum of two hours field experience per week required in addition to regular class hours.

EDF 4801 (EDF 444) WOMEN AND THE EDUCATIONAL PROCESS (4)
PR: Junior standing recommended. Covers both the role women played in education in the U.S. and the way schools have helped to shape the role women play in American society. Topics include development of sex-role stereotypes through classroom interactions and curriculum materials. the status of women in public and higher education and laws affecting it, and the role of the schools in forming educational and career aspirations of girls and women. Emphasis will be placed on ways parents and teachers may counteract the sex-typing which schools, as they are currently structured, perpetuate. (Also offered as WSP 444.)

EDF 5136 (EDF 502) ADOLESCENCE (4)
A study of the educational, intellectual, personality, physical, social and vocational factors in adolescence.

EDF 5672 (EDF 575) AMERICAN DEMOCRACY AND PUBLIC EDUCATION (4)
Interdependence of the public school and democracy in the United States and the responsibility of the school in fostering and strengthening basic democratic principles.

EDF 5285 (EDF 585) PROGRAMMED INSTRUCTION AND TEACHING MACHINES (4)
Principles for programming in the several academic subjects.

EDF 6431 (EDF 605) FOUNDATIONS OF MEASUREMENT (4)
Fundamental descriptive statistics, basic measurement concepts, role of measurement in education, construction of teacher-made tests and interpretation of standardized tests.

EDF 6481 (EDF 607) FOUNDATIONS OF EDUCATIONAL RESEARCH (4)
PR: EDF 605. Major types of educational research, with emphasis upon understanding the experimental method.

EDF 6211 (EDF 611) PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (4)
Selected topics in psychology of human development and learning.

EDF 6120 (EDF 612) CHILD DEVELOPMENT (4)
PR: EDF 611 or CI. Educational, emotional, hereditary, intellectual, social and physical factors influencing child growth and development.

EDF 6215 (EDF 613) PRINCIPLES OF LEARNING (5)
A consideration of several theories of learning and related research studies in regard to classroom application.

EDF 6213 (EDF 615) BIOLOGICAL BASES FOR LEARNING AND BEHAVIOR (5)
PR: One course in Educational Psychology. A study of human biological development and its influence upon learning and behavior.

EDF 6143 (EDF 617) MEASUREMENT OF INDIVIDUAL INTELLIGENCE (5)
PR: EDF 305 or 605 or equivalent and a course in educational measurement of statistics. Administration and interpretation of individual measures of intelligence. Students may not receive credit for both EDF 617 and PSY 617. Individual Intelligence Testing.

EDF 6606 (EDF 621) SOCIO-ECONOMIC FOUNDATIONS OF AMERICAN EDUCATION (4)
Significant socio-economic factors as they relate to major problems facing American education.

EDF 6517 (EDF 623) HISTORICAL FOUNDATIONS OF AMERICAN EDUCATION (4)
Historical and comparative problems in American education which are relevant to contemporary issues.

EDF 6544 (EDF 625) PHILOSOPHICAL FOUNDATIONS OF AMERICAN EDUCATION (4)
Major philosophies of education which are relevant to an understanding of contemporary educational issues.

EDF 6712 (EDF 627) PROSEMINAR IN COMPARATIVE EDUCATION (4)
Contemporary policies and practices in education in selected countries of the world. Methodology in Comparative Education. Consideration will be given to needs and interests of individual students.

EDF 6354 (EDF 631) THEORIES OF PERSONALITY FOR SCHOOL PERSONNEL (4)
A comparative and integrated study of personality development according to major psychological theories. Application of the theoretical constructs to education and guidance.

EDF 6217 (EDF 635) BEHAVIOR THEORY AND CLASSROOM LEARNING (4)
PR: EDF 613 or CI. Theoretical and practical application of behavior modificiation. Will cover: Introduction into experimental methods, e.g., independent, dependent variables; and internal validity; principles of positive reinforcement; shaping and successive approximations; application of reinforcement (parameters); operant behavior under extinction; operant methods in behavior and development; readings in behavior modificiation—critical analysis; field work.

EDF 6805 (EDF 644) WOMEN AND EDUCATION (4)
Course is designed to enable public school personnel, teachers, counselors, administrators and other professionals, to identify those aspects of public education which perpetuate sex role stereotyping. Emphasis will be placed on how the law and formal and informal affirmative action activities can be employed to correct sexism in schools.

EDF 6938 (EDF 671) SELECTED TOPICS (2-4)
PR: CI. Exploration and demonstration of knowledge in an area of special interest to the student and/or in an area for which the student needs to demonstrate a higher level of competence. Defined to fit the needs of each student.

EDF 6944 (EDF 675) FIELD EXPERIENCE (1-5)
PR: CI. Demonstrate skills in the practice of the student's specialty. Specific objectives will be defined according to the needs of the individual student.

EDF 7682 (EDF 701) EDUCATION IN METROPOLITAN AREAS (4)
PR: Gradate Standing: EDF 621, 623, or 625 or CI. An examination of the school as a formal, socializing institution in relationship to the residential populations found within the metropolitan structure with specific reference to methodologies useful for educational planning. Topics will include an identification of the metropolitan concept; an analysis of metropolitan concept; an analysis of metropolitan forms, functions and dynamics; a study of socio-economic structure and ethnic composition of residential populations; and a discussion of the school as a metropolitan institution interacting with a spectrum of socio-economic and ethnic groups.

EDF 7610 (EDF 702) SCHOOL REFORM (4)
PR: Graduate Standing; EDF 621, 623, or 625 or CI. An examination of the history, background, sources, dynamics and effects of attempts at school reform. Topics will include role of individuals, foundations, legislation, demography, politics, media, and technology as they relate to reform aims and strategies; distinctions between short term planning for change and the preparation of long-term future strategies.

EDF 7649 (EDF 703) ANALYSIS OF EDUCATIONAL ISSUES (4)
PR: Graduate Standing; EDF 621, 623, or 625 or CI. An examination and analysis of selected critical issues in public schooling in terms of their axiological, historical, and socio-cultural bases. Incudes such topics as: problems of curriculum reform, influence of legislation and court rulings on school teaching and administration, teachers' organizations, and problems of educational support. Emphasis will be placed on ways of conceptualizing and evaluating problems and issues.

EDF 7586 (EDF 704) CLASSICS IN EDUCATIONAL RESEARCH (4)
PR: Graduate Standing; EDF 621, 623, or 625 or CI. An examination of the context, methodology, and impact of significant research studies in education. Topics will include studies of the Herbartians, J. M. Rice, E. L. Thorndike, G. S. Hall, L. P. Ayers, Willard Waller, the Reading Studies, the Eight Year Study, and School Surveys.

Guidance (EDG)

EGC 4001 (EDG 401) INTRODUCTION TO GUIDANCE (5)
PR: Upper level standing. An introduction to the role and function of guidance, school psychology, social work and other pupil personnel services from kindergarten through junior college.

EGC 4053 (EDG 402) INTRODUCTION TO STUDENT PERSONNEL WORK IN HIGHER EDUCATION (5)
PR: CI. Study of student personnel services in institutions of higher education. Identification of the needs of students and of the ways to respond to meet these needs. Survey of service units on a campus, in terms of structure, organization, funding and evaluation of each unit.

EGC 4660 (EDG 404) PROBLEMS IN RESIDENCE HALL MANAGEMENT (2)
PR: CI. In-depth study of problems related to residence hall living.

EGC 5034 (EDG 503) GUIDANCE IN VOCATIONAL EDUCATION (4)
PR: CI. Application of guidance theories and skills to the work of vocational educators. The guidance role of teachers and their relationships with counselors in providing guidance services.

EGC 5105 (EDG 529) COMPARATIVE GUIDANCE (4)
PR: CI. Study of guidance theories and practices in selected foreign countries as compared with the American guidance model. Evaluation of foreign guidance through critical analysis of primary sources. For example: guidance philosophy and practice in countries of the Soviet Bloc. (Formerly EDG 629)

EGC 6005 (EDG 601) PRINCIPLES OF GUIDANCE (5)
PR: CI. Required first course in specialization sequence for all guidance majors. Guidance as a profession; philosophic framework of the guidance program, its scope and place in the total educational context.

EGC 6305 (EDG 603) THE INFORMATIONAL SERVICE IN GUIDANCE (4)
PR: EDG 601. Occupational structure in the United States; sources and uses of educational, occupational, social and personal information; collecting, classifying and communicating such information.

EGC 6225 (EDG 609) THE APPRAISAL PROCEDURES IN GUIDANCE (5)
PR: EDF 605, EDG 601. A study of test and non-test techniques of appraisal with emphasis on the use of standardized test data in guidance programs and the use of the individual case study approach.

EGC 6625 (EDG 613) ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES IN ELEMENTARY SCHOOLS (3)
PR: EDG 601. Organization of a guidance program in the elementary school, its relation to instruction and adminis-

tration. Guidance roles and relationships of members of the school staff.

EGC 6645 (EDG 615) ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES IN SECONDARY SCHOOLS (3)
PR: EDG 601. Organization of a guidance program and its place in the total educational program; responsibilities of various staff members and their relationships to each other.

EGC 6506 (EDG 617) GROUP PROCEDURES IN GUIDANCE IN ELEMENTARY SCHOOLS (3)
PR: EDG 601 and EDG 621. Counterpart of EDG 619 for prospective secondary school counselors. Use of groups in the counseling and guidance of children and in working with parents and teachers.

EGC 6507 (EDG 619) GROUP PROCEDURES IN GUIDANCE IN SECONDARY SCHOOLS (3)
PR: EDG 601 and EDG 623. Group interaction and values of group activity for guidance purposes. Methods and techniques for working with groups.

EGC 6464 (EDG 621) THE COUNSELING SERVICE IN GUIDANCE IN ELEMENTARY SCHOOLS (5)
PR: EDG 601 and EDF 631. Counterpart of EDG 623 for prospective secondary school counselors. Counseling viewed as communications through media appropriate to children.

EGC 6435 (EDG 623) COUNSELING THEORIES AND PRACTICES (5)
PR: EDG 601 and EDF 631. CI. Nature of the counseling process with emphasis on some theoretical approaches and practical techniques.

EGC 6830 (EDG 625) PRACTICUM IN ELEMENTARY GUIDANCE COUNSELING AND CONSULTING (6)
This course is the counterpart of EDG 627 for prospective secondary school counselors; enrollment by permission of program chairman only. Counseling with children in groups as well as individually; consultations with parents, teachers, administrators, and fellow professionals regarding the children being counseled. (S/U only.)

EGC 6835 (EDG 627) PRACTICUM IN SECONDARY SCHOOL GUIDANCE COUNSELING (6)
Final course in guidance program; enrollment by permission of program chairman only. Supervised practice in working with individuals in counseling relationship. (S/U only.)

EGC 6935 (EDG 633) SEMINAR IN GUIDANCE (1-3)
PR or CR: EDG 601, CI. Significant issues in the field of guidance; topics for discussion will vary according to needs and interests of students. May be repeated for credit for a maximum of 6 hours. (S/U only.)

EGC 6905 (EDG 679) INDIVIDUAL STUDY (1-5)
PR: CI. Independent study, research and experiences relating to guidance and pupil personnel services under the supervision of a member of the Guidance Program faculty. (May be repeated for maximum total of 5 hours.) (Formerly EDG 681.)

Health Education (HEN)

HES 2000 (HEN 201) CONTEMPORARY HEALTH SCIENCE (4)
A comprehensive approach to health concerns and problems in contemporary society, including methods of assessing individual health needs. (S/U only.)

HES 3300 (HEN 310) PROCESSES AND PROGRAMS IN HEALTH EDUCATION (3)
PR: Admission to Health Education Program, or CI. Survey of programs in Health Education in the schools and community. Processes in programs and curriculum development will also be emphasized. (S/U only.)

HES 3120 (HEN 311) STRUCTURE AND FUNCTION OF THE HUMAN BODY (6)
PR: Admission to Health Education Program, or CI. A study of the normal structure and function of the human body. Focus is on the relationship of structure, function, and health status. (S/U only.)

HES 3140 (HEN 321) HEALTH EDUCATION AND RELATED HEALTH SCIENCE CONTENT: CHILDREN (4)
PR: Admission to the program or CI. Programs, curriculum, health services, and health education related to health needs and interests of children. (S/U only.)

HES 3190 (HEN 322) SEMINAR AND INTERNSHIP —CHILD HEALTH EDUCATION AND PROGRAMS (5)
PR: Admission to program. Supervised field experiences in school (k-3), pre-school, and community health agencies. Scheduled seminars will be conducted on campus and in the field. (S/U only.)

HES 3141 (HEN 331) HEALTH EDUCATION AND RELATED HEALTH SCIENCE CONTENT: PUBESCENCE (4)
PR: Admission to the program or CI. Programs, curriculum, health services and health education related to health needs and interest of pubescence. (S/U only.)

HES 3191 (HEN 332) SEMINAR AND INTERNSHIP IN HEALTH EDUCATION PROGRAMS— PUBESCENCE (5)
PR: Admission to the program or CI. Supervised teaching in health education (middle school or junior high school). Selected field experiences in community health programs. (S/U only.)

HES 3510 (HEN 334) CONSUMER HEALTH (4)
PR: Admission to HEN program or CI. An investigation of advertising and consumer practices in relation to health care. (S/U only.)

HES 3244 (HEN 335) HEALTH COUNSELING (4)
PR: Admission to HEN program or CI. A study and application of theory and methods of health counseling. (S/U only.)

HES 4142 (HEN 411) HEALTH EDUCATION AND RELATED HEALTH SCIENCE CONTENT: ADOLESCENTS AND YOUNG ADULTS (4)
PR: Admission to the program or CI. A study of health needs, programs, services and health content areas of adolescents and young adults. (S/U only.)

HES 4192 (HEN 412) SEMINAR AND INTERNSHIP: HEALTH EDUCATION AND PROGRAMS— ADOLESCENTS AND YOUNG ADULTS (5)
PR: Admission to the program or CI. Supervised teaching in senior high schools and selected field experiences in community health programs. (S/U only.)

HES 4143 (HEN 421) HEALTH EDUCATION AND RELATED HEALTH SCIENCE CONTENT: ADULTS (4)
PR: Admission to the program or CI. A study of health needs, services and health education programs focusing on adults, including the aging. (S/U only.)

HES 4193 (HEN 422) SEMINAR AND FIELD EXPERIENCE: ADULT HEALTH (5)
PR: Admission to the program. Supervised field experiences in adult health programs in schools and the community. (S/U only.)

HES 4276 (HEN 424) HEALTH CARE DELIVERY SYSTEMS (4)
PR: Admission to HEN program or CI. An investigative study and evaluation of health care delivery systems in the U.S. and other countries. (S/U only.)

HES 4722 (HEN 431) CURRENT PROBLEMS IN HEALTH (4)
PR: Admission to the program or CI. An investigation of current health problems, programs and research methods. (S/U only.)

HES 4294 (HEN 432) SEMINAR AND FIELD EXPERIENCE: CURRENT HEALTH PROBLEMS (5)
PR: Admission to the program. Supervised field experience in selected health programs. (S/U only.)

Humanities Education (EDY)

HUM 4870 (EDY 433) CURRENT TRENDS IN THE TEACHING OF HUMANITIES (4)
Curricular patterns, materials, and instructional practices in the teaching of humanities. (Formerly EDY 533)

Junior College (EDH)

EDH 6061 (EDH 651) THE JUNIOR COLLEGE IN AMERICAN HIGHER EDUCATION (4)
History of higher education, philosophical and cultural bases for definition of its role, and contemporary issues, such as control, financing, and curricular patterns. The place and problems of the community junior college will be central concerns of this course.

EDH 6938 (EDH 653) SEMINAR IN COLLEGE TEACHING (5)
Implications of learning theory and student characteristics for teaching at the college level. Types of teaching procedures, innovation, evaluation, student freedom and responsibility for learning.

Library-Audiovisual Education (EDL)

LIS 4301 (EDL 418) INTRODUCTION TO AV EQUIPMENT AND PRODUCTION (5)
PR: Upper level standing in the College of Education or CI. Knowledge of essential hardware for classroom teaching; including running and maintenance. Simple production of teaching materials. Organization and use of materials and equipment in teaching situations. No credit given to Library Science/Audiovisual majors.

LIS 5016 (EDL 500) FOUNDATIONS OF LIBRARIANSHIP (4)
Overview of and introduction to the study of library service; history; organization; specialized literature; outstanding leaders; current trends, issues, and problems. Place of the library in society with its contributions to that society. (Formerly EDL 600.)

LIS 5333 (EDL 508) TELEVISION IN THE SCHOOL (4)
Utilization of open and closed circuit broadcasting in the instructional process.

LIS 5457 (EDL 520) MEDIA AND EDUCATIONAL FACILITIES (3)
Designing teaching stations and media centers for effective media utilization. Practice in helping classroom teachers modify existing classrooms in the use of newer media.

LIS 5315 (EDL 525) INSTRUCTIONAL GRAPHICS (4)
PR: CI. Theoretical aspects, planning and production of instructional graphic material. The theory of graphic communications. Interpreting needs for instructional materials appropriate for given behavioral objectives.

LIS 5321 (EDL 526) PREPARING SINGLE CONCEPT FILMS (4)
PR: CI. Techniques and procedures in the preparation of educational films. Ascertaining concepts, script writing, graphics, lighting, filming, editing.

LIS 6409 (EDL 600) INTRODUCTION TO LIBRARY ADMINISTRATION (4)
Behavioral approach to planning, organizing, staffing and controlling libraries as organizations; identification of administrative principles, theories, and problems of all types of libraries; critical examination of methods of administration supporting library functions, programs, and services; fiscal and legal responsibilities of libraries.

LIS 6520 (EDL 601) SELECTION OF LIBRARY MATERIALS (4)
Bibliographical sources, evaluative criteria for books and principles of book selection for libraries.

LIS 6110 (EDL 602) HISTORY OF LIBRARIES (4)
Development of libraries as found from the earliest records to the great libraries of modern times and the library as a social institution.

LIS 6260 (EDL 603) INFORMATION SCIENCE IN LIBRARIANSHIP (4)
Historical overview of the emergence of information science as a discipline. The fundamental concepts of information retrieval systems and subsystems, related information technologies, and their applications to the field of librarianship.

LIS 6119 (EDL 604) CONTEMPORARY PUBLISHING AND PRINTING (4)
PR: EDL 601. A survey of book publishing as it is carried on today, primarily in the United States. Emphasis on structure of the industry, economic conditions, technological developments, social functions of book publishing and distribution. Complementary relations between libraries and publishing.

LIS 6111 (EDL 605) HISTORY OF CHILDREN'S LITERATURE (5)
Historical bibliographical survey of imaginative and informational literature for children.

LIS 6608 (EDL 606) BASIC INFORMATION SOURCES AND SERVICES (4)
An in-depth examination of the basic sources of information in the general library; discussion of bibliographical control of all communication media, with emphasis on those tools which are of most value to general reference services; and the provision of various types of reference services. (Formerly EDL 513.)

LIS 6508 (EDL 607) THE CURRICULUM AND INSTRUCTIONAL TECHNOLOGY (5)
Effective utilization of instructional materials as they relate to specific areas of the curriculum in elementary and high school programs.

LIS 6271 (EDL 608) RESEARCH METHODS IN LIBRARIANSHIP (4)
Overview of present status of research in library and information science; introduction to research methods and their application to librarianship; designed to prepare students to plan, conduct, and evaluate research relating to the acquisition, classification, cataloging, retrieval, and dissemination of information. Open to both majors and non-majors in library-audiovisual education.

LIS 6946 (EDL 609) SUPERVISED FIELD WORK (4)
PR: Completion of General Program Requirements and CI.

LIS 6651 (EDL 610) BOOKS AND RELATED MATERIALS OF LATIN AMERICAN COUNTRIES SUITABLE FOR CHILDREN AND YOUNG PEOPLE (4)
Bibliographic sources, aids and tools for the selection and utilization of Latin American books and related materials suitable for children and young people. Examination of representative materials in terms of the basic principles and criteria of selection for libraries.

LIS 6605 (EDL 611) ADVANCED INFORMATION SOURCES AND SERVICES (4)
PR: EDL 606. Reference materials in the humanities, social sciences, science, and technology.

LIS 6455 (EDL 612) THE ORGANIZATION AND ADMINISTRATION OF THE SCHOOL MEDIA CENTER (5)
PR: General Program Requirements or CI. Media quarters, facilities and equipment. Basic principles of organization and administration of media programs in elementary and secondary schools.

LIS 6586 (EDL 613) MATERIALS FOR CHILDREN (4)
Examination of materials for all institutions in which children are served: school media centers, public libraries, kindergartens, etc. Stress on selection aids, reviewing techniques, utilization. (Formerly EDL 514.)

LIS 6735 (EDL 614) TECHNICAL SERVICES IN LIBRARIES (4)
Principles of general library practice in technical services operations. Emphasis on descriptive cataloging and use of unabridged Dewey Decimal Classification. (Formerly EDL 515.)

LIS 6724 (EDL 615) CLASSIFICATION AND CATALOGING OF NON-BOOK MATERIALS (3)
PR: EDL 614. Principles and practice in the cataloging of non-book materials.

LIS 6745 (EDL 616) ADVANCED CATALOGING (4)
PR: EDL 614 or CI. An examination of changing policies and procedures in the administration of acquisitions, cataloging, binding, photographic reproduction and related area. Analysis of research in the field.

LIS 6572 (EDL 617) BOOKS AND RELATED MATERIALS FOR YOUNG ADULTS (5)
Young adult materials for use in secondary school libraries, young adult sections of public libraries and other institutions serving youth. Equal emphasis upon 1) selection principles and bibliographic sources as well as upon 2) utilization in terms of service to the young adult. (Formerly EDL 519.)

LIS 6312 (EDL 618) PREPARING INSTRUCTIONAL MEDIA (4)
Fundamentals of preparing and using audiovisual as they relate to the communication process. (Formerly EDL 523.)

LIS 6661 (EDL 619) DOCUMENTS AND SERIALS (4)
The nature of documents and serials, their reference and research value; techniques of acquisition, cataloging, organization, conservation and reference use.

LIS 6507 (EDL 620) FOUNDATIONS OF EDUCATIONAL TECHNOLOGY (4)
Traces historical development and the application of educational technology to school media services.

LIS 6428 (EDL 621) AUDIOVISUAL ADMINISTRATION (5)
PR: EDL 618 and EDL 607 or CI. Audiovisual administrative practices in school systems and junior colleges.

LIS 6506 (EDL 622) AUDIOVISUAL UTILIZATION (4)
Examination (and utilization) of non-print media. Characteristics of media equipment and paradigms of use.

LIS 6225 (EDL 624) ADVANCED STORYTELLING (4)
PR: CI or EDL 613. Building storytelling programs for school and public libraries or other educational institutions. Analysis of historical aspects, material suitable for use and audience reaction. (Formerly EDL 524.)

LIS 6203 (EDL 625) READING GUIDANCE PROGRAMS IN LIBRARIES AND CLASSROOMS (4)
Working with factors and forces influencing reading habits of children and youth; programs for teaching investigative and library skills; materials and methods for guidance of reading, listening and viewing.

LIS 6331 (EDL 629) LOCAL PRODUCTION OF RADIO AND CLOSED CIRCUIT TELEVISION (4)
Utilization and broadcasting techniques for educators. Stress will be placed on local school production, micro-teaching, and studio broadcasting.

LIS 6610 (EDL 630) INFORMATION SOURCES AND SERVICES IN THE HUMANITIES (4)
PR: EDL 606 or CI. Detailed consideration of the bibliographical and reference materials in the humanities with training and practice in their use for solving problems arising in the reference service.

LIS 6620 (EDL 631) INFORMATION SOURCES AND SERVICES IN THE SOCIAL SCIENCES (4)
PR: EDL 606 or CI. Characteristics of the social science disciplines and structure, concepts, methods of investigation. Understanding of social science reference tools as means of bibliographic control and as vehicles of research.

LIS 6630 (EDL 632) INFORMATION SOURCES AND SERVICES IN SCIENCE AND TECHNOLOGY (4)
PR: EDL 606 or CI. Study of representative reference sources in pure and applied sciences with equal attention given to typical problems encountered in scientific and technological reference service.

LIS 6445 (EDL 640) SEMINAR IN PUBLIC LIBRARIES (3)
PR: EDL 600 or CI. Identification of problems and critical examination of methods in administrative areas of technical, student, and teaching staff services, fiscal and legal responsibilities, staff organization and supervision in public libraries.

LIS 6432 (EDL 650) SEMINAR IN ACADEMIC LIBRARIES (3)
PR: EDL 600 or CI. Identification of problems and critical examination of methods in administrative areas of technical, student, and teaching staff services, fiscal and legal responsibilities, staff organization and supervision in academic libraries.

LIS 6472 (EDL 660) SEMINAR IN SPECIAL LIBRARIES (3)
PR: EDL 600 or CI. Identification of problems and critical examination of methods in administrative areas of technical and special service clientele; fiscal and legal responsibilities, staff organization and services in special libraries.

LIS 6262 (EDL 671) LIBRARY SYSTEMS PLANNING (4)
Applications of data processing technology to automation of library files. Emphasis on applications of computer hardware and software to administrative, circulation, and ordering data, catalog and index production, serials records.

LIS 6263 (EDL 672) SEMINAR IN LIBRARY AUTOMATION (4)
Seminar in the application of data processing technology to libraries, information centers, and library networks. Emphasis on operational systems.

LIS 6935 (EDL 690) TECHNIQUES FOR TEACHING IN THE SCHOOL MEDIA CENTER (4)
Methods and techniques pertinent to working with students and teachers in the school media program. To be taken concomitantly with EDL 609 or CI.

LIS 6906 (EDL 691) INDEPENDENT STUDY (1-5)
PR: 20 hours earned in program and consent of adviser. (Formerly EDL 681.)

Measurement—Research—Evaluation (EDQ)

EDF 7469 (EDQ 701) CRITICAL ISSUES IN EDUCATIONAL MEASUREMENT AND EVALUATION (4)
A consideration of major issues relevant to the theory and application of measurement and evaluation. Topics include: culture-faire testing, accountability, normative vs. criterion measures and socio-political issues.

EDF 7437 (EDQ 702) ADVANCED MEASUREMENT-COGNITIVE AREA (4)
PR: EDF 605. Measurement, assessment theory and procedures appropriate to the "Cognitive Domain," i.e., intellectual abilities, aptitudes, achievements, skills. (Formerly EDQ 601.)

EDF 7438 (EDQ 703) ADVANCED MEASUREMENT-AFFECTIVE AREA (4)
Measurement, assessment theory and procedures appropriate to the affective domain, i.e., feelings, attitudes, interests, personal characteristics. (Formerly EDQ 603.)

EDF 7407 (EDQ 705) STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH I (4)
Application of statistical techniques to the study of education problems: Tests of significance and confidence intervals, analysis of variance (one-way factorial), correlation and linear regression. (Formerly EDQ 605.)

EDF 7408 (EDQ 707) STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH II (4)
PR: EDQ 705. Application of statistical techniques to the study of educational problems: Multiple correlation and regression, Introductory Factor Analysis and selected non-parametric techniques. (Formerly EDQ 607.)

EDF 7409 (EDQ 708) STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH III (4)
PR: EDQ 707. Application of statistical techniques to the study of educational problems: Trend analysis, analysis of variance models and expectation of mean squares; analysis of convariance; method of least squares; Bayesian statistics (introduction). (Formerly EDQ 608.)

EDF 7484 (EDQ 709) DESIGN OF EXPERIMENT-PRODUCT RESEARCH IN EDUCATION (4)
PR: EDQ 708. Basic Experimental research design theory and models appropriate for education. (Formerly EDQ 609.)

EDF 7485 (EDQ 711) DESIGN OF DESCRIPTIVE-PROCESS RESEARCH (4)
PR: EDQ 708. Theory and procedures for conducting descriptive research in education. (Formerly EDQ 611.)

EDF 6489 (EDQ 713) APPLICATION OF COMPUTER LANGUAGE AND PROCEDURES IN EDUCATION (2)
Development of understanding and technical skill in relation to computer and data processing approaches to solution of educational research, and administrative problems. Training in use of Fortran as a programming language. (Formery EDQ 613.)

EDF 7493 (EDQ 720) RESEARCH-BASED PLANNING EVALUATION AND DEVELOPMENT IN EDUCATION (4)
Introduction to systematic planning and development procedures including needs assessment, proposal development, evaluation design and process engineering. Emphasis placed on analysis of evaluation models and theory. (Formerly EDQ 620.)

EDF 7494 (EDQ 721) A BASIS FOR PLANNING AND DEVELOPMENT IN EDUCATION (4)
An introduction to systems theory and techniques emphasizing application to selected problems and situations in education. Development of competence in applying PERT, GANTT, Mission-Function-Task, and Modeling procedures. (Formerly EDQ 621.)

Music Education (EDM)

——— (EDM 215) THEORETICAL BASES OF MUSIC EDUCATION (2)
The course is designed to investigate music education practicesin the schools. It provides the student with experiences and information early in his academic career which will enable him to determine his commitment to professional music education.

MUE 3413 (EDM 370) BAND MATERIALS PRACTICUM (1)
PR: CI. A study of band materials, in a laboratory setting, appropriate to elementary and secondary school music programs. Course content will change each quarter. May be repeated for a total of 6 hours credit.

MUE 3411 (EDM 380) CHORAL MATERIALS PRACTICUM (1)
PR: CI. A study of choral materials, in a laboratory setting, appropriate to elementary and secondary school music programs. Course content will change each quarter. May be repeated for a total of 6 hours credit.

MUE 3414 (EDM 390) ORCHESTRAL MATERIALS PRACTICUM (1)
PR: CI. A study of orchestra materials, in a laboratory setting, appropriate to elementary and secondary school music programs. Course content will change each quarter. May be repeated for a total of 3 hours credit.

——— (EDM 415) MUSIC IN THE ELEMENTARY SCHOOL (4)
A study of principles, techniques, materials, and activities as they relate to a comprehensive music curriculum in Grades K-6.

——— (EDM 416) FOUNDATIONS OF INSTRUMENTAL MUSIC (4)
PR: CI, Junior Standing. Introduction to the foundations of instrumental music instruction in the elementary and middle school.

——— (EDM 417) CLASSROOM MUSIC IN THE SECONDARY SCHOOL (4)
PR: CI. Development and implementation of methods and techniques for teaching music to the student not participating in secondary school music performing groups. (Formerly EDM 437.)

——— (EDM 418) INSTRUMENTAL MUSIC IN THE SECONDARY SCHOOLS (4)
PR: CI, Junior Standing. Development and implementation of methods and techniques for teaching secondary school instrumental music. (Formerly EDM 433.)

——— (EDM 419) CHORAL METHODS IN THE SECONDARY SCHOOL (4)
PR: CI, Junior Standing. Development and implementation of methods and techniques for teaching secondary school choral music. (Formerly EDM 439.)

MUE 6780 (EDM 601) TECHNIQUES OF RESEARCH IN MUSIC EDUCATION (4)
Professional bibliography and individual research projects.

MUE 6189 (EDM 603) MUSIC SUPERVISION AND ADMINISTRATION (3)
The music curriculum in relation to the total school program; staff and budgetary needs.

MUE 6416 (EDM 614) VOCAL MATERIALS AND CONDUCTING (4)
A study of materials appropriate for use in vocal groups. Emphasis is given to vocal materials appropriate for use in secondary schools.

MUE 6417 (EDM 617) INSTRUMENTAL MATERIALS AND CONDUCTING (4)
A study of materials appropriate for use in instrumental groups. Emphasis is given to instrumental materials appropriate for use in secondary schools.

MUE 6641 (EDM 633) CURRENT TRENDS IN SCHOOL INSTRUMENTAL MUSIC (3)
New materials, equipment, techniques of teaching and recent historical trends in instrumental music.

MUE 6640 (EDM 635) CURRENT TRENDS IN SCHOOL VOCAL MUSIC (3)
New materials, equipment, techniques of teaching and recent historical trends in vocal music.

Natural Science—Mathematics Education (EDN)

SCE 4630 (EDN 425) NEW TRENDS IN TEACHING THE PHYSICAL SCIENCES (4)
Physical Science Study Committee Physics, Chemical Education Materials Study and other new approaches to the teaching of the physical sciences. Recommended for teachers of Physics, Chemistry and Earth Sciences.

SCE 4631 (EDN 427) NEW TRENDS IN TEACHING BIOLOGY (4)
Recent developments in curriculum materials and in strategies for teaching biological sciences, grades 7-12. Recommended for pre-service teachers of secondary school biology.

MAE 4320 (EDN 441) TEACHING JUNIOR HIGH SCHOOL MATHEMATICS (4)
PR: 24 quarter hours of mathematics or CC. Instructional procedures and materials for teaching mathematics in the middle grades.

SCE 4320 (EDN 443) TEACHING SCIENCE IN THE MIDDLE GRADES (4)
PR: EDN 459 or EDE 417 plus 20 hours of Science or CI. Techniques and materials of instruction for teaching science in the middle grades.

MAE 4330 (EDN 451) TEACHING SENIOR HIGH SCHOOL MATHEMATICS (4)
PR: EDC 401 or concurrent registration in EDC 401 and admission to teacher education program in mathematics. Techniques and materials of instruction in mathematics.

MAE 4885 (EDN 452) INTERPRETING MATHEMATICAL SYMBOLISM (2)
PR: EDR 407, EDN 451, or CR: EDN 451. Methods of teaching secondary students to read the language of mathematics.

SCE 4330 (EDN 459) TEACHING METHODS IN THE SECONDARY SCHOOL—SCIENCES (4)
PR: Completion of 40 hours in approved science areas or CI; completion of EDC 401 or concurrent registration in EDC 401. Techniques and materials of instruction in secondary schools sciences.

SCE 4305 (EDN 460) COMMUNICATION SKILLS IN THE SCIENCE CLASSROOM (2)
PR: EDR 407, EDN 459 or concurrent registration in EDN 459. Reading and communication skills important in understanding scientific literature and communicating findings to others. (Formerly EDN 559.)

MAE 5636 (EDN 515) THE UTILIZATION OF LABORATORY TECHNIQUES IN THE TEACHING OF MATHEMATICS (4)
PR: 18 quarter hours of mathematics or CI. In this course students will make an examination of a variety of sample laboratory lessons along with methods for creating and evaluating such lessons.

SCE 5937 (EDN 583) SELECTED TOPICS IN SCIENCE EDUCATION (1-5)
May be repeated when topics are not duplicated.

MAE 6356 (EDN 616) TEACHING OF PRE-SECONDARY SCHOOL MATHEMATICS (5)
PR: 18 quarter hours of mathematics or CI. Development of strategies and materials for teaching mathematical concepts and skills appropriate to pre-secondary school years. May be repeated for credit up to 15 hours.

MAE 6337 (EDN 621) TEACHING OF HIGH SCHOOL ALGEBRA (4)
PR: B.A. in mathematics or certification in secondary mathematics. Philosophy, content, new trends, and methods of teaching beginning, intermediate, and advanced high school algebra.

MAE 6338 (EDN 622) TEACHING OF HIGH SCHOOL GEOMETRY (4)
PR: B.A. in mathematics or certification in secondary mathematics. Philosophy, content, new trends, and methods of teaching high school geometry.

MAE 6136 (EDN 637) CURRENT TRENDS IN SECONDARY MATHEMATICS EDUCATION (4)
Curricular patterns and instructional practices in secondary mathematics.

SCE 6634 (EDN 639) CURRENT TRENDS IN SECONDARY SCIENCE EDUCATION (4)
PR: Bachelor's degree with major in science area; certification in secondary science, or CI. Curricular patterns and instructional practices in secondary science.

SCE 6336 (EDN 651) TEACHING SECONDARY SCHOOL BIOLOGY (4)
PR: CI. Effective use and production of instructional materials in the biological sciences. Interrelation of philosophy, materials and classroom practices.

SCE 6436 (EDN 653) TEACHING SECONDARY SCHOOL PHYSICAL & EARTH SCIENCES (4)
PR: CI. Effective use and production of instructional materials in the physical and earth sciences. Interrelation of philosophy materials, and classroom practices.

Physical Education for Teachers (EDP)

HES 2400 (EDP 255) FIRST AID (3)
Meets the American Red Cross certification requirements in standard and advanced first aid.

PET 3942 (†EDP 311) SEMINAR AND FIELD EXPERIENCE IN PHYSICAL EDUCATION (5)
Students spend approximately two hours a day at an elementary school teaching physical education and assisting in the classroom. Emphasis is placed on understanding the primary aged child and effective ways of setting the teacher-learning environment. (S/U only.)

PET 3381 (†EDP 312) HUMAN KINETICS I (4)
The development and integration of the neuromuscular and associate sensory systems as they affect motor and perceptual-motor performance. The physiology of muscular contraction, the accompanying immediate changes in the cardiorespiratory systems, and the permanent physiological changes resulting from exercise.

PET 3434 (†EDP 313) MOVEMENT EDUCATION THEORY AND APPLICATION I (3)
A two course sequence emphasizing movement experiences appropriate for elementary school children. The philosophy, objectives, and analytical framework of movement education are studied relative to basic movement competence. Principles of space, time, force, and flow of human movement are applied to the development of children through basic movement and manipulative skills leading to gymnastics, dance, and sports-related activities.

PET 3001 (†EDP 314) INDIVIDUAL ASSESSMENT (2)
A personal evaluation of various factors related to the effective teaching of physical education. An individual profile that can be used for counseling purposes will be the final product of this course.

† Enrollment in these courses requires admission to the Physical Education Program.

PET 3943 (†EDP 321) SEMINAR AND FIELD EXPERIENCE IN PHYSICAL EDUCATION (5)
PR: EDP 311. Elementary school physical education teaching experiences are provided for students with added focus on the upper elementary grades. Seminars emphasize planning and teaching methodology. Health and recreation as they relate to elementary school children are studied.

PET 3372 (†EDP 322) HUMAN KINETICS II (4)
PR: EDP 312 and 314. The structure and function of the nervous, skeletal, and muscular systems of the human body as they contribute to efficient movement; deviations in either structure or function in these systems and the role of exercise in rehabilitation.

PET 3435 (†EDP 323) MOVEMENT EDUCATION THEORY AND APPLICATION II (3)
A two-course sequence emphasizing movement experiences appropriate for elementary school children. The philosophy, objectives, and analytical framework of movement education are studied relative to basic movement competence. Principles of space, time, force, and flow of human movement are applied to the development of children through basic movement and manipulative skills leading to gymnastics, dance, and sports-related activities.

PET 3430 (†EDP 331) SEMINAR AND INTERNSHIP IN PHYSICAL EDUCATION (5)
PR: EDP 321. Physical education teaching experience is provided at various grade levels. Seminars are concerned with organization, evaluation, and extra-class activities. Individual teaching is analyzed and programmed.

PET 3377 (†EDP 332) HUMAN KINETICS III (4)
PR: EDP 322. The mechanical laws of physics as they relate to movement within and of the human body and the projection of objects in throwing, hitting, and kicking. Efficiency of human movement through sound body mechanics.

PEP 3205 (†EDP 333) MOVEMENT EDUCATION THEORY AND APPLICATION III (3)
The application of principles of space, time, force, and flow of human movement to the development of children through gymnastics. The bio-mechanical aspects of performance are also analyzed. Open to program majors only.

PEQ 3101 (†EDP 365) AQUATICS (3)
PR: Red Cross beginning swimmer's skills, or equivalent. Includes analyzation and methodology of teaching swimming skills, conducting class activities, and the organization and conducting of aquatic programs in the school and the community.

PET 4442 (†EDP 411) SEMINAR AND FIELD EXPERIENCE IN PHYSICAL EDUCATION (5)
PR: EDP 331. A three course experience involving supervised teaching experiences at the secondary school level. On-campus seminars emphasize: development of junior and senior high school students; the influences of various teaching styles on the learning process; the process of individualization; structuring meaningful learning experiences in the psychomotor, cognitive, and affective domains.

PET 4340 (†EDP 412) APPLIED HUMAN KINETICS I (4)
PR: EDP 332. A three course sequence which stresses the biomechanical analysis of movement, principles of psychomotor learing and teaching competencies in dance, and the skills and strategies common to a number of individual and team sports.

PET 4233 (†EDP 421) SEMINAR AND INTERNSHIP IN PHYSICAL EDUCATION (5)
PR: EDP 331. A three course experience involving supervised teaching experiences at the secondary school level. On-campus seminars emphasize: development of junior and senior high school students; the influence of various teaching styles on the learning process; the process of individualization; structuring meaningful learning experiences in the psychomotor, cognitive, and affective domains.

PET 4361 (†EDP 422) APPLIED HUMAN KINETICS II (4)
PR: EDP 412. A three course sequence which stresses the biomechanical analysis of movement, principles of psychomotor learning, and teaching competencies in dance and the skills and strategies common to a number of individual and team sports.

PET 4234 (†EDP 431) SEMINAR AND INTERNSHIP IN PHYSICAL EDUCATION (5)
PR: EDP 331. A three course experience involving supervised teaching experiences at the secondary school level. On-campus seminars emphasize: development of junior and senior high school students; the influence of various teaching styles on the learning process; the process of individualization; structuring meaningful learning experiences in the psychomotor, cognitive, and affective domains.

PET 4361 (†EDP 432) APPLIED HUMAN KINETICS III (4)
A three course sequence which stresses the biomechanical analysis of movement, principles of psychomotor learning and teaching competencies in dance, and the skills and strategies common to a number of individual and team sports.

PET 4306 (EDP 458) PRINCIPLES OF AND ISSUES IN COACHING (5)
The application of principles from philosophy, psychology, sociology, and physiology to competitive athletics and coaching.

PET 4622 (EDP 459) ATHLETIC TRAINING (3)
PR: CI. Principles and techniques of conditioning athletes for competition; prevention and care of injuries in physical education and athletic activities.

PEQ 4125 (EDP 468) COACHING OF SWIMMING (3)
Methods of organizing and coaching a competitive swimming team.

PEO 4644 (EDP 469) COACHING OF FOOTBALL (5)
Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching football.

PEP 4424 (EDP 478) COACHING OF WRESTLING (4)
Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching wrestling.

PEO 4514 (EDP 479) COACHING OF SOCCER (3)
Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching soccer.

LEI 4007 (EDP 486) COMMUNITY RECREATION (4)
Introduction to recreational outlets in the community and the administrative problems confronting recreational playground leaders and directors of community recreational programs. Offered on Independent Study basis only.

PEP 4304 (EDP 488) COACHING OF TRACK AND FIELD (4)
Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching track.

PEO 4624 (EDP 489) COACHING OF BASKETBALL (3)
Theory and practice of the fundamental techniques, organizational problems and strategy in coaching basketball.

PEO 4219 (EDP 499) COACHING OF BASEBALL (3)
Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching baseball.

PET 6051 (EDP 600) PROFESSIONAL ASSESSMENT (4)
Selected readings of current trends in physical education; discussion of philosophies of teaching; and individual appraisal of knowledge, values, attitudes, and professional competencies.

PET 6345 (EDP 610) BIO-KINETICS OF HUMAN MOVEMENT (4)
Integration of basic kinesiological foundations applied to

† Enrollment in these courses requires admission to the Physical Education Program.

teaching physical education. Specific topics include: physical growth and neuro-muscular development, role of neuro-muscular mechanisms in motor performance, physical principles of human movement and the effects of exercise on the muscular and cardio-respiratory systems.

PET 6396 (EDP 611) SPECIALIZED STUDY IN BIO-KINETICS OF HUMAN MOVEMENT: (SUBJECT) (1-4)
Will provide in-depth study in specific areas related to neurological, physiological, and mechanical principles of human movement.

PET 6205 (EDP 620) SOCIO-PSYCHOLOGICAL ASPECTS OF HUMAN MOVEMENT (4)
Involves the psychological and sociological implications of movement to historical and contemporary man. Emphasis on psycho-motor learning, movement behavior, physical self-concept, role of movement in society and values and attitudes held toward movement.

PET 6296 (EDP 621) SPECIALIZED STUDY IN SOCIO-PSYCHOLOGICAL ASPECTS OF HUMAN MOVEMENT: (SUBJECT) (1-4)
Will provide in-depth study in specific areas related to sociological and psychological principles of human movement.

PET 6425 (EDP 630) CURRICULUM AND INSTRUCTIONAL PROCESS IN PHYSICAL EDUCATION (4)
Application of learning theory and education innovations, study of structure of subject matter and styles of teaching and investigation of the nature of the learner as these relate to teaching physical education. Fieldwork may be a requirement of this course.

PET 6496 (EDP 631) SPECIALIZED STUDY IN CURRICULUM AND INSTRUCTIONAL PROCESS IN PHYSICAL EDUCATION: (SUBJECT) (1-5)
Will provide in-depth study in specific areas related to the teaching-learning process of physical education.

PET 6645, 6646 (EDP 640-641) PHYSICAL EDUCATION FOR THE HANDICAPPED I & II (5,5)
This sequential course is concerned with the motor performance and physical fitness of neurologically handicapped individuals and the unique problems of motor skill learning found in children and youth with visual, auditory, speech or orthopedic handicaps. Study includes field experiences which apply knowledge related to psycho-educational characteristics; planning, conducting, and evaluating individualized programs of special physical education; and review of relevant literature.

PET 6535 (EDP 650) RESEARCH IN PHYSICAL EDUCATION (4)
Emphasis will be directed toward planning, conducting, and interpreting research in physical education. The function of research in improving programs as well as the technical aspects of research designs appropriate to physical education are included for study.

PET 6910 (EDP 651) RESEARCH PROJECT IN PHYSICAL EDUCATION (1-6)
In-depth research study of selected topics concerning human movement. Topics will vary according to needs and interests of students. May be repeated for credit.

Reading Education (EDR)

RED 4360 (EDR 407) READING IN SECONDARY CONTENT AREAS (2)
PR: CI and other content area PR or CR. Provides basic instruction on phonics, word recognition, readability, interests, corrective procedures, reading behaviors, comprehension, etc. Offered *only* in conjunction with special content reading courses.

RED 4320 (EDR 408) READING IN MIDDLE SCHOOLS (4)
This course is for new teachers planning to, or currently teaching in a middle school. Students will study reading as it relates to their particular subject matter area.

RED 4337 (EDR 410) CURRENT TRENDS IN READING IN THE SECONDARY SCHOOL (4)
Survey of secondary, college, and adult reading practices, problems, and research. Work with students at commensurate level required. (Formerly EDR 409.)

RED 4515 (EDR 430) CORRECTIVE READING FOR THE CHILD (4)
PR: EDE 409 or equivalent. Procedures for meeting individual differences through diagnosis of needs, differentiated instruction, selective use of materials, and classroom organization.

RED 6365 (EDR 610) READING IN SECONDARY AND HIGHER EDUCATION (4)
PR: CI and graduate standing; EDR 407, EDR 410, or EDE 409. The course is designed for graduate students and in-service teachers with appropriate BA degrees, who need and/or desire more knowledge beyond an introductory level about reading at the Secondary (7-12) and higher (Community College, University) levels. Students will study reading as it applies to their discipline and their level. Work with students and a research paper required. Not for undergraduates nor to be used as a first course in Reading.

RED 6516 (EDR 630) CORRECTIVE READING IN THE CLASSROOM (4)
PR: EDE 409 or equivalent. Use of diagnostic and prescriptive procedures with individual and group reading instruction. (Formerly EDR 530.)

RED 6546 (EDR 631) DIAGNOSIS OF READING DISABILITIES (4)
PR: EDE 609, EDF 605. Causes of reading disability; techniques and materials in diagnosis of reading problems, including telebinocular and audiometer screening. Diagnoses of reading disabilities are required.

RED 6548 (EDR 632) TECHNIQUES OF REMEDIAL READING (4)
PR: EDE 609, EDF 605, and EDR 631. Materials and methods in remediation of moderate to severe reading disability cases. Supervised individual tutoring and in-depth evaluation and use of materials.

RED 6838 (EDR 633) PRACTICUM IN READING (4)
PR: EDE 609, EDF 605, EDR 631, EDR 632, and CI. Remediation of severe reading disability cases, tutoring of individuals and small groups, interview techniques, preparation of case reports.

RED 6247 (EDR 634) CURRICULUM AND SUPERVISION PROBLEMS IN READING (4)
PR: EDE 609, EDF 605, EDR 631, EDR 632, and CI. Planning and administering programs and preparation as consultants in reading. Intensive work on individual project required.

RED 6747 (EDR 635) SURVEY OF READING RESEARCH (4)
PR: EDF 605 and EDF 607, at least two Reading courses and CI. Course deals with research in reading — a review of research is conducted by student and presented in written form.

RED 7048 (EDR 709) READING AS A SYMBOLIC PROCESS (4)
PR: EDR 610 or EDE 609. Advanced Graduate standing in Reading/Language Arts or CI. Examination and understanding of the relationship of the various perceptual, learning, affective and cognitive processes to the acquisition of reading competencies.

RED 7848 (EDR 733) ADVANCED CLINICAL PRACTICUM IN READING (4-8)
PR: EDR 631, 632, 633, and EDF 617 or PSY 617 and Advanced Graduate standing in Reading/Language Arts. Clinical diagnosis and remediation of severe reading disability cases with emphasis on multi-disciplinary approach. Supervision of master students in the 631, 632, 633 sequence. May be repeated for a maximum of 8 hours.

Social Science Education (EDW)

SSE 4640 (EDW 410) COMMUNICATION SKILLS IN THE SOCIAL STUDIES (2)
PR: CI. Communication Skills in the Social Studies. Methods of dealing with reading problems in social studies. This course and EDR 407 satisfy the state certification requirement pertaining to secondary reading. (S/U only.)

SSE 4333 (EDW 461) TEACHING METHODS IN SECONDARY SCHOOL—SOCIAL STUDIES (4)
PR: EDC 401 or concurrent registration in EDC 401. Techniques and materials of instruction in social studies.

SSE 5324 (EDW 508) TEACHING METHODS IN THE MIDDLE SCHOOL—SOCIAL STUDIES (4)
PR: Admission to Middle School Program or CI. Techniques of Instruction in Middle School Social Studies.

SSE 5354 (EDW 547) CRITIQUE OF SELECTED SOCIAL SCIENCE EDUCATION LITERATURE (4)
PR: Major in Middle School or Secondary Social Science or CI. An investigation into various selected readings in Social Science Education literature.

SSE 5445 (EDW 549) EVALUATION AND IMPLEMENTATION OF MEDIA IN SOCIAL STUDIES (4)
PR: Admission to the Middle School Program or CI. Techniques of evaluating and using various media in the Social Studies.

SSE 5647 (EDW 553) INSTRUCTIONAL PROBLEMS AND STRATEGIES IN SOCIAL STUDIES: ELEMENTARY, MIDDLE OR SECONDARY SCHOOL (4)
PR: Admission to Middle School Program, Secondary Social Science, or CI. Investigation of problems confronted when teaching Social Studies in the elementary, middle or secondary school.

SSE 6636 (EDW 643) CURRENT TRENDS IN SECONDARY SOCIAL STUDIES (4)
PR: EDW 461 or equivalent or CI. Curricular patterns and instructional practices in secondary social studies.

SSE 6795 (EDW 645) REVIEW OF RESEARCH IN SOCIAL SCIENCE EDUCATION (4)
PR: EDF 303 or EDF 605, Graduate Students in Education, or CI. Investigation into and an evaluation of the research in Social Science Education.

SSE 6117 (EDW 655) ELEMENTARY SOCIAL STUDIES CURRICULUM (4)
PR: Admission to College of Education or CI. Evaluation of past and present curriculum in Elementary Social Studies.

SSE 6133 (EDW 657) SECONDARY SOCIAL SCIENCE CURRICULUM (4)
PR: Admission to College of Education or CI. Evaluation of past and present curriculum in Secondary Social Science.

SSE 6939 (EDW 659) SEMINAR IN SOCIAL SCIENCE EDUCATION (1-4)
PR: EDF 303 or EDF 605, or CI. To increase general technological knowledge of graduate students in Social Science Education.

Speech Communication-English Education (EDT)

SED 4372 (EDT 423) DIRECTING SPEECH ACTIVITIES IN THE SECONDARY SCHOOL (5)
PR: 15 hours of speech communication courses or CI. Coaching and directing cocurricular activities in discussion, debate, oratory, theatre, oral interpretation, and extemporaneous speaking. Planning and supervision of tournaments, contests, and festivals. Observations required. (Formerly EDT 523.)

SED 4374 (EDT 424) READING IN SPEECH COMMUNICATION INSTRUCTION (2)
PR: EDR 407 or in conjunction with this course. Strategies and materials for teaching oral and silent reading in speech and theatre classes at the secondary school level. (Formerly EDT 524.)

SED 6670 (EDT 621) CURRENT TRENDS IN TEACHING SPEECH COMMUNICATION (5)
PR-CI. Curricular patterns; preparation of personnel; instructional materials, facilities and practices used in teaching speech communication.

SED 6070 (EDT 622) SEMINAR IN THE HISTORY OF SPEECH COMMUNICATION IN EDUCATION (5)
PR-CI. Studies in selected sources, critical writings, and research which have contributed to the development of speech communication as an academic discipline.

Vocational and Adult Education (EDV)

EVT 2084 (EDV 207) THE TEACHER IN A WORLD OF WORK (4)
A study of educational efforts in preparing people for work, the relationship of a job to man's life style, and the concept of education as a lifelong process.

BTE 3365 (EDV 353) ADMINISTRATIVE OFFICE MANAGEMENT (5)
Functions of the business office to include systems and procedures, communications, records management, office employee behavior, controlling the work of the office, and principles of office organization. Also includes the methodology necessary for teaching these areas in either separate courses or integrated block programs.

BTE 3363 (EDV 361) BUSINESS AND OFFICE MACHINES (5)
PR: Basic Typewriting. Instruction and practice on selected business and office machines to acquaint students with capabilities and limitations of the machines. Instruction and reading on teaching methodology for business and office.

EVT 4263 (EDV 406) ORGANIZATION AND COORDINATION OF COOPERATIVE PROGRAMS (4)
A study of the purposes and processes used to organize, plan, direct, control, and evaluate cooperative programs.

EVT 4041 (EDV 407) PRINCIPLES OF ADULT AND VOCATIONAL EDUCATION (4)
An overview of current policies and principles to include their historical sociological and philosophical bases out of which principles of adult and vocational education have been accepted and implemented. (Formerly EDV 507.)

EVT 4540 (EDV 410) READING SKILLS IN ADULT AND VOCATIONAL EDUCATION (2)
PR: EDR 407, or concurrent registration in EDR 407. Students will study reading and communication skills as they relate to their particular content areas in Adult and Vocational-Technical Education. This course, along with EDR 407, satisfies State certification requirement pertaining to secondary reading.

Supervised Field Experience Courses (below)
PR: CI. Planned supervised functions in the area of specialization and co-ordinated with selected schools, government, offices, social agencies, businesses and industries on site.

ADE 4945 (EDV 431) SUPERVISED FIELD EXPERIENCE: (1-8)
ADULT EDUCATION

EVT 4945 (EDV 431) SUPERVISED FIELD EXPERIENCE: (1-8)
BUSINESS EDUCATION

EVT 4946 (EDV 431) SUPERVISED FIELD EXPERIENCE: (1-8)
DISTRIBUTIVE EDUCATION

EVT 4946 (EDV 431) SUPERVISED FIELD EXPERIENCE: (1-8)
INDUSTRIAL-TECHNICAL EDUCATION

Special Teaching Methods Courses (below)
Methods, techniques, and materials for skill development.

ADE 4361 (EDV 443) SPECIAL TEACHING METHODS: (5)
ADULT EDUCATION

EVT 4363 (EDV 443) SPECIAL TEACHING METHODS: (5)
BUSINESS EDUCATION

EVT 4366 (EDV 443) SPECIAL TEACHING METHODS: (5)
DISTRIBUTIVE EDUCATION

EVT 4369 (EDV 443) SPECIAL TEACHING METHODS: (5)
INDUSTRIAL-TECHNICAL EDUCATION

Methods of Teaching Courses (below)
Methods, techniques, and materials for instruction. This course will specialize in Diversified Cooperative Training.

ADE 4360 (EDV 445) METHODS OF TEACHING: ADULT EDUCATION (4)

BTE 4360 (EDV 445) METHODS OF TEACHING: BUSINESS EDUCATION (4)

EVT 4377 (EDV 445) METHODS OF TEACHING: DISTRIBUTIVE EDUCATION (4)

——— (EDV 445) METHODS OF TEACHING: INDUSTRIAL-TECHNICAL EDUCATION (4)

BTE 4369 (EDV 461) OFFICE OCCUPATIONS PROCEDURES (5)
PR: EDV 361, and Senior standing. This course is designed to integrate learnings from preceding business and office education courses. Applications involve actual and simulated office situations, problems, evaluation. Emphasis is placed on the qualifications needed for efficient business office operations.

EVT 4813 (EDV 480) FACILITY DESIGN AND MANAGEMENT (4)
Design and develop instructional facility floor plans consistent with modern and efficient methods of instruction as well as evaluate existing classrooms, laboratories, and shops. Selection and location of equipment. Review and prepare operational plans for the management of equipment, furniture, tools, and supplies as they relate to effective student learning.

Curriculum Construction Courses (below)
Curriculum scope, the process of planning and organizing instructional programs with emphasis on task analysis and process evaluation.

ADE 5161 (EDV 503) CURRICULUM CONSTRUCTION: ADULT EDUCATION (4)

——— (EDV 503) CURRICULUM CONSTRUCTION: BUSINESS EDUCATION (4)

EVT 5171 (EDV 503) CURRICULUM CONSTRUCTION: DISTRIBUTIVE EDUCATION (4)

EVT 5176 (EDV 503) CURRICULUM CONSTRUCTION: INDUSTRIAL-TECHNICAL EDUCATION (4)

EVT 5367 (EDV 504) PREPARATION AND DEVELOPMENT FOR TEACHING (4)
The development of selected instructional materials, use of new educational media, performance evaluation instruments, and counseling techniques.

ADE 5385 (EDV 505) THE ADULT LEARNER (4)
PR: EDF 305 or equivalent. Physiological and psychological changes in individuals throughout the adult life span and the implications which these changes have in learning capabilities of adults. A review of recent research on adult learning is also emphasized.

Program Management Courses (below)
Organization, co-ordination, and budgeting of adult, cooperative, and special programs.

ADE 5160 ((EDV 506) PROGRAM MANAGEMENT: ADULT EDUCATION (4)

——— (EDV 506) PROGRAM MANAGEMENT: BUSINESS EDUCATION (4)

EVT 5162 (EDV 506) PROGRAM MANAGEMENT: DISTRIBUTIVE EDUCATION (4)

EVT 5164 (EDV 506) PROGRAM MANAGEMENT: INDUSTRIAL-TECHNICIAL EDUCATION (4)

EVT 5370 (EDV 508) OCCUPATIONAL SAFETY AND HEALTH (OSHA) (4)
Planning and organizing safety and health course content to be included in occupational education programs in Florida. Content to be identified in and selected from Federal Registers, Department of Labor, Occupational Safety and Health Standards.

EVT 5190 (EDV 511) SCHOOL-COMMUNITY DEVELOPMENT (4)
An approach to identifying, assessing, and analyzing individual, institutional, and community needs, for the purpose of cooperative program planning, community involvement and public support.

ADE 6197 (EDV 605) ADULT BASIC EDUCATION (4)
An overview of adult basic education with emphasis on current issues and problems of curriculum and instruction in program development for culturally different adults.

EVT 6300 (EDV 621) INDIVIDUALIZED INSTRUCTION (4)
Attention is given to individualized instruction to include the special needs student, the slow learner, and the more capable student.

EVT 6563 (EDV 631) CURRENT TRENDS (4)
Historical information, issues, current trends, new dimensions and problems in the area of specialization.

EVT 6926 (EDV 641) STAFF DEVELOPMENT (4)
Implementation of new procedures addressed to discreet developmental needs of the staff as identified by an educational agency.

Practicum Courses (below)
A problem-centered field study in the local community, school, government, office, social agency, business or industry.

ADE 6946 (EDV 651) PRACTICUM: ADULT EDUCATION (4-8)

BTE 6944 (EDV 651) PRACTICUM: BUSINESS EDUCATION (4-8)

EVT 6947 (EDV 651) PRACTICUM; DISTRIBUTIVE EDUCATION (4-8)

EVT 6948 (EDV 651) PRACTICUM: INDUSTRIAL-TECHNICAL EDUCATION (4-8)

Supervision of Local Programs Courses (below)
PR: CI. A study of the factors involved in the supervision of instruction including plans for teacher education, improvement of instruction, coordination of activities, and personnel relations.

ADE 6387 (EDV 661) SUPERVISION OF LOCAL PROGRAMS: ADULT EDUCATION (4)

EVT 6386 (EDV 661) SUPERVISION OF LOCAL PROGRAMS: VOCATIONAL EDUCATION (4)

Administration of Local Programs Courses (below)
A study of the organization, selection of personnel, assignment of duties and responsibilities, and establishment of policies and procedures to accomplish the objectives of the local program within the federal, state, and local requirements.

ADE 6380 (EDV 671) ADMINISTRATION OF LOCAL PROGRAMS: ADULT EDUCATION (4)

EVT 6385 (EDV 671) ADMINISTRATION OF LOCAL PROGRAMS: VOCATIONAL EDUCATION (4)

EVT 6930 (EDV 687) SEMINAR (4)
PR: EDF 605 & EDF 607. Applied research techniques and investigation of important current issues of theses is the area of specialization.

EVT 6769 (EDV 690) METHODS, PROCEDURES, AND PROCESSES OF VOCATIONAL EVALUATION (4)
A study of the purposes, methods, processes and procedures used to plan, implement and operate a vocational evaluation program.

EGC 6065 (EDV 691) METHODS, PROCEDURES, AND PROCESSES OF VOCATIONAL REHABILITATION COOPERATIVE SCHOOL PROGRAM COUNSELING (3)
A study of the purposes, methods, processes and procedures used to plan, implement and operate a Vocational Rehabilitation Cooperative School Counseling Program.

ENGINEERING

Professors: J. L. Allen, M. W. Anderson, G. K. Bennett, J. C. Bowers, G. A. Burdick, T. M. Chen, M. R. Donaldson, L. F. Doty, R. F. Filipowsky, O. N. Garcia, S. J. Garrett, J. E. Griffith, V. K. Jain, E. W. Kopp, J. A. Llewellyn, L. W. Oline, C. E. Payne, D. H. Rimbey, B. E. Ross, L. A. Scott, N. C. Small, W. A. Smith, L. A. Weaver, R. J. Wimmert; *Associate Professors:* J. C. Busot, W. C. Carpenter, H. Glass, J. O. Gonzalez, R. E. Henning, S. C. Kranc, H. A Nienhaus, S. Phillips, J. L. Ratliff, D. W. Rogers, J. E. Sergent, W. H. Skelton, C. A. Smith, J. F. Twigg; *Assistant Professors:* H. S. Bierenbaum, R. A. Crane, J. F. Devine, J. T. Franques, D. C. Naehring; *Lecturers:* W. R. Abbey, C. F. Bean, H. C. Gordon, A. D. Kraus, R. L. Miller, Wilma Smith; *Instructor:* D. K. Gooding

Basic and Interdisciplinary Engineering Course Work (EGB)

EGN 1111 (EGB 101) GRAPHIC ANALYSIS I (3)
The theory and application of projective systems and related topics. Basic problems in engineering drawing. Purchase of drawing instruments and other necessary drafting supplies to be discussed at first class session. Lec-Lab.

EGN 1401 (EGB 102) GRAPHIC ANALYSIS II (3)
PR: EGB 101. Principles of graphic and numeric analysis. Applied problems in graphic statistics, empirical data, projective geometry, graphic calculus, and other graphic techniques for the solution of engineering problems.

EGN 1402 (EGB 103) GRAPHIC ANALYSIS III (3)
PR: EGB 101. An elective course designed for students with limited background in pre-calculus mathematics necessary for graphical processes. Emphasis on graphical concepts of algebraic and trigonometric relationships.

EGN 1403 (EGB 104) GRAPHIC ANALYSIS IV (3)
Continuation of EGB 103.

EGN 1002 (EGB 105) ENGINEERING ORIENTATION (1)
The role of engineering in society, characteristics of different fields of engineering, required preparation for engineering careers, techniques and approaches used by engineers in their profession. (S/U only.)

EGN 2410 (EGB 201) ENGINEERING PROBLEMS I (2)
CR: MTH 351. Elective course for engineering majors. Applied problems paralleling mathematics sequence.

EGN 2210 (EGB 204) ANALYSIS & COMPUTATION I (3)
Basic computer operation and programming concepts. Use of FORTRAN in solving engineering type problems.

EGN 2021 (EGB 208) INTRODUCTION TO ENGINEERING I (3)
To present an overview of Engineering, its role and its concepts. Experimental program; see adviser.

EGN 2405 (EGB 209) INTRODUCTION TO ENGINEERING II (3)
PR: EGB 208. Continuation of EGB 208. (Experimental program.)

EGN 3411 (EGB 301) ENGINEERING PROBLEMS II (2)
CR: MTH 352. Continuation of EGB 201.

EGN 3412 (EGB 302) ENGINEERING PROBLEMS III (2)
CR: MTH 353. Continuation of EGB 301.

EGN 3413 (EGB 303) ENGINEERING PROBLEMS IV (2)
CR: MTH 354. Continuation of EGB 302.

EGN 3211 (EGB 304) ANALYSIS & COMPUTATION II (3)
PR: EGB 204 or equivalent. Use of FORTRAN and WATFIV in solving engineering problems. Use of computer libraries. Structure and use of SIMSCRIPT in systems simulation.

EGN 3443 (EGB 306) ENGINEERING STATISTICS I (3)
PR: MTH 352. An introduction to the basic concepts of statistical analysis. Probability, distribution functions. (Formerly EGS 461.)

EGN 3373 (EGB 311) INTRODUCTION TO ELECTRICAL SYSTEMS I (4)
PR: PHY 305-306, MTH 353. A course sequence in linear passive circuits, electronic circuits and electromechanical devices. Physical principles and modes. Transient and steady-state analysis. System consideration.

EGN 3374 (EGB 312) INTRODUCTION TO ELECTRICAL SYSTEMS II (4)
PR: EGB 311. Continuation of EGB 311.

EGN 3375 (EGB 313) INTRODUCTION TO ELECTRICAL SYSTEMS III (4)
PR: EGB 311. Continuation of EGB 311 or EGB 312.

EGN 3343 (EGB 321) THERMODYNAMICS I (4)
PR: PHY 303. Introduction to Thermodynamics; Thermodynamic concepts of system, control volume, process, cycle, property, and state. The Zeroth Law of Thermodynamics and temperature scales. Properties of ideal and real substances. Concepts of Work and Heat. The First Law of Thermodynamics.

EGN 3344 (EGB 322) THERMODYNAMICS II (3)
PR: EGB 321. Continuation of EGB 321. The Second Law and its consequences. Entropy. The Carnot and heat engine cycles. Mixtures of ideal gases and psychrometry. Approximations to behavior of "real" gases. Concepts of reversibility, availability and efficiency. Elements of Thermodynamics of combustion.

EMC 3121 (EGB 323) TRANSFER OPERATIONS I (3)
PR: EGB 321. Extension of classical thermodynamics into the description of non-equilibrium processes. Emphasis on the use of balance equations and dimensional analysis in the macroscopic description of momentum, energy and mass transfer processes. Introduction to heat transfer correlations and design equations.

EGN 3433 (EGB 325) DYNAMICS RESPONSE OF ENGINEERING SYSTEMS I (4)
PR: PHY 303, 305. Linear dynamic analysis of electrical, mechanical, pneumatic, hydraulic and thermal systems. Introduction to analog computers; LaPlace transformation. Block diagram representation, transient and frequency response. Lec.-Dem.

EGN 3613 (EGB 337) ENGINEERING VALUATION I (3)
PR: EGB 204. A study in analyzing the economic limitations imposed on engineering activities using basic models which consider the time value of money.

EGN 3313 (EGB 340) SOLID MECHANICS I (3)
PR: MTH 351. Principles of statics, mechanical equilibrium, forces, moments, plane trusses. Lec.-problem.

EGN 3321 (EGB 341) SOLID MECHANICS II (3)
PR: EGB 340. Dynamics of discrete particles and distributed mass bodies; spatial kinematics and kinetics. Lec.-problem.

EGN 3365 (EGB 342) MATERIALS ENGINEERING I (4)
PR: CHM 213, EGB 340. An introduction to structure and property relationships in engineering materials, i.e., metal, ceramic and polymer systems. Environmental effects on materials are also treated. Lecture.

EGN 3354 (EGB 343) BASIC FLUID MECHANICS (4)
PR: EGB 341. Fundamental and experimental concepts in ideal and viscous fluid theory; momentum and energy consideration, introduction to hydraulics, pipe flow. Lecture.

EGN 3331 (EGB 344) DEFORMABLE BODIES (3)
PR: EGB 340. Stress, strain, Hooke's Law; torsion, beam, column analysis; combined stresses; inelastic effects, limit design. Lec.-problem.

EGN 3366 (EGB 345) MATERIALS ENGINEERING II (4)
PR: EGB 342. Continuation of EGB 342.

EGN 3355 (EGB 346) COMPRESSIBLE FLOW (4)
PR: EGB 343. Compressible flow and free surface flow.

EGN 4421 (EGB 401) ENGINEERING ANALYSIS I (4)
PR: MTH 353. Application of differential equations.

EGN 4450 (EGB 405) INTRODUCTION TO LINEAR SYSTEMS (3)
PR: EGB 401. Study and application of matrix algebra, differential equations and calculus of finite differences. (Formerly EGS 541.)

EGN 4933 (EGB 480) SPECIAL TOPICS (1-5)
New technical topics of general interest on an intermediate or experimental basis. May be repeated to a total of 10 credit hours.

EGN 4935 (EGB 481) PROFESSIONAL ENGINEERING SEMINAR I (1-5)
PR: CI. A lecture-discussion seminar on modern trends in the engineering profession.

EGN 4936 (EGB 483) PROFESSIONAL ENGINEERING SEMINAR II (1-5)
PR: CI and Senior standing. An examination of current engineering and related problems facing the graduating senior. (S/U only.)

——— (EGB 497) INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

EGN 5422, 5423, 5424, 5425, 5426 (EGB 501, 502, 503, 504, 505) ENGINEERING ANALYSIS II, III, IV, V, VI (3,3,3,3,3)
PR: CC or MTH 401. A five course sequence. (1) Ordinary differential equations with emphasis on series solutions and numerical methods. (2) Vector analysis, partial differential equations, boundary value problems and orthogonal functions. (3) & (4) Functions of a complex variable with applications. (5) Selected Topics.

EGN 6427 (EGB 601) ENGINEERING ANALYSIS VII (3)
PR: CC. Application of applied mathematics to the study of linearized dynamic systems and networks; state space; stability theory; extensions to discrete and non-linear systems.

EGN 6720 (EGB 610) SCIENTIST IN THE SEA I (4)
PR: CI and diver certification (NAVI or equiv.) Hyperbaric Operations; the basic principles, physiology and psychology involved in submarine hyperbaric operations, inside and outside habitats. Communication and life support is also treated extensively. Lec.-lab. (Also listed as MSC 610.)

EGN 6721 (EGB 611) SCIENTIST IN THE SEA II (4)
PR: CI and diver certification (NAVI or equiv). Marine Sciences; an extensive discussion of research equipment and techniques for underwater operations in the Marine Sciences presented by practicing research workers in the field. Lec.-lab. (Also listed as MSC 611.)

EGN 6722 (EGB 612) SCIENTIST IN THE SEA-III (4)
PR: CI and diver certification (NAVI or equiv). Underwater Engineering; the ocean as a constraint for structures and devices. Factors involved in the planning and design of underwater operations and experimental devices. Lec.-lab. (Also listed as MSC 612.)

EGN 6911 (EGB 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

EGN 6991 (EGB 694) GRADUATE INSTRUCTION METHODS (1-5
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

EGN 6992 (EGB 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (EGB 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

EGN 6971 (EGB 699) THESIS: MASTER's (var.)
Repeatable. (S/U only.)

EGN 7911 (EGB 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

EGN 7980 (EGB 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Electrical and Electronic Systems (EGE)

ELR 3301 (EGE 301) LABORATORY 1 (1)
PR: EGB 311.

ELR 3302 (EGE 302) LABORATORY 2 (1)
PR: EGB 312

ELK 3303 (EGE 303) LABORATORY 3 (1)
PR: EGE 301.

EEL 3100, 4101 (EGE 310, 410) NETWORK ANALYSIS AND DESIGN I, II (3,3)
PR: EGB 311. A second course in linear circuit analysis and design. Transient and steady-state responses of passive R-L-C networks to various forcing functions.

EEL 3302, 4301 (EGE 320, 420) ELECTRONICS I, II (3,3)
PR: EGB 312. A second course in the physical principles of electronic devices with emphasis on semi-conductor electronics. Includes the analysis and design of amplifiers and switching circuits.

EEL 3410, 4411 (EGE 330, 430) FIELDS AND WAVES I, II (3,3)
PR: PHY 305, 306, EGB 401. A basic introduction to electromagnetic field theory, including static and dynamic electromagnetic fields.

COP 3510 (EGE 361) INTRODUCTION TO COMPUTER SCIENCE I (2)
PR: MTH 122. CR: EGE 362. Introduction to the concepts of algorithmic formulation of problems for computer solution and the general abstract operations used in these formulations.

COP 3510 (EGE 362) COMPUTER SCIENCE LABORATORY I (1)
CR: EGE 361. Laboratory for implementation of algorithms in a general purpose computer language.

COP 3511 (EGE 363) INTRODUCTION TO COMPUTER SCIENCE II (2)
PR: MTH 351 or equivalent and EGE 362. CR: EGE 364 Looping and I/O structures; local, global, static and dynamic storage. Debugging aids. Data structures. Numeric and non-numeric problems.

COP 3511 (EGE 364) COMPUTER SCIENCE LABORATORY II (1)
PR: EGE 362. CR: EGE 363. Continuation of EGE 362.

ELR 4304 (EGE 404) LABORATORY 4 (1)
PR: EGE 302; CR: EGE 420

ELR 4305 (EGE 405) LABORATORY 5 (1)
PR: EGE 302; CR: EGE 421

ELR 4306 (EGE 406) LABORATORY 6 (1)
PR: EGE 302; CR: EGE 430.

ELR 4114 (EGE 407) ELECTRICAL MEASUREMENTS (2)
PR: EGE 310. Techniques and principles of electronic measurement. (Formerly EGE 548.)

ELR 4115 (EGE 408) ELECTRICAL MEASUREMENTS LABORATORY (1)
CR: EGE 407. (Formerly EGE 549.)

EEL 4133 (EGE 409) MATRICES AND ELECTRICAL NETWORKS (3)
PR: EGE 310. Introduction to matrices applied to electrical networks; two-port network parameters.

EEL 4101 (EGE 410) SEE EGE 310

EEL 4102 (EGE 411) LINEAR SYSTEMS ANALYSIS (3)
PR: EGE 410. Provides further study in the analysis of linear networks and systems. Includes time and frequency domain points of view. Laplace, Fourier and superposition integrals.

——— (EGE 412) COMPUTER AIDED ANALYSIS AND DESIGN (3)
The use of the computer in analysis and design with applications to electrical problems.

EEL 4301 (EGE 420) SEE EGE 320

EEL 4300 (EGE 421) COMMUNICATION CIRCUITS (3)
PR: EGE 420. Provides further study in electronic circuits. Includes oscillator, modulator, and detector analysis and design.

EEL 4511 (EGE 425) COMMUNICATION ENGINEERING (3)
PR: EGE 421. System considerations of electronic circuits; radio propagation; antennas; transmitters and receivers.

EEL 4511 (EGE 426) COMMUNICATIONS LABORATORY (1)
CR: EGE 425. Experiments in amplitude modulation, frequency modulation, pulse communications and data transmission.

EEL 4411 (EGE 430) SEE EGE 330

EEL 4108 (EGE 432) DISTRIBUTED NETWORKS (3)
PR: EGE 330, EGE 410. Transmission lines standing waves, impedance, waveguides.

ELR 4313 (EGE 433) DISTRIBUTED NETWORKS LABORATORY (1)
Laboratory for EGE 432.

ELR 4228 (EGE 435) SYSTEMS APPROACH TO BIOMEDICAL ENGINEERING I (3)
PR: EGE 410 or CC. Characterization of physiological systems, principles of modeling, system properties. Transfer function description, physiological feedback, effects of nonlinearities. (Formerly EGS 432.)

ELR 4221 (EGE 436) SYSTEMS APPROACH TO BIOMEDICAL ENGINEERING II (3)
PR: EGE 435. Continuation of EGE 435. Computer studies of physiological subsystems, model evaluation. Biomedical measurements, automated data collection. (Formerly EGS 433.)

EEL 4656 (EGE 440) LINEAR CONTROL SYSTEMS (3)
PR: EGB 325, EGE 420. Introduction to analysis and design of linear feedback control systems. Covers block diagram, flow charts, Bode, Nyquist and root locus techniques.

EEL 4656 (EGE 441) CONTROL LABORATORY (1)
CR: EGE 440.

EEL 4705 (EGE 444) LOGIC DESIGN (3)
PR: EGB 312. Non-majors may enroll with the consent of the Chairperson. Binary number system; truth functions; Boolean algebra; canonical forms; minimization of combinational logic circuits; logic circuits in computers.

EEL 4705 (EGE 445) LOGIC LABORATORY (1)
CR: EGE 444.

EEL 4757 (EGE 446) MICROPROCESSOR PRINCIPLES AND APPLICATIONS (3)
PR: EGE 494 or equivalent. CR: EGE 447. Functional Description. Arithmetic and Logic capabilities. Control and Timing. Interrupts and Priority systems. Software design and documentation. Distributed function processing.

EEL 4743 (EGE 447) MICROPROCESSORS LABORATORY (1)
CR: EGE 446. Laboratory for Microprocessor use and evaluation.

EEL 4330 (EGE 450) MICROELECTRONICS ENGINEERING (3)
PR: EGE 330, 410, 420, PHY 323. Principles of micro-miniaturization of electrical circuits. Fabrication techniques, component realization, component isolation, parasitics.

EEL 4330 (EGE 451) MICROELECTRONICS LABORATORY (1)
CR: EGE 450.

EEL 4220, 4222 (EGE 460, 462) ELECTROMECHANICS I, II (3,3)
PR: EGB 313. Theory of electromechanical energy conversion. Characteristics and control of rotating electrical machines, transformers, electromagnets, loudspeakers, microphones, transducers.

EEL 4220, 4222 (EGE 461, 463) ELECTROMECHANICS LAB I,II (1,1)
CR: EGE 460, 462, respectively.

COP 4400 (EGE 470) COMPUTER SYSTEMS (3)
PR: EGB 304, MTH 353 or CC. Linked course with EGE 471. Principles of computer organization, machine and assembly language programming.

COP 4400 (EGE 471) COMPUTER SYSTEMS LAB (1)
PR: EGB 304, MTH 353 or CC. Linked course with EGE 470. Computer systems and programming laboratory.

COP 4620 (EGE 472) INTRO TO SYSTEMS PROGRAMMING (3)
PR: EGE 470. Introduction to systems programming, design of assemblers, loaders, linking, data structures and operating systems.

COP 4550 (EGE 473) PROGRAMMING LANGUAGES (3)
PR: EGE 470. An introduction to programming languages, syntax and semantics, properties of algorithmic languages, binding times, arithmetic, string handling, data structures, list processing, translation.

EEL 4933,4906,4906 (EGE 480,481,482) SPECIAL ELECTRICAL TOPICS I,II,III (1-4 each)
PR: CC

CNM 4110 (EGE 490) ENGINEERING ANALYSIS FOR COMPUTER SCIENCE II (3)
PR: CC or MTH 401. Numerical solutions of ordinary differential equations through series and numerical methods.

MAP 4363 (EGE 491) ENGINEERING ANALYSIS FOR COMPUTER SCIENCE III (3)
PR: CC or MTH 401. Vector analysis and methods of solution for boundary value problems in partial differential equations.

COT 4130 (EGE 492) SWITCHING THEORY (3)
PR: EGE 444. Elements of sequential machine theory including minimization methods.

COT 4001 (EGE 493) INTRODUCTION TO DISCRETE STRUCTURES (3)
PR: EGE 444. Introduction to set algebra, propositional logic and finite algebraic structures as they apply to computers.

CDA 4101 (EGE 494) COMPUTER ORGANIZATION (3)
PR: EGE 444. The structural organization of digital computers; control, data operations, I/O, memory. Functional description of their behavior.

CDA 4316 (EGE 495) MINICOMPUTER LABORATORY (1)
CR: EGE 494; Minicomputer organization and programming.

——— (EGE 497) INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

CIS 4911 (EGE 498) COMPUTER SCIENCE PROJECT (3)
Projects intended to develop individual interests and abilities in computer science involving either computer hardware or softward aspects of a well defined proposal.

EEL 4905 (EGE 499) DESIGN PROJECT (3)
PR: Senior standing. An individual or team project involving the design of an electrical component or system. Required of all electrical seniors.

EEL 5367 (EGE 520) PULSE CIRCUIT PRINCIPLES (3)
PR: EGE 411, 421. An introduction to the analysis and design of pulse and timing circuits with applications.

EEL 5435 (EGE 530) UHF PRINCIPLES (3)
PR: EGE 411, 421, 430. A study of tubes, devices and circuits peculiar to systems which operate at ultra high and super high frequencies.

EEL 5435 (EGE 531) UHF LABORATORY (1)
CR: EGE 530.

EEL 5620 (EGE 540) NONLINEAR CONTROL SYSTEMS (3)
PR: EGE 440. Principles of state-variables, phase-plane and describing functions.

EEL 5620 (EGE 541) CONTROL LABORATORY (1)
CR: EGE 540.

EEL 5730 (EGE 542) SEQUENTIAL CIRCUITS (3)
PR: EGE 444. The design of switching circuits with inputs that are functions of time is carried from a word description through a minimum state realization using flip-flops, logic gates and delay elements.

EEL 5711 (EGE 544) DIGITAL COMPUTERS (3)
PR: EGE 444. Digital arithmetic; computer subsystems, arithmetic units; control units; memory units; general purpose computers.

EEL 5711 (EGE 545) DIGITAL LABORATORY (1)
CR: EGE 544.

EEL 5755 (EGE 546) DIGITAL SIGNAL PROCESSING TECHNIQUES (3)
PR: EGE 411 or CC. Techniques of real time statistical analysis of signals, signal conditioning and enhancement. Design of digital networks (Formerly EGB 523.)

EEL 5760 (EGE 547) DISCRETE STRUCTURES FOR DIGITAL SYSTEMS (3)
PR: EGE 444. Set algebra, basic algebraic structures in computers. Boolean algebra, propositional logic, and graphs. Applications to computers.

EEL 5250 (EGE 560) POWER SYSTEMS ANALYSIS (3)
PR: CC. Analysis techniques for AC power systems.

EEL 5253 (EGE 562) COMPUTER ANALYSIS OF POWER SYSTEMS (3)
PR: CC. Review of Fortran programming, matrix algebra, network formulation, short circuit studies, simulation of algebraic equations, load flow studies, numerical solution of differential equations, transient stability studies. Strong emphasis on techniques adaptable to digital computer studies, programs will be written and run on the IBM 360/65.

COP 5621 (EGE 570) TOPICS IN COMPUTERS AND PROGRAMMING (4)
PR: CC. Machine organization, assembly and machine language, data structures, systems programming, operating systems.

EEL 5820 (EGE 573) IMAGE PROCESSING BY COMPUTERS (3)
PR: EGE 411 or CC. Two dimensional convolution and system functions. Fourier transform in two dimensions. Digitization of two dimensional signals, sampling theorems, band-limited signals. Image processing by computers. Applications of image processing. (Formerly EGS 525.)

EEL 5934, 5907, 5907 (EGE 580, 581, 582) SPECIAL ELECTRICAL TOPICS, I, II, III (1-3 each)
PR: CC.

EEL 5931 (EGE 585) ENGINEERING SEMINAR (1)
PR: CC.

EEL 6150, 6151 (EGE 610,611) ADVANCED CIRCUIT THEORY I, II (3-3)
PR: CC. Network fundamentals; network characterization; frequency analysis; superposition integrals; signal-flow techniques; stability problems; real-and-imaginary relations.

EEL 6152 (EGE 612) NONLINEAR CIRCUITS (3)
PR:CC. Analytical and topological approaches to nonlinear circuits; nonlinear resonance; relaxation oscillations.

EEL 6141, 6142, 6143 (EGE 614, 615, 616) NETWORKS SYNTHESIS, I, II, III (3,3,3)
PR: CC. Network functions; physical realizability; two terminal network synthesis methods; frequency transformation; potential analogy; approximation problems; insertion-loss and transfer function synthesis.

EEL 6522 (EGE 620) INFORMATION THEORY (3)
PR: CC. Concepts of information, information channels, channel capacity, information sources and Shannon's fundamental theorem.

EEL 6387 (EGE 622) NOISE THEORY (3)
PR: CC. Electrical noise and signals through linear filters and electronic systems.

EEL 6830 (EGE 623) CODING THEORY I (3)
PR: CC. Error-correcting codes, algebraic block codes, linear, codes and feedback shift registers. BCH codes and decoding methods.

EEL 6831 (EGE 624) CODING THEORY II (3)
PR: EGE 623. Convolutional codes; threshold decoding and sequential decoding. Burst error codes. Arithmetic codes.

EEL 6531, 6532, 6533 (EGE 626, 627, 628) THEORY OF COMMUNICATION I, II, III (3,3,3)
PR: CC. Physical basis and statistical representation of electrical noise; filtering, modulation, and de-modulation of signals corrupted by noise; correlation techniques and linear prediction; statistical estimation of signal parameter; optimum filters and receivers; ambiguity functions and inverse probability. Quantitative measure of information sources, noise channels and channel capacity; an introduction to error-correcting codes.

EEL 6482, 6483, 6484 (EGE 630, 631, 632) ELECTROMAGNETIC FIELDS AND WAVES I, II, III (3,3,3)
PR: CC. Electromagnetic theory from the engineering point of view, propagation and reflection of waves, guided waves, resonant cavities, antennas and radiation.

EEL 6434 (EGE 635) MICROWAVE GENERATION AND AMPLIFICATION (3)
PR: CC. A study of electromagnetic wave generation and amplification. Magnetrons, klystrons, solid-state microwave oscillators and related devices.

EEL 6310 (EGE 636) ELECTRICAL LABORATORY (1)
CR: EGE 635.

EEL 6432 (EGE 637) MICROWAVE COMPONENTS (3)
PR: CC. A study of directional couplers, junctions, cavities and other passive microwave components including microwave integrated circuits.

EEL 6433 (EGE 638) MICROWAVE NETWORKS (3)
PR: CC. Scattering and transfer representations of n-ports. Odd and even mode theory. Wave filters.

EEL 6332 (EGE 639) ELECTRICAL PROPERTIES OF THIN FILMS (3)
PR: EGE 430 and EGE 450 or equivalent or CC. Electrical Properties of thin films as derived from Boltzmann's transport equation. The growth of thin films. The fabrication of electrical circuits with thin films. Lecture supplemented by laboratory experiments and demonstrations.

EEL 6631 (EGE 640) DIGITAL CONTROL SYSTEMS (3)
PR: EGE 440 or CC. Sample-data and digital control processes.

EEL 6640 (EGE 641) RANDOM PROCESSES IN CONTROL SYSTEMS (3)
PR: EGE 440 or CC. Analysis and design of control systems subject to random inputs and disturbances.

EEL 6613 (EGE 642) MODERN CONTROL THEORY (3)
PR: EGE 440, 540, 640, 641 or CC. A study of modern control techniques including optimum and adaptive control.

EEL 6174 (EGE 643) OPTIMUM FILTERING AND IDENTIFICATION (3)
PR: CC, or EGE 640. Estimation theory and development of the Kalman-Wiener filters for continuous and discrete-time systems. System identification through deterministic and stochastic approaches. Application to control and communication systems.

EEL 6840 (EGE 644) AUTOMATA THEORY I (3)
PR: EGE 547. Review of mathematical foundations, decomposition and interconnection of digital machines, measurement and control of finite-state sequential circuits,machine identification, regular expressions and finite-state machines.

EEL 6841 (EGE 645) AUTOMATA THEORY II (3)
PR: EGE 644. Vector spaces over finite fields, linear sequential circuits, pseudo-random sequences, Turing machines, recursive function computability.

EEL 6842 (EGE 646) AUTOMATA THEORY III (3)
PR: EGE 645. Artificial languages, phase-structure grammars, operations on languages, decision problems, discrete value random processes, Markov processes, probabilistic sequential machines, non-deterministic sequential machines.

ELR 6117 (EGE 648) ELECTRICAL MEASUREMENTS (2)
PR: CC. Advanced techniques and principles of electronic measurement.

ELR 6118 (EGE 649) MEASUREMENTS LABORATORY (1)
CR: EGE 648.

EEL 6351,6352,6353 (EGE 650, 651, 652) SOLID STATE ELECTRONICS I,II,III (3,3,3)
PR: CC. Theory of operation and application of circuits and devices.

EEL 6386,6386 (EGE 653, 654) PRINCIPLES OF SEMICONDUCTOR DEVICE MODELING I, II (3,3)
PR: EGE 411, 430. A course sequence which emphasizes systematic methods of obtaining models which relate device physics to terminal behavior and which provide appropriate compromises between accuracy and simplicity.

EEL 6765 (EGE 655) COMPUTER DESIGN LANGUAGES (3)
PR: CC or EGE 544. Simulation languages for digital computer systems; APL, CDL and others. Simulation of elements, operations, sequences and a complete digital computer.

EEL 6764 (EGE 656) DIGITAL ARITHMETIC METHODS (3)
PR: CC or EGE 544. Study of the number systems and the algorithms used for digital arithmetic computation with emphasis in their implementation, speed and reliability considerations.

EEL 6766 (EGE 657) COMPUTER ARCHITECTURE (3)
PR: CC or EGE 655 or EGE 656. The macro-structure of computers is considered in this course, ranging from the orthodox von Neumann designs to multiprocessors, stack processors, pipe-line systems and associative computers.

EEL 6822 (EGE 658) PATTERN RECOGNITION THEORY (3)
PR: CC. Theory of pattern recognition. Parametric and nonparametric methods, training theorems, unsupervised learning. Biomedical and other engineering applications. (Formerly EGB 631).

EEL 6823 (EGE 659) COMPUTER APPROACHES TO PATTERN RECOGNITION (3)
PR: EGE 658. Computer implementation of pattern recognition problems. Feature reduction methods. CLAFIC and SELFIC techniques. Sequential methods. (Formerly EGB 632.)

EEL 6261,6262,6263 (EGE 660,661,662) ELECTRIC POWER SYSTEMS I, II, III (3,3,3)
PR: CC. Steady-state and transient analysis of interconnected power systems; power circuit protection; transient characteristic of apparatus.

EEL 6270 (EGE 663) LIGHTNING AND SURGE PROTECTION (3)
PR: CC. Methods of protection against overvoltages due to lightning. Ground wire shielding, systems and tower grounding, lightining arresters. Dynamic overvoltages, switching phenomena and system recovery voltages.

EEL 6271 (EGE 664) PROTECTIVE RELAYING OF POWER SYSTEMS (3)
PR: EGE 560, EGE 660 or CC. Fundamentals of instrumentation. Design and operation of protective schemes for equipment in generation, transmission, and distribution circuits. Analysis of abnormal system conditions requiring relay operation.

EEL 6508 (EGE 670) PULSE COMMUNICATIONS SYSTEM (3)
PR: CC. Sampling theory, pulse waveform generation and modulation. PAM, PWM, PPM, related multiplex systems, telemetry applications.

EEL 6506 (EGE 671) DATA TRANSMISSION (3)
PR: EGE 670. Quantization theory, binary coding systems, ideal binary transmission, on-off keying, FSK, PSK, PCM, applications.

EEL 6507 (EGE 672) DATA TRANSMISSION II (3)
PR: EGE 671. M-ary systems-MASK, MFSK, MPSK, orthogonal systems, multilevel and multistate coding, simplex codes, orthogonal and biorthogonal codes, polysignal systems, synchronization methods.

COP 6530 (EGE 675) DATA STRUCTURES (3)
PR: CC. Representation of information and information structures in a computer system, linear linked lists, multilinked lists, algorithms for list manipulation, stacks, deques and queues, trees and binary trees, tree traversing algorithms.

COP 6613 (EGE 676) OPERATING SYSTEMS (3)
PR: CC. Operating systems functions and design, resource management, protection systems, process communication and deadlocks.

COP 6642 (EGE 677) PROGRAMMING LANGUAGES AND TRANSLATION (3)
PR: CC. Grammars and languages, symbols, strings, syntax, parsing, the design of a compiler, storage organization and symbol tables, translator writing systems.

ESI 6198 (EGE 678) CASE STUDIES IN INDUSTRIAL COMPUTER SYSTEMS (3)
PR: CC. A case study approach to the definition and implementation of industrial computer systems. The role of automation within the industrial concern. Design of systems in inventory, production control, and related areas. Directing the computer function and systems development. (Formerly EGS 628.)

EEL 6756 (EGE 679) SPECTRAL ANALYSIS BY COMPUTERS (3)
PR: CC. Introduction to time series analysis by computers, Discrete Fourier methods applied to time series, sample spectrum, cross spectrum, smoothing of spectral estimators, distribution properties. Application to physical, biological and environmental problems. (Formerly EGS 635.)

EEL 6935 (EGE 680) SPECIAL ELECTRICAL PROBLEMS (1-3)
PR: CC.

——— (EGE 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

EEL 6935 (EGE 682) SELECTED ELECTRICAL TOPICS (1-3)
PR: CC. (Formerly EGE 681.)

ELR 6940 (EGE 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

ELR 6911 (EGE 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (EGE 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

EEL 6932 (EGE 698) ADVANCED ENGINEERING SEMINAR (1-3)
PR: CC.

EEL 6912 (EGE 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

ELR 7910 (EGE 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

EEL 7913 (EGE 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Energy Conversion and Mechanical Design (EGR)

EMC 3103 (EGR 311) THERMODYNAMICS III (4)
PR: EGB 321. The study of energy conversion processes and cycles as modified for optimization of capacity and efficiency. Applications include pumps, compressors, turbines, internal combustion engines, power and refrigeration cycles.

EMC 3117 (EGR 315) HEAT TRANSFER I (4)
PR: EGB 323. The basic laws of conduction, convection and radiation; analysis of the effect on heat transfer of thermal conductivity, emissivity, fluid transport properties and Reynold's number. Lec.-lab.

EML 3264 (EGR 326) DYNAMICS OF MECHANICAL SYSTEMS (3)
PR: PHY 301, MTH 352. Plane and angular motion; velocity and acceleration curves, velocities and accelerations in mechanisms, static and dynamic force analysis. Rolling and sliding contact pairs, cams, gear tooth action. Lec.-lab.

EMC 3301 (EGR 348) PHYSICAL MEASUREMENTS I (3)
PR: EGB 311. Basic Electrical Measurements, Oscillosopes, Recorders, Temperature Measurement, Displacement Measurement, Pressure Measurement, Flow Measurement. Lec.-lab.

EMC 3303 (EGR 350) ENERGY CONVERSION LABORATORY I (3)
CB: EGB 321. Introduction to engineering laboratory measurement with emphasis on the use of the library and the writing of technical reports. Experiments in the measurement of temperature, pressure, fluid flow, psychrometic properties of

air, concentration, viscosity. Determination of mass-energy balances of simple systems. Preparation of formal engineering reports covering laboratory work.

EMC 4104 (EGR 411) THERMODYNAMICS IV (4)
PR: EGR 321 or CI. Introduction to Chemical Engineering Thermodynamics; Maxwell relations, properties of real substances and solutions, description of multicomponent systems in equilibrium . Qtr. III, IV.

EMC 4501 (EGR 413) FLUID MACHINERY I (4)
PR: EGB 323 and EGB 343 or CI. Performance characteristics of pumps and fans; energy conversion in fluid machines; design of piping and duct systems; proper selection of pumps and fans for given fluid systems; analysis of system efficiency parameters; correlation of design predictions with experimental data.

EMC 4112 (EGR 416) ELECTRONIC EQUIPMENT COOLING (3)
PR: EGB 312 or CI. Fundamentals of conduction, convection and radiation. Analysis of extended surfaces. Printed circuit board thermal analysis. Semiconductor performance and derating as a function of environmental control. Free and forced convection as applied to electrical and electronic components. Thermo-electric cooling and performance of cold plate heat exchangers. Microelectronics applications.

EMC 4131 (EGR 417) FUELS AND COMBUSTION (3)
PR: EGR 311 or EGR 411. A study of chemical reactions as sources of energy. Emphasis on the combusion characteristics of gaseous, solid, and liquid fuels, and equipment needed to safely and economically control combustion processes. Lec.-lab.

EML 4513 (EGR 419) POWER PLANT ANALYSIS AND DESIGN (3)
CR: EGR 311. EGR 315. Parameters affecting utility power production; daily load curves; estimation of future loads; economics of power generation; system efficiency as affected by the thermodynamic cycle, multiunit scheduling, and load variation; heat transfer regions in the steam generator; water treatment methods.

ENU 4142 (EGR 421) INTRODUCTION TO NUCLEAR ENGINEERING I (3)
Neutron density and thermalization parameters; criticality calculations; transient flux parameters; reactor operation; control instrumentation.

EML 4601 (EGR 424) REFRIGERATION AND AIR CONDITIONING (3)
CR: EGR 311, EGR 315. Application of thermodynamics, heat transfer and fluid flow to the design of systems for controlling our environment; heating and cooling load calculations; psychrometrics of air conditioning processes.

EML 4500 (EGR 428) MACHINE ANALYSIS AND DESIGN (3)
PR: EGB 340. Stress analysis, stress strain relations, deflection analysis, shock and impact, selection of materials, Principles of design. Lec.-lab.

EML 4503 (EGR 429) MECHANICAL DESIGN I (3)
PR: EGR 326. EGR 428. Application of the principles of engineering mechanics, materials and manufacturing to the analysis and design of mechanical elements. Lec.-lab.

EMC 4411 (EGR 441) ANALOG AND DIGITAL SIMULATION I (3)
PR: EGB 325 or CI. The use of analog and digital computers as tools for the solution of engineering problems by means of simulation. Lec.-lab.

EMC 4402 (EGR 445) DYNAMIC RESPONSE OF ENGINEERING SYSTEMS II (3)
PR: EGB 325. Analysis of response of dynamic systems with emphasis on the inter-disciplinary nature of such response. A continuation of Dynamic Response I, EGB 325.

EMC 4522 (EGR 450) ENERGY CONVERSION LABORATORY II (2)
PR: EGR 350. Continuation of EGR 350 with emphasis on material and energy balances of mechanical and chemical systems and processes. Lec.-lab.

EMC 4523 (EGR 451) ENERGY CONVERSION LABORATORY III (2)
PR: EGR 450 or CI. Continuation of EGR 450. Emphasis on experiments involving momentum transfer of non-Newtonian fluids, heat conduction, and mass diffusion.

EMC 4312 (EGR 453) MECHANICAL CONTROL (3)
EGB 311, 325, and EGR 441. Analysis of devices for measurement and control. Transmitters, error detectors, controllers and final control elements. Block diagram representation.

EMC 4311 (EGR 454) CONTROLS LABORATORY (1)
PR: EGB 325. CR: EGR 453. Familiarization with and performance testing of automatic control systems.

EMC 4314 (EGR 455) PROCESS CONTROL SYSTEMS I (3)
PR: EGR 453 or CI. Analysis and design of process control systems. Consideration of typical control sensors and controllers as well as advanced process control techniques such as feedforward and ratio control. (Formerly EGR 553.)

ECH 4413 (EGR 471) SEPARATION PROCESSES I (3)
PR: MTH 303, CR: EGB 321. Introduction to the use of mass and energy balances and to chemical engineering thermodynamics through the description and analysis of separation processes (e.g., crystallization, distillation, osmosis, etc.) Qtr. I, II.

ECH 4215 (EGR 472) TRANSPORT PHENOMENA (4)
PR: EGR 311, or EGB 343, or EGR 473. A comparative study of transport phenomena with emphasis on the macroscopic applications of the balance and flux equations of momentum, energy and mass.

ECH 4234 (EGR 473) MASS TRANSFER (3)
PR: EGB 323 Study of molecular and turbulent diffusion in fluids, diffusion in solids, mass transfer coefficients and interphase mass transfer. Qtr. II, III.

ECH 4414 (EGR 474) SEPARATION PROCESSES II (3)
PR: EGR 471 or CI. Emphasis on selection and design of separation processes. Familiarization with graphical techniques, group methods and other computational approaches used in design. Use of empirical correlations for size of equipment, efficiency of the process and quality of the separation. Qtr. III, IV.

ECH 4714 (EGR 475) INDUSTRIAL CHEMISTRY (3)
PR: CHM 332, EGR 474. A critical study of selected chemical process industries in order to give the student a better understanding of the direct application of basic chemical process principles.

ECH 4131 (EGR 476) REACTING SYSTEMS I (3)
PR: EGR 411. Design and control of homogeneous chemical reactors, effect of mixing, temperature and flow characteristics. Laboratory (3 contact hours). The student in this laboratory will be responsible for the safe and efficient manufacture of a "chemical" on pilot plant equipment. Lec.-lab.

ECH 4615 (EGR 478) DESIGN AND CASE PROBLEMS (3)
PR: EGB 337, EGR 474. This part of the course exposes the chemical engineering student to the design of a chemical plant or a major part of a process. The annual A.I.Ch.E. student contest design problems and typical design problems supplied by local industries will be used. CASE PROBLEMS: This part of the course stresses engineering "art." The word "case" connotates a specific engineering problem situation actually experienced by someone in the past or present. The student must generate his own individual approch to problem solving, benefitting from those of others in the class. (Formerly EGR 577.)

EMC 4930 (EGR 481) SPECIAL TOPICS ENERGY CONVERSION I (1-4)
PR: CC.

EMC 4931 (EGR 482) SPECIAL TOPICS ENERGY CONVERSION II (1-4)
PR: CC.

——— (EGR 497) INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

EMC 5651 (EGR 501) INDUSTRIAL AIR POLLUTION CONTROL (4)
PR: EGB 321. A basic course in the elements of large source air pollution and control as presented from the engineering viewpoint. Major units to be studied: Sources, Atmospheric Meteorology, Diffusion, Local Influences. Control Measures, Emergencies, Protection. Lec.-lab.

EMC 5107 (EGR 511) INDUSTRIAL CHEMICAL ENGINEERING THERMODYNAMICS (4)
PR: CI. Classical thermodynamics applied to complex power cycles and reacting systems of industrial importance. Review of Maxwell relations, equations of state of real substances, and Gibbs Free Energy and Equilibria.

EMC 5502 (EGR 513) FLUID MACHINERY II (3)
PR: EGR 413. Performance characteristics of compressors and exhausters, vacuum pumps, and gas turbines; internal energy exchange and fluid flow paths; piping and ducting considerations; economic selection of proper equipment to match fluid and power system requirements; evaluation of off-design conditions.

EML 5224 (EGR 522) ACOUSTICS AND NOISE CONTROL (3)
PR: CC. Fundamentals of sound propagation; sound power and intensity; psychoacoustics, industrial noise sources, methods of noise attenuation; community noise ordinances; instrumentation for noise measurement. Lec.-lab.

EML 5608 (EGR 523) MECHANICAL UTILITIES SYSTEMS (3)
PR: EGR 413. Analysis and design of a building's mechanical systems for fire and lightning protection, air conditioning, water supply, waste and storm drains.

EML 5528 (EGR 526) ANALYSIS METHODS FOR MECHANICAL DESIGN (3)
PR: EGR 428. Treatment of stress, strain and strength aspects of Machine Design. Application of failure theories, residual stresses and energy principles to machine elements.

EML 5273 (EGR 527) ADVANCED DYNAMICS OF MACHINERY (3)
PR: EGR 326. A continuation of undergraduate course and devoted to a more detailed study of velocities, accelerations and forces in machine parts having reciprocating, rotating and combined motion. A complete force analysis will be made of an internal combustion engine.

EML 5505 (EGR 528) MECHANICAL DESIGN II (3)
PR: EGR 429. A continuation of EGR 429. Lec.-lab.

EML 5509 (EGR 529) PROJECT DESIGN (3)
PR: CC. Correlation of previously acquired mechanical design experiences with a creative design project. Lec.-lab.

EML 5221 (EGR 533) MECHANICAL VIBRATION AND BALANCING (3)
PR: EGB 341, 401. Transient and steady state vibration analysis of mechanical systems with lumped parameters. Dynamic balancing, vibration isolation and simulation of systems.

EML 5241 (EGR 535) LUBRICATION I (3)
PR: EGB 343, 401. The theoretical basis of lubrication and hydrodynamic bearing theory. The study of lubrication requirements of different types of machines.

EMC 5305 (EGR 551) INSTRUMENTAL ANALYSIS (4)
PR: PHY 305, CHM 213. Instrumental Analysis. This course will deal with the engineering bases of a variety of sophisticated instrumental techniques for chemical analysis. Emphasis will be placed on the physical basis of the instrument and its design rather than on the interpretation of the analysis. Systems to be examined will include light and r.f. spectroscopy, mass spectrometry and methods which depend on various transport properties.

EMC 5315 (EGR 554) HYDRAULIC CONTROL (3)
PR: EGR 453 or CI. Hydraulic control system components and their effects on closed loop system performance. Lec.-lab.

EMC 5510 (EGR 560) POWER UTILIZATION SYSTEMS (3)
PR: EGB 311. Standard electrical voltages. NEMA standards, motor parameters, motor control, control system elements, interlocks, conductors, raceways, Electrical Code, Protective devices.

EMC 5930 (EGR 581) SPECIAL TOPICS ENERGY CONVERSION III (1-4)
PR:CC.

——— (EGR 582) SPECIAL TOPICS ENERGY CONVERSION IV (1-4)
PR: CC.

EMC 6106 (EGR 611) THERMODYNAMICS OF FLUID FLOW (3)
PR: CC. Interrelationship of the equations of fluid motion and of thermodynamics for ideal gases; subsonic and supersonic gas flows, flows with friction and with heat transfer; supersonic nozzle design; parameters of fluid thrust.

EMC 6105 (EGR 612) ADVANCED THERMODYNAMICS (4)
PR: CC. Advanced treatment of the general equations of thermodynamics, principal equations of chemical reaction; the chemical potential and equilibrium; analysis of metastable states. Irreversibility and steady flow.

EMC 6Q15 (EGR 613) PROCESS HEAT TRANScER I (3)
PR: EGR 315. Review of conduction and convec—ion heat transfer, counterflow, 1-2 parallv-counterflow, flow arrangements for increased heat recovery, calculations for process conditions, condensation and evaporation.

EMC 6116 (EGR 614) PROCESS HEAT TRANSFER II (3)
PR: EGR 315, EGR 613. Extended surface, longitudinal and radial fins, crossflow, finned passages, longitudinal high fin exchangers, radial flow fin exchangers, transverse high fin exchangers and compact heat exchangers.

EMC 6118 (EGR 615) HEAT TRANSFER II (3)
PR: EGR 315. EGB 401 . Steady and unsteady heat transfer by conduction; one, two and three dimensional systems, numerical, graphical and analog methods, finite difference methods and periodic conduction heat flow. (Formerly EGR 515.)

EMC 6119 (EGR 616) HEAT TRANSFER III (3)
PR: EGR 315 and EGB 401 or CC. Radiative heat transfer. Radiation from black and "grey" bodies. Pure radiative heat transfer and in the presence of other modes of energy transfer. (Formerly EGR 615.)

EMC 6520 (EGR 617) ENERGY TRANSFORMATION AND STORAGE (3)
PR: CC. Analysis of direct energy conversion systems, photoelectric cells, thermocouples, fuel, cells, thermionic converters, magnetohydrodynamic devices, solar energy cells, rectifiers, inverters, energy storage devices.

EMC 6650 (EGR 620) PROCESS DESIGN FOR ENVIRONMENTAL PROTECTION I (4)
PR: EGR 478 or CI. Equipment and Process Design with emphasis on discharge control and environmental protection. Economic, and ecological constraints on optimum design.

EML 6225 (EGR 622) ACOUSTICS AND NOISE CONTROL II (3)

PR: EGR 522. Continuation of EGR 522, acoustics and Noise Control I.

EML 6253 (EGR 623) NOISE CONTROL DESIGN (1-3)
PR: EGR 522, EGR 622. Practical solutions to real noise problems occuring in local industries; students will be required to analyze a problem, design a "solution," and prepare and present a report to plant engineering personnel giving their analysis and recommendations; variable credit depending on complexity of problem.

EML 6606 (EGR 624) AIR CONDITIONING SYSTEMS (3)
PR: EGR 413, EGR 424. Analysis and design of air conditioning systems; criteria for selection of central systems, unit air conditioners, or self-contained units; performance characteristics of single zone systems, with and without reheat, multizone systems, double duct and variable volume systems.

EML 6054 (EGR 625) AIR CONDITIONING SYSTEMS DESIGN (3)
PR: EGR 424, EGR 624 or CI. Design of an air conditioning system from the concept stage to final plans and specifications, stressing the practical application of basic theory and knowledge of types of systems available.

EML 6533 (EGR 629) ADVANCED MECHANICAL DESIGN (3)
PR: CC. A technical application course involving the problem of developing machines to perform specified functions. The machine to be designed will be designated by the instructor. The analysis will include evaluating all parts for stress, vibration, wear and proper consideration of manufacturing processes involved. Lec.-Lab.

EML 6235 (EGR 630) APPLIED ENGINEERING: ASPECTS OF FATIGUE (3)
PR: EGR 526. Evaluation of strength of machine members under fatigue loadings. Stress concentrations, residual stress effects, surface coatings, environmental effects. Statistical treatment in fatigue analysis.

EML 6222 (EGR 633) VIBRATION ANALYSIS (3)
PR: EGR 533. Application of generalized coordinates. LaGrange's equation, matrix iteration, and other specialized methods to discrete multimass systems.

EML 6242 (EGR 635) LUBRICATION II (3)
PR: EGR 535. A continuation of EGR 535 with emphasis on hydrodynamic squeeze film theory and gas lubricated bearings.

EMC 6415 (EGR 640) DIGITAL TECHNIQUES IN ENERGY TRANSFER SYSTEMS (3)
PR: EGR 441 or CI. Application of both general purpose and specialized programs to the solution of problems in the design of control systems, kinematic mechanisms and energy transfer systems. Some languages and programs to be used are FORTRAN, the Continuous System Modeling Program and the Mechanism Design Program.

EMC 6412 (EGR 641) ANALOG AND DIGITAL SIMULATION II (3)
PR: EGR 441 or CI. Introduction to mathematical modeling techniques applied to Mechanical and Chemical Engineering systems. The use of analog and digital computers in the solution of these models. Lec.-lab.

EMC 6455 (EGR 642) DIMENSIONAL ANALYSIS AND MODEL THEORY I (3)
PR: CC. Theory of dimensional analysis, similitude, and design of models.

EMC 6317 (EGR 648) DIRECT DIGITAL CONTROL (3)
PR: EGR 455 or CI. Application of digital computer to control of engineering processes. Includes study of digital filtering, Z-transforms, supervisory control. A/D and D/A conversion.

EMC 6302 (EGR 651) PHYSICAL MEASUREMENTS II (3)
PR: EGR 348, 441, 450 or CI. The techniques and theory for measuring temperature, pressure, displacement, speed, acceleration, force, power, and psychrometric properties with particular attention to dynamic measurement. Lec.-lab.

EMC 6316 (EGR 656) NUMERICAL MEASUREMENT AND CONTROL (3)
PR: CC. Incremental and absolute control systems. Number systems used in numerical control. Digital to analog and analog to digital conversion. Applications.

EMC 6319 (EGR 657) FLUID AMPLIFIERS AND CIRCUITS (3)
PR: CC. Analysis and design of fluid devices for use as amplifiers, logic devices and memory elements in instrumentation and control systems.

EMC 6318 (EGR 659) ADVANCED MECHANICAL CONTROL (3)
PR: EGR 445 or CI. Applications of state space techniques to analysis and design of energy transfer control systems. Includes study of optimal control and adaptive control.

ECH 6217 (EGR 672) ADVANCED TRANSPORT PHENOMENA (4)
PR: EGR 472 or CI. Transport processes (mass, momentum and energy) are the underlying phenomena in energy conversion systems. This course expands and unifies the fundamental concepts introduced in undergraduate fluids and heat and mass transfer courses.

ECH 6515 (EGR 676) REACTING SYSTEMS II (4)
PR: EGR 476 or CI. Dynamics of heterogenous reaction. Economic factors in the design of chemical reactors. Simulation of complex reacting systems.

ECH 6616 (EGR 678) DESIGN AND CASE STUDIES (4)
PR: EGR 478. Plant and Process Design with emphasis on computer aided design.

EMC 6930 (EGR 680) SPECIAL PROBELMS I (1-4)
PR: CC. (Formerly EGR 681.)

——— (EGR 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

EMC 6931 (EGR 682) SPECIAL PROBLEMS II (1-4)
PR: CC.

——— (EGR 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (EGR 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (EGR 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

EMC 6934 (EGR 698) ADVANCED SEMINAR (1-3)
PR: CC.

EMC 6971 (EGR 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

——— (EGR 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

——— (EGR 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Industrial Systems (EGS)

EIN 4304 (EGS 402) INDUSTRIAL PROCESSES (4)
PR: EGB 337. Introduction to basic industrial processes emphasizing interdependency and similarities among industries. Students research specific industries and visit local industrial plants. Lec.-lab.

EIN 4312 (EGS 403) PRODUCTION DESIGN I (3)
PR: EGS 402, EGB 306. Methods study, predetermined time systems, wage administration, work measurement techniques including stop-watch time study, work sampling, standard data and production studies. Lec.-lab.

EIN 4313 (EGS 404) PRODUCTION DESIGN II (3)
PR: EGS 403. Continuation of EGS 403. Lec.-lab.

EIN 4334 (EGS 405) PRODUCTION CONTROL SYSTEMS I (3)
PR: EGS 411, 441, 462. Principles and techniques of industrial planning and control systems design. Cost analysis, forecasting and controlling production activities.

EIN 4335 (EGS 406) PRODUCTION CONTROL SYSTEMS II (3)
PR: EGS 405, 442. Advanced topics in industrial planning and control systems design including the use of CPM, PERT and LOB.

EIN 4352 (EGS 407) ENGINEERING VALUATION II (3)
PR: EGB 337 or equivalent. Analysis of economic limitations on engineering projects. Income tax considerations, replacement models, MAPI and obsolescence.

EIN 4364 (EGS 409) PLANT FACILITIES DESIGN I (3)
PR: EGS 404, 407. Design and modification of plant facilities, including design of a complete manufacturing operation. Problems in plant location, layout, material handling and equipment selection.

EIN 4366 (EGS 410) PLANT FACILITIES DESIGN II (3)
PR: EGS 409, 422, 442. Advanced techniques for evaluation of alternative plans for plant arrangement, including equipment location and material handling systems.

ESI 4455 (EGS 411) NETWORK MODELS (3)
PR: EGB 304. A study of the design and analysis of network models as applied to the solution of process related situations.

ESI 4120 (EGS 420) COMPARATIVE COMPUTER LANGUAGES I (1)
PR: EGB 204, 304. Comparison of higher level languages from viewpoint of structure, logic, data processing, speed and ease of usage for applications to system problems. Included are FORTRAN, WATFIV, SIMSCRIPT, GPSS, PL-I and ALGOL.

ESI 4121 (EGS 421) COMPARATIVE COMPUTER LANGUAGES II (2)
PR: EGS 420. Use of the higher level languages analyzed in EGS 420 for specific applications to system design from the viewpoint of language comparisons and preferred choices. Additional comparisons are made with several procedure-oriented languages.

ESI 4521 (EGS 422) COMPUTER SIMULATION I (3)
PR: EGB 304. Use of computers in physical and industrial systems. Simulation languages and their applications.

ESI 4141 (EGS 423) COMPUTER SYSTEMS I (3)
PR: EGB 304, MTH 352 or equivalent. Algorithms and computing. Computer organization and operating systems. Data management procedures. Structure and application of programming language.

ESI 4142 (EGS 424) COMPUTER SYSTEMS II (3)
PR: EGS 423. Study of computer hardware usage. Peripheral subsystems. Transfer of information and control within a complete operating system. Executive systems and control monitors.

ESI 4143 (EGS 425) COMPUTER SYSTEMS III (3)
PR: EGS 424. A continuation of EGS 424 stressing detailed applications of machine and assembly language to computer operating systems.

ESI 4504 (EGS 427) FORTRAN APPLICATIONS I (3)
PR: EGB 304, MTH 352. Solution of engineering problems using digital computers. Numerical methods using FORTRAN.

ESI 4195 (EGS 429) COMPUTER PROJECTS (3)
PR: EGS 407, 421, 422, 424. Special projects involving the use and operation of digital computers.

ESI 4132 (EGS 431) HYBRID COMPUTERS (3)
PR: EGB 304, EGS 425. The use of hybrid computers for the solution of problems in systems analysis. Lec.-lab.

ESI 4314 (EGS 441) OPERATIONS RESEARCH I (3)
PR: EGB 405. An introduction to the basic operations research techniques—linear programming, dynamic programming, simulation and queueing.

ESI 4315 (EGS 442) OPERATIONS RESEARCH II (3)
PR: EGS 441, 462. Continuation of EGS 441.

ESI 5573 (EGS 452) NUMERICAL METHODS (3)
PR: EGB 405. Continuation of material in EGB 405.

EGI 4215 (EGS 462) ENGINEERING STATISTICS II (3)
PR: EGB 306. Estimating and testing procedures, regression and correlation analysis.

ESI 4244 (EGS 463) DESIGN OF EXPERIMENTS I (3)
PR: EGB 306. Development of the basic experimental designs. Randomized block, latin squares and factorial designs.

ESI 4221 (EGS 465) STATISTICAL QUALITY CONTROL (3)
PR: EGB 306. Application of statistical techniques to the control of industrial processes. Control charts and acceptance procedures. Sequential sampling. For undergraduates.

ESI 4316 (EGS 472) SYSTEMS ANALYSIS AND DESIGN (3)
PR: EGB 304, EGS 405, 442. The definition and analysis of systems. The solution of industrial systems problems using dynamic programming, simulation, queueing, linear and nonlinear programming.

——— (EGS 497) INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

EIN 5245 (EGS 503) HUMAN FACTORS (3)
PR: CC. Problems in the design; analysis and evaluation of man-machine systems from the viewpoint of physical, mental and psychological characteristics and limitations encountered.

EIN 5345 (EGS 505) INVENTORY CONTROL (3)
PR: EGS 406 or equivalent. Properties of inventory systems and the fundamentals of deterministic and probabilistic inventory models.

EIN 5353 (EGS 507) ENGINEERING VALUATIONS STUDIES (3)
PR: CC. The analysis of economic considerations affecting enginering decision making. Not open to students who have had EGS 407.

EIN 5389 (EGS 509) TECHNOLOGICAL FORECASTING (3)
PR: Senior or graduate status. Open to non-majors. Recent developments in forecasting technical progress; morphological analysis, heuristic forecasts, intuitive methods, empirical and phenomenological models. Technology assessment.

ESI 5145 (EGS 510) COMPUTER OPERATION (4)
PR. Graduate engineering or science status. EGB 204 or equivalent, and CC. A comprehensive study of computer operating systems for mature students who have limited prior computer experience. Course covers material necessary to prepare the student for entry into the EGS 620, 621, 622 sequence.

ESI 5522 (EGS 522) COMPUTER SIMULATION II (3)
PR: EGS 422. Continuation of material in EGS 422.

ESI 5505 (EGS 533) FORTRAN APPLICATIONS II (3)
PR: EGS 427 or equivalent. Advanced numerical methods using FORTRAN, applied to higher level problems in the individual student's field of engineering, mathematics or applied science.

ESI 5306 (EGS 540) OPERATIONS RESEARCH (3)
PR: CC. Linear programming, game theoretic models, economic optimization. Not open to students who have had EGS 442.

EIN 5218 (EGS 550) HAZARD CONTROL ENGINEERING (3)
PR: Senior or graduate status. Open to non-majors. Nature of industrial accidents. Practices, standards, OSHA and other governmental requirements for reducing accident frequency and severity in the industrial environment. Design measures for the prevention of health impairment due to non-accidental causes.

ESI 5219 (EGS 560) INDUSTRIAL STATISTICS (3)
PR: CC. Industrial applications of probability, testing of hypotheses, regression techniques and analysis of variance. Not open to students who have had EGS 462.

ESI 5245 (EGS 562) DESIGN OF EXPERIMENTS II (3)
PR: EGS 463. Continuation of material in EGS 463.

ESI 5216 (EGS 563) ENGINEERING STATISTICS III (3)
PR: EGS 462 or equivalent. Application of non-parametric statistics, sequential analysis, orthogonal polynomials and other optimization techniques to industrial problems.

ESI 5222 (EGS 565) STATISTICAL QUALITY CONTROL (3)
PR: EGB 306 or equivalent. Application of statistical techniques to the control of industrial processes. Control charts and acceptance procedures. Sequential sampling.

ESI 5233 (EGS 566) RELIABILITY ENGINEERING (3)
PR: EGS 462 or equivalent. Fundamental concepts of reliability control. Estimation of reliability of systems and components. Measures of availability, maintainability and reliability.

EIN 5914, 5915, 5916 (EGS 580, 581, 582) SPECIAL INDUSTRIAL PROJECTS I, II, III (1-3 each)
PR: CC.

EIN 6247 (EGS 603) MAN/MACHINE SYSTEMS (3)
PR: EGS 503. Principles of work measurement, process analysis, value analysis, and human factors and their application to industrial situations.

EIN 6336 (EGS 605) PRODUCTION CONTROL SYSTEMS III (3)
PR: EGS 406 or equivalent. Forecasting procedures, development of production plans, scheduling techniques and inventory models. Application of EDP to production control systems.

EIN 6356 (EGS 607) ADVANCED ENGINEERING VALUATION (3)
PR: EGS 407 or equivalent. Statistical models for analyzing engineering alternatives from an economic viewpoint. The use of advanced engineering economy concepts in solving industrial problems.

ESI 6146 (EGS 620) COMPUTER THEORY I (3)
PR: CC. Advanced concepts in computer organization. Combinational logic, data representation and transfer, control functions, storage and accessing. Input/output facilities. Modular programming concepts.

ESI 6147 (EGS 621) COMPUTER THEORY II (3)
PR: EGS 620. Advanced concepts in programming languages. The interrelation between machine, assembly and procedure oriented languages. Introduction to the design of monitors, assemblers, compilers.

ESI 6148 (EGS 622) COMPUTER THEORY III (3)
PR: EGS 621. Continuation and extension of EGS 621 emphasizing detailed design principles used in the construction of monitors, assemblers and compilers.

ESI 6414 (EGS 641) LINEAR PROGRAMMING (3)
PR: EGS 442 or equivalent. The simplex method, degeneracy, duality theory; applications of linear programming to industrial problems.

ESI 6405 (EGS 642) NONLINEAR AND DYNAMIC PROGRAMMING (3)
PR: EGS 641. Optimization procedures using nonlinear and dynamic programming. Analysis of multi-stage systems.

ESI 6336 (EGS 644) QUEUEING THEORY (3)
PR: EGS 442, 462. Deterministic and probabilistic queueing models. Poisson queues and special non-Poisson queues with exponential and non-exponential services. Single and multiple channel queues.

ESI 6491 (EGS 646) MULTIVARIABLE OPTIMIZATION (3)
PR: EGS 562, 563. Optimum seeking methods; search methods, response surfaces, ridge analysis and stochastic approximations.

ESI 6341, 6346 (EGS 647, 648) STOCHASTIC PROCESSES I, II (3,3)
PR: EGS 562. Theory and application of stochastic processes as models for empirical phenomena, with emphasis on the following processes: Poisson, stationary, normal, counting renewal, Markov, birth and death. Spectral representations, time series, smoothing and filtering.

ESI 6552 (EGS 650) EVALUATION OF SYSTEM PERFORMANCE I (3)
PR: EGB 401, EGS 441, 462, or CC. Applications of probability and random processes to the design and evaluation of physical systems from the viewpoint of satisfying prescribed specifications. System variabilities include random process inputs and system parameters treated as random variables. Problems.

ESI 6553 (EGS 651) EVALUATION OF SYSTEM PERFORMANCE II (3)
PR: EGS 650. Continuation of EGS 650 with special emphasis upon writing the computer software required to implement the evaluation algorithms. Advanced problems.

ESI 6213, 6214 (EGS 661, 662) THEORY OF INDUSTRIAL STATISTICS I, II (3,3)
PR: EGS 462 or equivalent. Theoretical distributions, continuous and discrete expectation and estimation, properties sampling distributions.

ESI 6247, 6248 (EGS 663, 664) STATISTICAL DESIGN MODELS I,II (3,3)
PR: EGS 662 or equivalent. Design of experiment mathematical models, application of advanced analysis of variable techniques as applied to industrial problems.

ESI 6227 (EGS 665) STATISTICAL ASSURANCE PLANS (3)
PR: EGS 565 or equivalent. Advanced techniques in sequential quality control systems and acceptance sampling plans.

ESI 6238 (EGS 666) THEORY OF RELIABILITY (3)
PR: EGS 462 or equivalent. Topics in statistical methodology which have applications in the field of reliability. Discrete and continuous distribution models, reliability estimation, reliability structure and growth models, and statistical design for reliability.

ESI 6291 (EGS 668) SPECIAL TOPICS IN STATISTICS (3)
PR: CC. Special topics in statistics related to research in engineering.

EIN 6934, 6935, 6936 (EGS 680,682,683) SPECIAL INDUSTRIAL TOPICS I,II,III (1-3 each)
PR: CC.

ESI 6911 (EGS 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

ESI 6550, 6551 (EGS 687,688) INDUSTRIAL SYSTEMS DESIGN I,II (3,3)
PR: EGS 422. Design of integrated systems using statistical and operations research models. Simulation of integrated systems using digital, analog and hybrid computers.

ESI 6992 (EGS 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

ESI 6991 (EGS 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (EGS 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

EIN 6933 (EGS 698) ADVANCED ENGINEERING SEMINAR (1-3)
PR: CC.

EIN 6971 (EGS 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

ESI 7911 (EGS 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

ESI 7980 (EGS 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable (S/U only.)

Structures, Materials and Fluids (EGX)

ECI 3505 (EGX 301) ENGINEERING LAND SURVEYING (4)
Principles of land surveying for engineering practice. Traverses, levels, boundary surveys, route surveys, coordinate geometry, and mapping.

ENV 3001 (EGX 330) ELEMENTS OF ENVIRONMENTAL ENGINEERING (4)
PR: CI. An introduction to the scientific and engineering principles needed for the enhancement of the quality of man's environment. Discussions of air and water pollution; solid waste disposal; ionizing radiation, noise. The economic, aesthetic, legal and political aspects of environmental quality are considered.

CES 4001 (EGX 401) STRUCTURES I (4)
PR: EGB 304, 344. Analysis of simple structural systems, both determinate and indeterminate. Introduction to the use of energy methods in indeterminate analysis. Lecture.

EMA 4303 (EGX 402) MATERIALS ENGINEERING III (4)
PR: EGB 342, EGB 321. Principles of chemical thermodynamics as applied to the interaction of materials with various gaseous, aqueous, and solid phase environments. Lecture.

EGM 4816 (EGX 403) HYDRAULICS (4)
PR: EGB 343. Fundamental and applied aspects of compressible flow, free surface flow and unsteady flow. Flow of Compressible Gases, Free Surface Flow, Unsteady Flow. Lecture (Formerly EGX 503.)

CES 4103 (EGX 404) STRESS ANALYSIS (4)
PR: EGB 340. Analytical and experimental analysis of the mechanical behavior of deformable solids. Elastic and inelastic methods, plastic limit analysis, flexure and torsion of beams, photolasticity, electric strain gages, introduction to finite element computer methods. Lec.-lab.

EGM 4430 (EGX 405) SOLID MECHANICS III (4)
PR: EGB 341. Dynamics of discrete and distributed mass, spatial kinematics, and kinetics, inertia tensor, Euler equations, vibrations. Lecture (Formerly EGX 505.)

EGM 4340 (EGX 406) ENGINEERING ANALYSIS SMF (4)
PR: EGB 204, EGB 401. Computational methods for engineering problems found in Structures, Materials and Fluids. Lec.-lab.

CES 4910 (EGX 407) SENIOR RESEARCH/DESIGN PROJECT I (1)
PR: Completion of 150 hours. Presentation of current and future problem-oriented research/design topics for engineers. Organization of student-faculty investigative teams for senior projects in EGX 408 or EGX 499. (Formerly EGX 409.)

CES 4911 (EGX 408) SENIOR RESEARCH/DESIGN PROJECT II (3)
PR: EGX 407. Problem-solving experience and training for seniors in research/design projects. Oral and written final reports are required. (Formerly EGX 509.)

CES 4002 (EGX 410) STRUCTURES II (4)
PR: EGX 401. Introduction to the behavior of composite structural members: laminates, sandwich panels, reinforced concrete, timber and structures. Lec.-lab.

CES 4501 (EGX 411) CONCEPTS OF STRUCTURAL DESIGN (4)
PR: EGX 401. Applications of solid mechanics, materials science and structural analysis to the design of building, bridge, aircraft and ship structures. Critical review of current codes and specifications. Lec.-lab.

CES 4003 (EGX 412) STRUCTURES III (5)
PR: EGX 401. Elastic and plastic analysis of determinate and indeterminate frames and trusses. Emphasis on matrix-computer techniques. Lec.-lab. (Formerly EGX 511.)

CES 4711 (EGX 413) PRESTRESSED STRUCTURES (5)
PR: EGX 410. Analysis and design of prestressed structural systems. Emphasis on prestressed concrete. Lec.-lab. (Formerly EGX 513.)

CES 4541 (EGX 414) STRUCTURAL CONNECTIONS (3)
PR: EGX 411. Use of theoretical and experimental data in the analysis and design of structural connections in metal, wood, concrete and plastic. Lec.-lab. (Formerly EGX 514.)

CES 4004 (EGX 415) STRUCTURES IV (5)
PR: EGX 412. Analysis of suspension structures, towers and tall buildings by both approximate and exact methods. Lec.-lab. (Formerly EGX 515.)

CES 4617 (EGX 416) STRUCTURAL DESIGN IN METALS (4)
PR: EGX 411, 412. Design of ductile metallic structural elements and systems. Lec.-lab. (Formerly EGX 516.)

CES 4702 (EGX 417) REINFORCED CONCRETE STRUCTURES (4)
PR: EGX 411, EGX 412. Design of reinforced concrete structures; interpretation and application of various codes and specifications governing design. Lecture. (Formerly EGX 517.)

EMA 4703 (EGX 420) CONCEPTS OF ENGINEERING MATERIALS (3)
PR: EGB 342, EGX 404. Failure criteria and the analysis of failures produced by combined states of stress. Principles of fracture mechanics. Damage to materials produced by various environments including elevated temperatures and radiation. Lecture.

EMA 4604 (EGX 421) PROCESSES IN MATERIALS ENGINEERING (3)
PR: EGX 402 or CI. Introduction to the basic theories of solidification and ultrapurification of materials, discussion of the various techniques of welding and joining materials, and discussion of the primary methods of shaping and forming materials. Lecture.

EMA 4704 (EGX 422) SELECTION AND APPLICATION OF ENGINEERING MATERIALS (3)
PR: EGB 342. Estimation and/or determination of the property requirements for the utilization of materials in specific applications; comparison of properties of metals, plastics, and

ceramics; the effects of heat treatment, working, etc., on materials; property limitations exhibited by various materials. Lecture.

EMA 4503 (EGX 423) EXPERIMENTAL METHODS IN MATERIALS ENGINEERING (3)
PR: EGX 402 or CI. Introduction to the experimental methods of metallography, X-ray diffraction, phase diagram determination, heat-treating techniques, and electron microscopy. Lec.-lab. (Formerly EGX 520.)

EMA 4066 (EGX 424) ENGINEERING POLYMERS (3)
PR: CI. Structure and bulk properties of polymers. High elasticity, topics in viscoelasticity, the glass transition, irreversible deformation. Technology of plastics, fibers and elastomers. Lecture. (Formerly EGX 521.)

EMA 4324 (EGX 425) CORROSION OF ENGINEERING MATERIALS I (3)
PR: EGB 342. Principles of corrosion and the rationalization of corrosion rates in terms of polarization diagrams. Origin and prevention of the localized forms of corrosion. Approaches to corrosion prevention. Lecture. (Formerly EGX 522.)

EMA 4605 (EGX 426) DIFFUSION (3)
PR: EGX 402. Theoretical and practical analysis of diffusion in solids including the physical meaning and implications of the concepts which influence and apply to diffusion in crystalline solids. Lecture. (Formerly EGX 523.)

EMA 4644 (EGX 427) ENGINEERING CERAMICS (3)
PR: EGB 342. Detailed examination of the materials of ceramic engineering and the engineering properties of advanced ceramic products. Lecture. (Formerly EGX 524.)

EMA 4205 (EGX 428) STRENGTHENING PROCESSES IN MATERIALS (3)
PR: EGX 402. Introduction to the separate and combined effects of the primary strengthening mechanisms in materials. Applications to the real material systems such as steels, titanium, beryllium, nickel and refractory metal alloys; and composites. Lecture.

ENV 4622 (EGX 435) WATER RESOURCES ENGINEERING I (4)
PR: EGB 343. A study of the engineering principles involved in the sustaining and managing of the quality and quantity of water available for human activities with particular emphasis on hydrology and hydraulics. Lecture. (Formerly EGX 535.)

ENV 4623 (EGX 436) WATER RESOURCES ENGINEERING II (3)
PR: EGB 343. A study of the engineering principles involved in the sustaining and managing of the quality and quantity of water available for human activities with particular emphasis on water uses, engineering economy, and regional water resource development. Lecture. (Formerly EGX 536.)

ENV 4417 (EGX 437) URBAN WATER SYSTEMS (4)
PR: EGX 435. A study of the engineering principles involved in the design and operation of urban water supply systems, urban drainage systems, urban waste water collection systems and urban waste water treatment systems.

ECI 4633 (EGX 438) ADVANCED HYDROLOGY LABORATORY (3)
PR: EGX 437. Practical experience in the solution of hydrologic problems including data collection, data processing, and the application of numerical computer models to watersheds.

ENV 4111 (EGX 439) INTRODUCTION TO AIR POLLUTION CONTROL (4)
PR: EGB 322 or CI. Behavior and effects of atmospheric contaminants and the principles of making measurements in the air environment are studied. Basic concepts of meteorology and control technology are discussed. Regulatory aspects and air pollution standards are covered. Lecture. (Formerly EGX 437.)

EGM 4124 (EGX 440) EXPERIMENTAL MECHANICS I (4)
PR: EGB 343. An introduction to the experimental methods used in the study of structures, materials, fluids. Lec.-lab. (Formerly EGX 504.)

EGM 4125 (EGX 441) EXPERIMENTAL MECHANICS II (4)
PR: CC. Review of elasticity, boundary value problems, finite element solutions; static and dynamic applications, circuitry; grid, brittle coating methods. Lec-lab. (Formerly EGX 540.)

CES 4124 (EGX 442) STRUCTURAL MECHANICS (4)
PR: EGB 204, EGX 404. Principles of Static Elastic-Plastic analysis; Energy methods, Force and displacement methods; Matrix formulation and use of computer; application to trusses, beams, frames; stability of columns. Plastic limit analysis. Lecture.

CES 4208 (EGX 443) STRUCTURAL DYNAMICS (3)
PR: EGX 442. Behavior of structural components and systems when subjected to periodic dynamic loads. Lecture.

EGM 4224 (EGX 450) SOLID MECHANICS IV (3)
PR: EGB 341. Dynamics of Elastic Systems, Vibration of rods, plates, shells, structures; Energy and approximate solution techniques, transform techniques. Lecture. (Formerly EGX 550.)

EGM 4260 (EGX 451) VIBRATIONS (3)
PR: EGX 405. Wave motion in solids and fluids, thermal and mechanical Shock wave transmission and attenuation; blast loading. Phase-plane analysis. Lecture. (Formerly EGX 551.)

EGM 4610 (EGX 470) ANALYTICAL METHODS IN MECHANICS (3)
PR: CI. Development of techniques of applied mathematics to SMF problems; partial differential equations, complex variable, vector and tensor analysis. Lecture. (Formerly EGX 570.)

TTE 4004 (EGX 481) TRANSPORTATION I (4)
PR: EGB 401, CI. Introduction to Transportation Engineering. Lecture.

TTE 4006 (EGX 482) TRANSPORTATION II (4)
PR: EGX 481. Transportation system planning. Lecture. (Formerly EGX 581.)

ECI 4311 (EGX 485) SOIL MECHANICS I (4)
PR: EGB 343. Fundamental and experimental concepts in soil mechanics with emphasis on soil properties, soil moisture, soil structure and shearing strength. Lecture.

ECI 4312 (EGX 486) SOIL MECHANICS II (4)
PR: EGX 485. A study of the application of the principles of soil mechanics to problems in soils engineering. Lecture. (Formerly EGX 585.)

——— (EGX 497) INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

ECI 4911 (EGX 499) RESEARCH IN SMF (1-4)
PR: CC. (Formerly EGX 599.)

EGM 5814 (EGX 545) VISCOUS FLOWS (3)
PR: EGB 346. Formulation of problems in the flow of viscous fluids. Mathematical methods and techniques of solutions.

EGM 5817 (EGX 546) POTENTIAL FLOW (3)
PR: EGB 343. Mathematical hydrodynamics, inviscid flow. Lec-lab. (Formerly EGX 430.)

EAS 5100 (EGX 547) AERODYNAMICS (3)
PR: EGB 343. Fundamentals of compressible flow and flight dynamics. Structural Design; materials consideration. Lecture. (Formerly EGX 438.)

EGM 5611 (EGX 571) CONTINUUM I (3)
PR: CI. Development of fundamental problems in solids and fluids from a unified viewpoint; application to ideal media; elastic, plastic, visco-elastic, and fluids. Lecture.

EGM 5655 (EGX 572) CONTINUUM II (3)
PR: EGX 571. Mathematical Theory of elasticity. Two dimensional problems in plane stress and plane strain using cartesian and curvilinear coordinates; three dimensional applications to torsion, bending and semi-infinite solids. Lecture.

EGM 5562 (EGX 573) MECHANICS OF COMPOSITE MATERIALS (3)
PR: EGX 401. Physical and Mathematical models for composites. Response to thermal, electrical and mechanical loading. Special composite systems and shapes: filamentary plates, shells, isotensoid domes. Lecture.

EGM 5352, 5353 (EGX 575, 576) FINITE ELEMENT METHODS I, II (3,3)
PR: EGX 571 or CI. Finite element methods in continuum mechanics. Application to solid and fluid mechanics problems. Computer solutions. Lecture.

EGM 6796 (EGX 610) STRESSED SURFACE STRUCTURES (5)
PR: EGX 401. Elastic and plastic behavior of plate and shell structures, smooth and ribbed surfaces. Lec.-lab.

CES 6217 (EGX 611) STRUCTURAL STABILITY (5)
PR: EGX 412. Elastic and inelastic stability of trusses and frames, local buckling of structural members and plates. Lecture.

CES 6336 (EGX 613) STRUCTURAL OPTIMIZATION (5)
PR: EGX 411, 412. Use of optimization techniques in the design of structures including use of the digital computer as a design aid. Lec.-lab.

CES 6508 (EGX 616) ADVANCED STRUCTURAL DESIGN (5)
PR: EGX 412, 414. A study of design of more complicated structural systems such as curved bridges, orthotropic bridges, tall buildings, towers, suspension structures. Lecture.

EMA 6236 (EGX 620) DISLOCATION STRUCTURES AND PROPERTIES OF ENGINEERING MATERIALS (3)
PR: EGX 402 and EGX 423. Introduction to the separate and combined effects of the primary strengthening mechanisms in materials. Dislocation structures, nucleation and growth phenomena, phase transformations and principles of composite materials. Lecture.

EMA 6206 (EGX 621) HIGH TEMPERATURE REACTIONS OF ENGINEERING MATERIALS (3)
PR: EGX 402. Advanced aspects of high temperature materials problems and selection. High temperature thermodynamics and kinetics of processes. Production and measurement of elevated temperatures. Nucleation and growth theories. Lecture.

EMA 6326 (EGX 622) CORROSION OF ENGINEERING MATERIALS II (3)
PR: EGX 402, EGX 425. Advanced aspects of electrochemical polarization phenomena. Experimental potentiostatic and galvanostatic polarization studies and corrosion rate determinations. Optimum design of cathodic protection systems. Lec.-lab.

EGM 6136 (EGX 623) ADVANCED X-RAY METHODS (4)
PR: CI, X-Ray diffraction analytical and experimental studies of defects, texture, residual stress, crystal and polycrystalline aggregates. Lec.-lab.

EGM 6818 (EGX 630) ADVANCED FLUID MECHANICS I (4)
PR: CI. Flow of Newtonian and Non-Newtonian viscous fluids. Lec.-lab.

EGM 6856 (EGX 631) ADVANCED FLUID MECHANICS II (3)
PR: CI. Fundamentals of compressible flow. Wave and shock motion in unsteady and steady flow. Subsonic and supersonic speeds. Lecture.

ECI 6239 (EGX 635) FREE SURFACE FLOW (4)
PR: EGX 403 or CI. Fundamental and applied aspects of free surface flow, including river hydraulics, canal flow and open channel design. Lecture.

ECI 6632 (EGX 636) URBAN HYDROLOGY (3)
PR: CI. A study of the quantity and quality problems and solution techniques associated with the subject of urban runoff.

ECI 6631 (EGX 637) HYDROLOGIC MODELS (4)
A study of the theoretical principles of hydrologic modeling and an examination of various numerical hydrologic models available. Students will be required to develop and apply computer models.

EES 6203 (EGX 639) WATER QUALITY FOR ENGINEERS (3)
PR: CI. An introduction to the form, structure and biochemical activities of the important microorganisms which are essential to biological treatment processes for agricultural, domestic and industrial wastewater.

EMA 6126 (EGX 640) EXPERIMENTAL MECHANICS III (4)
PR: EGX 440. Moire and photoelastic experimental techniques. Lec.-lab.

EMA 6127 (EGX 641) EXPERIMENTAL MECHANICS IV (4)
PR: EGX 440. Theory and application of photo-elasticity. Lec.-lab.

EMA 6128 (EGX 642) EXPERIMENTAL MECHANICS V (4)
PR: EGX 440. Three dimensional stress analysis methods. Lecture.

EMA 6129 (EGX 643) EXPERIMENTAL MECHANICS VI (4)
PR: EGX 440. Theory and application of holography and optical imagery. Lec.-lab.

EGM 6261 (EGX 650) SOLID MECHANICS V (3)
PR: EGX 405. Elastic and plastic stress wave propagation in solids, experimental and theoretical treatment method of characteristics. Lecture.

EGM 6451 (EGX 651) NONLINEAR DYNAMICS (3)
PR: EGX 405. Non-linear restoring force, viscous friction, Duffing and Vander Pol's equations, perturbation methods. Lecture.

ECI 6206, 6207 (EGX 660, 661) HYDROSPACE ENGINEERING I,II (3,3)
PR: CI. Advanced analysis of structural, material and fluid systems for marine environment, including underwater acoustics. Lecture.

ECI 6208 (EGX 662) COASTAL AND ESTUARY MODELING (3)
PR: CI. Modeling of coastal and estuary systems, currents, tide heights, sediment transport, erosion, data collection, temperature distribution, sources and sinks. Special emphasis on Florida. Lecture.

EGM 6675 (EGX 670) CONTINUUM MECHANICS III (3)
PR: CI. Theory of Plasticity. Initial and subsequent yield surfaces, incremental and deformation theories, flow theories; problems in ideal plasticity, strain hardening and slip line fields. Lecture.

EGM 6676 (EGX 671) CONTINUUM MECHANICS IV (3)
PR: CI. Theory of thermoelastic and viscoelastic behavior in continuous media. Basic laws of irreversible thermodynamics and elasticity and application to one, two and three dimensional problems. Inelastic thermal stress. Viscoelastic analogy, linear viscoelastic theory and applications. Lecture.

EGM 6343 (EGX 672) NUMERICAL METHODS IN ENGINEERING ANALYSIS (3)
PR: CI. Application of computational and mathematical techniques and principles to advanced engineering problems concerning structures, materials, and fluids. Lecture.

EGM 6656 (EGX 673) ADVANCED ELASTIC ANALYSIS (3)
PR: CI. Contemporary elasticity theory and applications. Lecture.

EGM 6391 (EGX 674) APPLIED TENSOR ANALYSIS (3)
PR: CI. Tensor analysis applied to structures, materials, fluids. Lecture.

ENV 6645 (EGX 675) WATER RESOURCES SYSTEMS I (3)
PR: EGX 436. The planning, design, and operation of water resources systems by the use of systems analysis and operations research techniques. Lecture.

ENV 6646 (EGX 676) WATER RESOURCES SYSTEMS II (3)
PR: EGX 675. The planning, design and operation of water resource systems by the use of systems analysis and operations research techniques. Lecture.

ENV 6439 (EGX 677) URBAN WATER TREATMENT THEORY AND DESIGN (4)
PR: EGX 435 or CI. A study of the theory of water treatment and the relation of theory to analysis and design practice. Emphasis is given to unit processes. The seminar is devoted to the design and analysis of specific water treatment facilities.

ENV 6539 (EGX 678) URBAN WASTEWATER TREATMENT THEORY AND DESIGN (4)
PR: CI. A study of the theory of wastewater treatment and the relation of theory to analysis and design practice. Emphasis is given to unit processes. The seminar is devoted to the design and analysis of specific wastewater treatment works.

ENV 6007 (EGX 679) ENVIRONMENTAL PLANNING (4)
PR: EGX 436 or CI. Study of the comprehensive application of environmental control and protection techniques to the problems of environmental quality. Important aspects include air and water quality, amenities, waste management, land use practice, control of noise, and natural ecological factors. A design or analysis problem is an integral part of the course.

CES 6915 (EGX 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

ECI 6939 (EGX 692) SMF SEMINAR (1-4)
PR: CC.

ECI 6933 (EGX 693) SPECIAL TOPICS IN SMF (1-4)
PR: CC.

CES 6938 (EGX 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

CES 6939 (EGX 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (EGX 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

ECI 6917 (EGX 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

CES 7915 (EGX 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

ECI 7980 (EGX 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Computer Service Courses (ESC)

COC 3300 (ESC 301) INTRODUCTION TO COMPUTERS I (3)
Basic principles of computer operation, program structure, machine and assembly language.

COP 3110 (ESC 302) COMPUTER PROGRAMMING-FORTRAN (3)
PR: ESC 301. Programming of scientifically oriented problems using FORTRAN. Introduction to the use of the systems library.

COP 3120 (ESC 303) COMPUTER PROGRAMMING-COBOL I (3)
PR: ESC 301. Introduction of computer systems and commercially oriented languages. Analysis of COBOL language elements and divisions. Development of file structures and application of the COBOL language.

COP 3121 (ESC 304) COMPUTER PROGRAMMING-COBOL II (3)
PR: ESC 303. Advanced applications of COBOL. Development of matrix structures, subscripting and data manipulating techniques as used in comprehensive data processing problems.

COP 3160 (ESC 307) COMPUTER PROGRAMMING-RPG (3)
PR: ESC 301. Analysis, design and implementation of data processing systems using RPG.

COP 3130 (ESC 308) COMPUTER PROGRAMMING-PL/1 (3)
PR: ESC 301. Programming of both business and scientifically oriented problems. Manipulation of data records. Control sequencing and transmission of data.

COP 3340 (ESC 309) COMPUTER PROGRAMMING-GPSS-SIMSCRIPT (3)
PR: ESC 302 or equivalent, SIMSCRIPT and GPSS will be used to implement and analyze general types of simulation.

CDA 3101 (ESC 310) INTRODUCTION TO COMPUTERS II (3)
PR: ESC 301, 302. Component parts of a computer system. Internal representation and manipulation of data and program instructions. Algorithms and flowcharting. Programming languages and systems. (No credit for engineering majors.)

CDA 3102 (ESC 311) INTRODUCTION TO COMPUTERS III (3)
PR: ESC 310. Continuation of the material in ESC 310. (No credit for engineering majors.)

CDA 3042 (ESC 312) INTRODUCTION TO COMPUTERS IV (3)
PR: ESC 311. Continuation of the material in ESC 311. (No credit for engineering majors.)

CRM 5115 (ESC 501) COMPUTER SYSTEMS (3)
PR: ESC 302 or equivalent. Study of computer systems components, I/O devices, memory devices, theory of computer operation. (Not available to students who have taken ESC 310, 311 and 312.)

COP 5401, 5402 (ESC 502, 503) COMPUTER LANGUAGES AND COMPUTATION I, II (3,3)
PR: ESC 501. Study of principles of machine, assembly and compiled languages. Programming applications.

CAP 5812 (ESC 551) COMPUTERS FOR RESEARCH I (3)
PR: Graduate Student Status. The use of FORTRAN IV and WAFIV languages in solving research problems.

CAP 6813 (ESC 651) COMPUTERS FOR RESEARCH II (3)
PR: ESC 551 or equivalent. Continuation of the material covered in ESC 551. Use of computer library programs and plotting equipment.

Engineering Technology (ETK)

ETI 4600 (ETK 401) INDUSTRIAL SYSTEMS (3)
Introduction to organizational planning and control functions in industrial systems.

ETI 4614 (ETK 421) PRINCIPLES OF INDUSTRIAL OPERATIONS I (3)
PR: ETK classification or CC. Techniques of work measurement and methods design.

ETI 4644 (ETK 422) PRINCIPLES OF INDUSTRIAL OPERATIONS II (3)
PR: ETK classification or CC. Techniques of production control and inventory control.

ETI 4661 (ETK 423) PRINCIPLES OF INDUSTRIAL OPERATIONS III (3)
PR: ETK 401, ETK 421, ETK 422. Techniques of plant location and layout.

ETE 4533 (ETK 431) FUNDAMENTAL TOPICS IN POWER GENERATION (3)
PR: Enrollment in Engineering Technology Program or CI. Introduction to thermodynamics, forms of energy and energy equations, processes of a perfect gas, thermodynamic cycles, properties of steam, Rankine Cycle, equipment survey, heat transfer, fluid flow, combustion and mixtures of gases and vapors.

ETM 4610 (ETK 441) FUNDAMENTAL TOPICS IN AIR CONDITIONING (3)
PR: Enrollment in Engineering Technology Program or CI. Introduction to thermodynamics, forms of energy and energy equations, processes of a perfect gas, thermodynamic cycles, refrigeration cycles, properties of refrigerants, heat transfer and fluid flow, mixtures of gases and vapors, preliminary psychrometrics and analysis of motors.

ETM 4750 (ETK 443) AIR CONDITIONING SYSTEMS DESIGN I (3)
PR: ETK 441 or CI. Heating and Air Conditioning Load Calculations, design of packaged air conditioning systems, system selection, equipment selection and installation, ductwork design and air distribution, use of outside air with problems in bypassing and recirculation.

ETM 4750 (ETK 444) AIR CONDITIONING SYSTEMS DESIGN II (3)
PR: ETK 443 or CI. Design of applied air conditioning systems, advanced load calculations, system selection, chilled water systems, multizone systems, equipment survey: coils, chillers, fans and pumps, associated electrical equipment, controls, humidification, dehumidification, and installation.

ETM 4930 (ETK 445) AIR CONDITIONING DESIGN SEMINAR (3)
PR: ETK 444. Consideration of the total air conditioning system from the view of design engineer, client, and contractor. Specification writing, load calculation, system selection and installation, and cost criteria.

ETG 4504 (ETK 451) FUNDAMENTAL TOPICS IN CONSTRUCTION TECHNOLOGY I (5)
PR: MTH 213 or equivalent. Introduction to the principles of statics, equilibrium of rigid bodies, friction, strength of materials and application of materials and their properties in design of structures.

ETC 4420 (ETK 452) FUNDAMENTAL TOPICS IN CONSTRUCTION TECHNOLOGY II (3)
PR: ETK 451. Selection and application of materials in construction technology with associated consideration of material properties, change of properties and environmental effects.

ETM 4700 (ETK 453) CLIMATE CONTROL IN BUILDINGS (3)
PR: Enrollment in Engineering Technology Program or CI. Heat and moisture in the atmosphere and human comfort, heat loads, heat sources, heat and ventilation distribution in spaces, air conditioning and air distribution, control of temperature and humidity.

BCN 4570 (ETK 454) ACOUSTICS IN CONSTRUCTION TECHNOLOGY (2)
Fundamentals of architectural acoustics, behavior of sound in closed spaces, noise control, and noise reduction.

EVS 4650 (ETK 455) SANITARY ENGINEERING IN CONSTRUCTION TECHNOLOGY (2)
Water, water systems, and water supply. Sanitation and waste disposal, piping systems for hot and cold water, plumbing for sewage disposal and storm drainage.

ETG 4930 (ETK 480) SPECIAL TOPICS IN TECHNOLOGY I (1-5)
PR: CC.

ETG 4930 (ETK 481) SPECIAL TOPICS IN TECHNOLOGY II (1-5)
PR: CC.

ETG 4930 (ETK 482) SPECIAL TOPICS IN TECHNOLOGY III (1-5)
PR: CC.

——— (ETK 497) INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

ETE 5100 (ETK 522) INTRODUCTION TO ELECTRONICS FOR SCIENTISTS (5)
Basic electronic devices and instruments, dc and ac circuits, diodes and power supplies, transistor, circuits, integrated circuits, laboratory instruments, transducers and special instruments. (2 three hour lecture labs, 1 two hour problem discussion). No credit toward graduate degree requirements.

ETG 6930 (ETK 601) SPECIAL TECHNICAL TOPICS I (1-4)
PR: CC.

ETG 6930 (ETK 602) SPECIAL TECHNICAL TOPICS II (1-4)
PR: CC.

ETG 6930 (ETK 603) SPECIAL TECHNICAL TOPICS III (1-4)
PR: CC.

ENGLISH (ENG)

Chairperson: J. R. Clark, *Associate Chairperson:* H. H. Popovich, *Director of Freshman English:* W. J. Heim, *Director of Graduate Studies in English:* J. G. Bentley, *Professors:* J. G. Bentley, J. R. Clark, W. F. Davis, I. Deer, R. F. Dietrich, E. F. Henley, E. W. Hirshberg, J. J. Iorio, H. C. Kiefer, J. B. Moore, W. E. Morris, R. C. O'Hara, J. W. Parker, Jr., J. A. Parrish, Jr., W. H. Scheuerle, E. E. Smith, *Associate Professors:* L. R. Broer, J. C. Caflisch III, R. E. Chisnell, R. W. Cole, S. M. Deats, H. A. Deer, F. J. Fabry, R. M. Figg III, S. R. Fiore, W. Garrett, R. E. Hall, S. J. Hall, J. S. Hatcher, W. J. Heim, D. L. Kaufmann, M. G. Ochshorn, H. H. Popovich, W. D. Reader, W. T. Ross, S. J. Rubin, T. E. Sanders, D. A. Wells, R. D. Wyly, Jr. *Assistant Professors:* A. G. Bryant, P. J. Collins, F. T. Mason, J. D. Walther, F. J. Zbar, *Instructor:* J. J. Dietz, *Adjunct Instructor:* K. E. Kay, *Lecturers:* I. F. Ceconi, M. C. Harmon, J. N. Palmer, V. W. Valentine.

ENC 0013 (ENG 098) DEVELOPMENTAL ENGLISH (3)
Instruction and practice in the review of the fundamentals of English. Includes developmental work in English as applied in writing, with emphasis on grammar, punctuation, mechanics of expression and sentence structure. Students completing this course will by-pass ENG 101.

REA 0102 (ENG 099) DEVELOPMENTAL READING (3)
Designed to help students develop maximum reading efficiency, the course includes extensive instruction and laboratory

practice in the improvement of adequate rates of reading, vocabulary, and comprehensive skills. An independent study approach is also available for students who prefer to assume responsibility for their own progress.

ESL 1422 (ENG 100) ENGLISH AS A SECOND LANGUAGE—COMPOSITION (3)
Practice and drill in basic English sentence patterns, with emphasis on writing, punctuation, vocabulary, and idiom. The course is designed as a service course for foreign students enrolled in the university. Some previous study of English is a prerequisite. (Formerly CBS 100.)

ENC 1102,1135,1168 (ENG 101,102,103) FRESHMAN ENGLISH (3,3,3)
Instruction and practice in the skills of writing and reading. Courses must be taken in numerical sequence. Credit for Freshman English may be earned by examination. (Formerly CBS 101, 102)

REA 2303 (ENG 200) SPEED READING DEVELOPMENT (3)
A course designed to develop speed reading techniques on various levels of difficulty. Emphasis is placed on comprehension via numerous practice drills. Will not be counted toward the English major. (S/U only.) (Formerly ENG 131.)

ENG 2300 (ENG 211) CURRENT NOVELS (5)
A study of major British and American novels since WW II; attention will be given to the cultural influences and recent literary trends. Will not be counted toward the English major. (Formerly ENG 301.)

ENG 2460 (ENG 212) CURRENT DRAMA (5)
A study of recent forms and themes in drama from Theatre of the Absurd to the present, including works of such playwrights as Beckett, Ionesco, Genet, Pinter, and Albee. Will not be counted toward the English major. (Formerly ENG 302.)

ENG 2231 (ENG 213) CURRENT SHORT FICTION (5)
Traditional and experimental short stories of this generation; such writers as Updike, Malamud, O'Connor, Roth, Barth, Ionesco, and Barthelme. Will not be counted toward the English major. (Formerly ENG 303.)

LIT 2000 (ENG 214) INTRODUCTION TO LITERATURE: GENERAL (5)
The nature and significance of literature in its various forms: fiction, drama, poetry; emphasis on the techniques of reading literature for intelligent enjoyment. Will not be counted toward the English major. (Formerly ENG 314.)

ENG 2201 (ENG 215) INTRODUCTION TO LITERATURE: FICTION (5)
An examination of the short story and the novel as literary forms; not limited to any historical period. Will not be counted toward the English major. (Formerly ENG 315.)

ENG 2711 (ENG 216) INTRODUCTION TO LITERATURE: POETRY (5)
How poems work. Stress on the understanding and enjoyment of poems with attention to new forms and techniques; not restricted to any specific period. Will not be counted toward the English major except for those students following the Creative Writing: Poetry option. (Formerly ENG 316.)

ENG 2401 (ENG 217) INTRODUCTION TO LITERATURE: DRAMA (5)
A study of the major forms of drama—tragedy, comedy, melodrama, farce; including the works of such playwrights as Sophocles, Shakespeare, Moliere, Ibsen, Chekhov, and Shaw. Will not be counted toward the English major. (Formerly ENG 317.)

ENL 3030 (ENG 300) HIGHLIGHTS OF BRITISH LITERATURE TO 1750 (5)
An introductory course consisting of selected highlights of English literature from the Middle Ages to 1750. (Formerly ENG 311.)

ENL 3041 (ENG 301) HIGHLIGHTS OF BRITISH LITERATURE 1750 TO 1945 (5)
An introdutory course consisting of selected highlights of English literature from 1750 to 1945. (Formerly ENG 311.)

AML 3010 (ENG 302) HIGHLIGHTS OF AMERICAN LITERATURE TO 1945 (5)
An introductory course consisting of selected highlights of American literature from the beginnings to 1945. (Formerly ENG 312.)

ENG 3150 (ENG 306) AMERICAN POPULAR LITERATURE: THE ROARING TWENTIES (5)
An exploration of the interaction of film, literature, and the popular arts in the Roaring Twenties of the U.S. Traces the movement of American culture from Main Street and Spoon River to the Modern Urban Metropolis. Studies of such figures as Fitzgerald, Cummings, Hemingway, Stein, E. A. Robinson, Sandburg, Chaplin, and Bessie Smith.

ENG 3138 (ENG 307) TWENTIETH CENTURY DRAMA AND THE FILM (5)
A study of six to eight major twentieth century plays by such playwrights as Shaw, Beckett, Williams, Chekhov, Sartre, O'Neill, Miller, Hansberry, and Ionesco, and the translation of these plays into the medium of the film.

ENG 3156 (ENG 308) MODERN LITERATURE, FILM, AND THE POPULAR ARTS (5)
Exploration into the nature and function of modern literature, film, and some of the popular arts like fantasy, westerns, science fiction, war stories, and detective stories. The works of such writers as Vonnegut, Tolkien, Thurber, Heller, Barthelme, Berger, and Kesey are examined.

ENG 3134 (ENG 309) SHAKESPEARE: TEXTS AND FILMS (5)
An introduction to the art of William Shakespeare through a comparative analysis of four of his most famous dramas and modern film adaptations of them; *Hamlet, King Lear, Romeo and Juliet* and *Henry V.*

ENL 3133 (ENG 310) SHAKESPEARE I (5)
Reading of eight to ten representative plays, with special attention to developing the students' ability to read and interpret the text. (Formerly ENG 411.)

ENL 3010 (ENG 311) EARLY ENGLISH LITERATURE (5)
A survey of representative works of poetry, prose, and drama of the Old English, Middle England, and early Renaissance to 1557, including *Beowulf,* Chaucer, Malory, More, Hooker, Skelton, Wyatt, among others. (Formerly ENG 201.)

ENL 3320 (ENG 312) LITERATURE OF THE ENGLISH RENAISSANCE (5)
A survey of representative works of poetry, prose, and drama of the English Renaissance, from approximately 1558 to 1649, including Sidney and Spenser to Donne and Marvell, with special attention to the emergence of the New Poetry. (Formerly ENG 201.)

ENL 3351 (ENG 313) THE RISE AND DECLINE OF NEOCLASSICAL LITERATURE (5)
A survey of Neoclassical English literature beginning with Marvel and the late work of Milton, and ending with the late Neoclassicism of Johnson, Boswell, and Goldsmith. (Formerly ENG 202.)

ENL 3401 (ENG 314) ROMANTIC LITERATURE (5)
The poetry and poetics of Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats; with attention to the lesser figures, the eighteenth century background, and the continuing importance of romantic thinking in contemporary affairs and letters. (Formerly ENG 202, 203.)

ENL 3430 (ENG 315) VICTORIAN AND EDWARDIAN LITERATURE (5)
A survey of representative figures of the Victorian and Edwardian periods, ending in 1914, including poetry, prose, and

drama of such authors as Carlyle, Tennyson, Browning, Swinburne, Rossetti, Dickens, Wilde. (Formery ENG 203.)

ENL 3441 (ENG 316) MODERN BRITISH LITERATURE FROM 1914 TO 1945 (5)
Survey of poetry, drama, and fiction of such writers as Eliot, Yeats, Thomas, Conrad, Shaw, Joyce, Lawrence, Huxley, Woolf, Forster, Waugh, Owen, Auden, O'Casey, among others. (Formerly ENG 307.)

LIT 3150 (ENG 317) CONTEMPORARY BRITISH AND AMERICAN LITERATURE FROM 1945 TO THE PRESENT (5)
An introduction to the fiction, poetry, and drama of such writers as Beckett, Ginsberg, Nabokov, Roethke, Plath, Vonnegut, Welty, Malamud, Durrell, Mailer, MacLeish, and others.

AML 3102 (ENG 330) ROMANTIC AMERICAN LITERATURE TO 1860 (5)
A study of the thought and art in poetry and prose of representative writers of the American Romantic period, with emphasis upon Emerson, Thoreau, Poe, Hawthorne, and Melville. (Formerly ENG 305.)

AML 3108 (ENG 331) AMERICAN LITERATURE FROM 1860 TO 1912 (5)
A study of representative works of selected American Realists and early Naturalists, among them Whitman, Dickinson, Twain, James, Howells, Crane, Dreiser, Wharton, Robinson. (Formerly ENG 306.)

AML 3112 (ENG 332) MODERN AMERICAN LITERATURE FROM 1912 TO 1945 (5)
A study of poetry, drama, and fiction by such writers as Pound, Fitzgerald, Hemingway, Faulkner, Cummings, Williams, Anderson, Lewis, Steinbeck, Wright, Wolfe, West, Stevens, Henry Miller, and others. (Formerly ENG 307.)

LIT 3252 (ENG 340) LITERATURE OF THE WESTERN WORLD: ANCIENT (5)
The Bible, the best modern English translations of Homer, Aeschylus, Sophocles, Euripides, Aristophanes, Plato, or others among the Greeks; of Virgil, Ovid, Juvenal, Sappho, Petronius or others among the Romans. (Formerly ENG 335.)

LIT 3254 (ENG 341) LITERATURE OF THE WESTERN WORLD: MEDIEVAL, RENAISSANCE, AND NEOCLASSICAL (5)
A study in English of such writers as Dante, Boccaccio, Machiavelli, Rabelais, Montaigne, Moliere, among others, and of their cultural and intellectual settings. (Formerly ENG 335, 336).

LIT 3257 (ENG 342) LITERATURE OF THE WESTERN WORLD: MODERN (5)
A study in English of Voltaire, Rousseau, Goethe, Baudelaire, Tolstoy, Mann, Lorca, Brecht, or others; the great literary traditions of Romanticism, Naturalism, and Symbolism.

ENG 3371 (ENG 343) MODERN EUROPEAN NOVEL (5)
A study of the Modern European novel in translation as it developed from the 19th century to the present, including such writers as Dostoevsky, Flaubert, Kafka, Hesse, Camus, and Solzhenitsyn. (Formerly ENG 437.)

ENG 3294 (ENG 345) MODERN SHORT NOVEL (5)
A study of the novella from the 19th century to the present. Writers to be included will be: Flaubert, Conrad, Lawrence, Mann, Kafka, Bellow, Roth, and others.

ENC 3466 (ENG 350) ADVANCED EXPOSITORY WRITING (5)
A course teaching the techniques for writing effective prose, excluding fiction, in which student essays are extensively criticized, edited, and discussed in individual sessions with the instructor.

ENC 3486 (ENG 351) NARRATION AND DESCRIPTION (5)
Writing short papers in narration and description, and the personal essay; analyzing selected essays to heighten sensitivity to language. (Formerly ENG 321.)

CRW 3321 (ENG 352) THE WRITING OF POETRY (5)
Introduction to the writing of poetry. This course will introduce the student to a variety of forms and techniques in the writing of poetry.

CRW 3230 (ENG 353) IMAGINATIVE WRITING: FICTION (5)
PR: ENG 351. Introduction to the writing of fiction. This course will introduce students to the variety of forms and techniques in the writing of imaginative prose.

LIT 3332 (ENG 370) BLACK LITERATURE (5)
A study of Black American literature from the nineteenth-century to the present, including the works of such writers as W. E. B. Dubois, Jean Toomer, Langston Hughes, Richard Wright, Ralph Ellison, LeRoi Jones, and Nikke Giovanni.

LIT 3323 (ENG 372) AMERICAN INDIAN LITERATURE (5)
A survey of native American Literature from pre-Columbian religious and folk literature to the current voices in the pan-Indian movement.

LIT 3281 (ENG 373) FOLKLORE AND POPULAR LITERATURE (5)
Literature of fairytales, folksongs, ballads, and blues. Perrault, Grimm, Andersen, and others; traditional British and American ballads and folksongs; modern ballads and blues from folk, country, delta, and big city sources; the songs of Bob Dylan and friends. (Formerly ENG 337.)

LIT 3442 (ENG 374) FANTASY AND SCIENCE FICTION (5)
A survey of fantasy and science fiction in England and America from Mary Shelley to the present; includes such writers as Poe, Melville, Ray Bradbury, Arthur C. Clarke, among others.

LIT 3446 (ENG 375) LITERATURE AND THE OCCULT (5)
An introduction to the occult tradition as a major ingredient in English, Continental, and American literature; analysis of the origins, classifications, and areas of the various magic arts from classical times through the present. (Formerly ENG 338.)

LIT 3311 (ENG 376) THE BIBLE AS LITERATURE (5)
Major emphasis on literary types, literary personalities of the Old and New Testaments, and Biblical archetypes of British and American literary classics. (Formerly ENG 319.)

LIT 3431 (ENG 377) RELIGIOUS AND EXISTENTIAL THEMES (5)
Theological and philosophical ideas, allusions, and symbols in the writings of Dostoevsky, Nietzsche, Mann, Joyce, Eliot, Camus, Sartre, and others. (Formerly ENG 511.)

LIT 3414 (ENG 378) THE IMAGE OF WOMEN IN LITERATURE, I (5)
A study of feminism, antifeminism, sexual identity, the feminine mystique, stereotyped and liberated female images from Sappho through Shakespeare, with special emphasis on how this early literature has perpetuated cultural myths, rituals, superstitions, and misconceptions about women. (Also offered as WSP 378.)

LIT 3415 (ENG 379) THE IMAGE OF WOMEN IN LITERATURE, II (5)
A study of feminism, antifeminism, sexual identity, the feminine mystique, stereotyped and liberated female images from the 17th century to the present, with special emphasis on women writers and on the emergence of the women's movement. (Also offered as WSP 379.)

LIT 3930 (ENG 383) SELECTED TOPICS IN ENGLISH STUDIES (1-5)
PR: Sophomore standing. Varying from quarter to quarter, the course examines in depth a predominant literary theme or the work of a select group of writers.

ENG 3111 (ENG 385) MODERN SATIRE AND INVECTIVE (5)
Explores the artistic nature and variety of satire in the 20th century, a period rich in satiric writing. Selections from Strachey, Waugh, Pound, Lowell, Nabokov, Faulkner, Golding and Grass.

ENG 3152 (ENG 387) TWENTIETH CENTURY BEST SELLERS (5)
A study of representative best-selling novels in 20th century America; including such critically acclaimed works as *Peyton Place, Lady Chatterley's Lover, Exodus,* and *Catcher in the Rye,* which have sold in excess of 5,000,000 copies and have served to portray our changing society and to reveal our changing literary taste.

LIT 3541 (ENG 391) LITERATURE OF THE GROTESQUE (5)
A conceptual history of the grotesque in literature from Dante's *Inferno* to the madhouse of Beckett's *Watt;* including the works of such diverse writers as Goethe, Shakespeare, Poe, Pirandello, O'Neill, Sherwood Anderson, and Carson McCullers.

LIT 3552 (ENG 393) HEROES AND ANTI-HEROES (5)
A study of the patterns in the figure of the hero and the anti-hero to the present time. Readings from then to now include works such as *Beowulf, The Iliad, King Lear, Don Quixote* (Part I), *Don Juan* (Canto I), *A Farewell to Arms, The Ginger Man,* and *Catch 22.*

LIT 3314 (ENG 395) THE TALMUD AS LITERATURE (5)
An introduction to the artistic elements of one of the great books of the Jewish religion. Emphasis on stories, fables, legends (Aggahah), but some general background in Talmudic structure and history is also provided. No previous knowledge of Judaism or religious texts is required.

REA 3403 (ENG 397) VOCABULARY (4)
A practical course in rapid vocabulary improvement for students in all areas. Stress is on words in context. Will not be counted toward the English major.

ENL 4300 (ENG 400) ANGLO-SAXON LITERATURE (5)
PR: ENG 300 or ENG 311. A study of representative works in translation.

ENL 4311 (ENG 401) MIDDLE ENGLISH LITERATURE (5)
PR: ENG 300 or ENG 311. A study of representative works of the Middle English period with a consideration of the social and historical backgrounds.

ENL 4112 (ENG 402) CHAUCER (5)
PR: ENG 300 or ENG 311. An intensive study of *The Canterbury Tales* and major critical concerns.

ENL 4331 (ENG 406) SIXTEENTH CENTURY PROSE AND POETRY (5)
PR: ENG 300 or ENG 312. A study of representative prose, including fiction, and the lyric and narrative poetry of Sidney, Spenser, Marlowe, and Shakespeare, together with selected poems of Donne.

ENL 4344 (ENG 407) SEVENTEENTH CENTURY PROSE AND POETRY (5)
PR: ENG 300 or ENG 312. A thematic study of religion, science, and love in Bacon, Browne, Burton, Donne, Herbert, Vaughan, Jonson, Herrick, and Marvell. Close analysis of counter-culture tradition and revolt in an attempt to define "metaphysical," "baroque," and "Senecan" styles.

ENG 4421 (ENG 408) ENGLISH DRAMA FROM THE BEGINNINGS TO 1642 (5)
PR: ENG 300 or ENG 312. The emergence of drama in England from its liturgical origins through the mystery and morality plays to its significant achievement in the Renaissance. Excludes Shakespeare; emphasis upon Marlowe, Jonson, Webster, and Middleton.

ENL 4121 (ENG 409) MILTON (5)
PR: ENG 300 or ENG 312. Study of the poetry and major prose of John Milton, with special emphasis on *Paradise Lost.*

ENL 4134 (ENG 410) SHAKESPEARE II (5)
PR: ENG 310. Three or four of Shakespeare's greatest dramas seen in depth; the close reading of the text, the controversies of interpretation, and the Elizabethan and Jacobean setting.

ENG 4113 (ENG 413) RESTORATION AND EIGHTEENTH CENTURY SATIRE (5)
PR: ENG 300 or ENG 313. A study of selected Neoclassical satires, the techniques of their expression, and the historical conflicts out of which they arose.

ENG 4321 (ENG 414) EIGHTEENTH CENTURY BRITISH NOVEL (5)
PR: ENG 301 or ENG 313. A study of the emergence of modern realistic prose fiction in the eighteenth century, with emphasis on Fielding, Richardson, Smollett, and Sterne. (Formerly ENG 429.)

ENL 4406 (ENG 418) ROMANTIC LITERATURE: FORM, GENRE, AND ARCHETYPE (5)
PR: ENG 301 or ENG 314. An intensive study of one or more formal types of British literature occurring between 1785 and 1832, such as Romantic Nature Poetry, Romantic Historical Novels and Poems, etc. Specific topics will vary.

ENG 4413 (ENG 424) THE POETRY OF THE VICTORIANS (5)
PR: ENG 301 or ENG 315. An intensive study of the works of three or more representative Victorian poets.

ENG 4325 (ENG 425) NINETEENTH CENTURY BRITISH NOVEL (5)
PR: ENG 301 or ENG 315. A study of such major British novelists as Austen, Scott, Thackeray, Dickens, the Brontes, Eliot, Meredith, and Hardy. (Formerly ENG 430.)

AML 4103 (ENG 430) AMERICAN LITERATURE OF THE COLONIAL-FEDERAL PERIOD (5)
PR: ENG 300, ENG 302, or equivalent. The social, philosophic, political, and aesthetic foundations of American literature, from the period of early settlement through the writings of Cooper, Irving, and Bryant. (Formerly ENG 305.)

ENG 4345 (ENG 431) THE AMERICAN NOVEL FROM THE BEGINNINGS TO 1920 (5)
PR: ENG 302, ENG 330, or ENG 331. A study of major American novelists through representative novels. Authors studied may include Cooper, Hawthorne, Melville, James, Twain, Dreiser, and others. (Formerly ENG 425.)

ENG 4453 (ENG 432) AMERICAN DRAMA (5)
PR: One course in American Literature. A historical-analytical study of American drama from the 19th century to the present. Included are such playwrights as Boker, Boucicault, Herne, O'Neill, Howard, Rice, Hellman, Williams, Miller, Albee, and Hansberry. (Formerly ENG 426.)

ENG 4223 (ENG 435) MODERN AMERICAN FICTION FROM 1920 TO 1945 (5)
PR: One course in American literature. A study of major trends and influences in American prose fiction from 1920 to 1945. Includes works by such writers as Hemingway, Faulkner, Wolfe, Fitzgerald, Steinbeck, Anderson, and others.

ENG 4227 (ENG 436) MODERN BRITISH FICTION FROM 1900 TO 1945 (5)
PR: ENG 301 or ENG 316. A critical study of British fiction from 1900 to 1945, with emphasis on such writers as Conrad, Lawrence, Joyce, Woolf, Forster, Huxley, Waugh, and others.

ENG 4224 (ENG 437) CONTEMPORARY AMERICAN FICTION FROM 1945 TO THE PRESENT (5)
PR: One course in American literature. A critical study of American fiction from the war novel to the Absurd. The course will consider the impact of naturalism, science, existentialism, surrealism. Includes such writers as Mailer, El-

lison, Donleavy, Nabokov, Bellow, Pynchon, O'Connor, Malamud, and Updike.

ENG 4225 (ENG 438) CONTEMPORARY BRITISH FICTION FROM 1945 TO THE PRESENT (5)
PR: One course in British literature. A critical study of British fiction since WW II, including a consideration of those forces such as the Angry Young Men, the Absurd, the philosophical novel, and Continental influences. Writers to be considered will be Orwell, Murdoch, Beckett, Burgess, Durrell, Amis, and others.

ENG 4742 (ENG 441) MODERN BRITISH AND AMERICAN POETRY FROM 1900 TO 1945 (5)
PR: One course in British or American literature. Study of selected Modern British and American Poets from Hopkins to Auden, with attention to poetic theory.

ENG 4744 (ENG 442) CONTEMPORARY BRITISH AND AMERICAN POETRY FROM 1945 TO THE PRESENT (5)
PR: One course in British or American literature. Intensive study of six or seven contemporary poets: Theodore Roethke, Robert Lowell, Allen Ginsberg, Denise Levertov, Sylvia Plath, Edward Field, Bob Dylan, or others.

ENG 4464 (ENG 445) MODERN DRAMA FROM 1880 TO 1945 (5)
PR: One course in British or American literature. A study of major dramatists from the rise of Realism up to the Theatre of the Absurd, including works by Ibsen, Strindberg, Shaw, Chekhov, Pirandello, Brecht, and others. (Formerly ENG 459.)

ENG 4466 (ENG 446) CONTEMPORARY DRAMA FROM 1945 TO THE PRESENT (5)
PR: One course in British or American literature. A study of major dramatists from the Theatre of the Absurd to the present, including such playwrights as Beckett, Ionesco, Genet, Albee, Pinter, Duerrenmatt, Miller, Williams, and others. (Formerly ENG 459.)

ENG 4204 (ENG 450) THEORY OF FICTION (5)
PR: 20 hours of literature. Intensive study of the genres and varieties of fiction to ascertain the theoretical and technical problems involved in the work of fiction.

CRW 4240 (ENG 451) WORKSHOP IN FICTION (5)
PR: ENG 353. Study and writing of the short story and sections of the novel. Evaluation of student work in conferences, selected readings. May be taken twice for credit. (Formerly ENG 423.)

CRW 4340 (ENG 452) WORKSHOP IN POETRY (5)
PR: ENG 216 and ENG 352. Self-expression in traditional and contemporary forms. Student-teacher conferences and classroom discussion. Selected readings. May be taken twice for credit. (Formerly ENG 421.)

ENG 4814 (ENG 453) LITERARY CRITICISM (5)
PR: 20 hours of literature. A study of the works of major literary critics from Aristotle to the present, with emphasis on their meaning, their implied world view, and their significance for our own time and literature.

LIN 4370 (ENG 475) STRUCTURE OF AMERICAN ENGLISH (5)
PR: ENG 103. An introductory survey of traditional, structural, and generative-transformational grammars and their techniques for the analysis and description of linguistic structure in general, and contemporary American English in particular.

ENG 4512 (ENG 476) HISTORY OF THE ENGLISH LANGUAGE (5)
PR: 20 hours of literature. The evolution of language from Anglo-Saxon through Middle English to Modern English. Changes in the pronunciation, syntactic, and semantic systems; discussion of the forces which influenced them; a consideration of how these changes may influence the interpretation of literature.

LIN 4420 (ENG 477) LINGUISTICS AND LITERATURE (5)
PR: ENG 475 or LIN 301. The application of relevant materials from the fields of comparative and descriptive linguistics to analysis and interpretation of literature—poetry, prose, and drama, with a view to complementing the traditional modes.

ENG 4906 (ENG 481) INDIVIDUAL RESEARCH (1-5)
PR: 12 hours of literature. Directed study in special projects. Special permission of chairperson required.

LIT 4930 (ENG 483) SELECTED TOPICS IN ENGLISH STUDIES (1-5)
PR: Sophomore standing. The content of the course will be governed by student demand and instructor interest. It will examine in depth a recurring literary theme or the work of a small group of writers. Special courses in writing may also be offered under this title. May be repeated for different topics.

ENG 4900 (ENG 485) DIRECTED READING (5)
PR: Junior standing. Readings in special topics.

LAE 6375 (ENG 601) PROBLEMS IN COLLEGE ENGLISH INSTRUCTION: COMPOSITION (5)
PR: Graduate standing. An examination of the objectives of freshman English and an investigation of current techniques for achieving those objectives, emphasizing the problems of developing critical reading and the techniques of expository writing at the college level.

LAE 6389 (ENG 602) PROBLEMS IN COLLEGE ENGLISH INSTRUCTION: LITERATURE (5)
PR: Graduate standing. A course that will allow the prospective college English teacher to experiment with teaching techniques that will determine the most effective ways to teach literature and that will teach college English teachers the variety and importance of literary techniques and their relevance to subject matter.

ENL 6304 (ENG 610) STUDIES IN OLD ENGLISH (5)
PR: Graduate standing. A study of Old English language, prose style, poetry. May be retaken with different subject matter three times.

ENL 6315 (ENG 616) STUDIES IN MIDDLE ENGLISH (5)
PR: Graduate standing. Selected focused studies in language and in various authors and writings, 1100-1500: Chaucer, the *Pearl* poet, *Everyman,* ballads, drama. May be retaken with different subject matter three times.

ENL 6333 (ENG 620) STUDIES IN SIXTEENTH-CENTURY BRITISH LITERATURE (5)
PR: Graduate standing. Selected focused studies in 16th-century British literature: Shakespeare, Sidney, Spenser, Marlowe, and others. May be retaken with different subject matter three times.

ENL 6349 (ENG 625) STUDIES IN SEVENTEENTH-CENTURY BRITISH LITERATURE (5)
PR: Graduate standing. Selected focused studies in British literature, 1600-1660: Bacon, Donne, Jonson, Herbert, Milton, and others. May be retaken with different subject matter three times.

ENL 6392 (ENG 630) STUDIES IN RESTORATION AND EIGHTEENTH-CENTURY BRITISH LITERATURE (5)
PR: Graduate standing. Selected focused studies in Restoration-Eighteenth-Century British literature: Dryden, Defoe, Pope, Swift, Fielding, Sheridan, Johnson, Boswell, and others. May be retaken with different subject matter three times.

ENL 6407 (ENG 640) STUDIES OF THE ENGLISH ROMANTIC PERIOD (5)
PR: Graduate standing. A study of pre-Romantic and Romantic prose, fiction, nonfiction, and poetry. May be retaken with different subject matter three times.

ENL 6418 (ENG 645) STUDIES IN VICTORIAN LITERATURE (5)
PR: Graduate standing. A study of Victorian poetry, Victorian fiction, Victorian non-fictional prose, and Victorian drama. May be retaken with different subject matter three times.

AML 6132 (ENG 650) STUDIES IN AMERICAN LITERATURE TO 1860 (5)
PR: Graduate standing. Selected focused studies in American literature before 1860: the Puritans, Franklin, Cooper, Irving, Poe, Emerson, Hawthorne, Melville, and others. May be retaken with different subject matter three times.

AML 6137 (ENG 660) STUDIES IN AMERICAN LITERATURE 1860-1920 (5)
PR: Graduate standing. Selected focused studies in American literature: Whitman, Twain, Howells, James, Crane, Dreiser, and others. May be retaken with different subject matter three times.

ENL 6447 (ENG 670) STUDIES IN MODERN BRITISH LITERATURE (5)
PR: Graduate standing. A study of Irish and English drama, the modern novel, poetry, criticism, and the short story. May be retaken with different subject matter three times.

AML 6138 (ENG 672) STUDIES IN MODERN AMERICAN LITERATURE (5)
PR: Graduate standing. Modern American drama, poetry, fiction, and literary criticism; authors include Faulkner, Hemingway, Fitzgerald, O'Neill, Anderson, Wolfe, Cummings, Frost, and Eliot. May be retaken with different subject matter three times.

LIT 6167 (ENG 675) STUDIES IN CONTEMPORARY LITERATURE (5)
PR: Graduate standing. Drama, poetry, fiction, and literary criticism; authors to be studied include Ionesco, Thomas, Miller, T. Williams, Beckett, Camus, and Burgess. May be retaken with different subject matter three times.

ENG 6917 (ENG 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

LIT 6522 (ENG 683) SELECTED TOPICS IN ENGLISH STUDIES (1-10)
PR: Graduate standing. Current topics offered on a rotating basis include The Nature of Tragedy; The Nature of Comedy and Satire; The Nature of Romanticism and Classicism; and The Nature of Myth, Allegory, and Symbolism. Other topics will be added in accordance with student demand and instructor interest.

LIT 6208 (ENG 684) STUDIES IN CONTINENTAL LITERATURE (5)
PR: Graduate standing. General areas include the Renaissance, the Enlightenment, the Novel in Europe, the Romantic Movement on the Continent, and Classical Comedy. May be retaken with different subject matter three times.

ENG 6837 (ENG 686) STUDIES IN STYLE (5)
(Advanced Composition for Teachers)
PR: Graduate standing. Poetics, rhetoric, dramatic style, prose style, short fiction, the novel, and the essay. May be retaken with different subject matter three times.

LIN 6932 (ENG 687) STUDIES IN ENGLISH LANGUAGE AND LINGUISTICS (5)
PR: ENG 475 (formerly ENG 517) and ENG 476 (formerly ENG 515), or CI. An advanced study of the origin, historical development, and contemporary structure of British and American English in its social and cultural milieu, with emphasis upon modern techniques for linguistic analysis and description.

ENG 6832 (ENG 690) SCHOLARSHIP AND CRITICISM (5)
PR: Graduate standing. Selected focused study of research approaches to English. May be retaken with different subject matter once.

ENG 6936 (ENG 691) GRADUATE SEMINAR IN ENGLISH (5)
PR: Consent of graduate adviser. May be retaken with different subject matter to a maximum of ten hours.

ENG 6062 (ENG 693) BIBLIOGRAPHY FOR ENGLISH STUDIES (2)
PR: Graduate standing. Detailed study of bibliographies of cultural milieus, genres, periods, and authors.

LAE 6392 (ENG 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

ENG 6971 (ENG 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

LAE 7376 (ENG 702) PROBLEMS IN ADVANCED ENGLISH INSTRUCTION OF COMPOSITION (5)
PR: Admission to the Ph.D. program in English. Apprenticed, closely supervised study of and practice in teaching of college and university advanced composition. Student may elect to work with nonfiction, fiction, or poetry.

LAE 7390 (ENG 703) PROBLEMS IN ADVANCED ENGLISH INSTRUCTION AND SCHOLARLY RESEARCH (5)
PR: Ph.D. Candidacy. This course is to provide closely supervised training in upper-level college English instruction and experience with professional research. Experience in the lecture, seminar discussion, examining, evaluation, conferences, directing undergraduate research, course development, use of secondary materials, publication procedure, and collation.

ENG 7917 (ENG 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

ENG 7938 (ENG 791) DOCTORAL SEMINAR (5)
PR: Admission to Ph.D. program. This seminar will provide intensive small-group discussion as well as shared and individual guided research in a student's area of doctoral specialty over two consecutive academic quarters.

ENG 7980 (ENG 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

ENVIRONMENT (ENV)

IDS 3150 (ENV 301) DIALOGUE IN ENVIRONMENTAL SURVIVAL (4)
A multi-disciplinary course dealing with environmental problems. For non-science majors. (S/U only.)

FINANCE (FIN)

Acting Chairperson: P. Kares. *Professor Emeritus:* J. A. Close. *Professors:* A. Beenhakker, R. G. Cox, J. R. Longstreet, L. Stone. *Associate Professors:* J. C. Deiter, P. Kares, R. L. Meyer, F. B. Power, C. T. Smith. *Assistant Professors:* E. F. Dunham, Jr., D. A. Johnson, W. G. Modrow. *Instructors:* J. F. Feller, S. D. Kapplin.

FIN 2100 (FIN 201) PERSONAL FINANCE (5)
Survey of the problems and techniques of family financial

planning. Includes consumer credit, insurance, home ownership, and personal investing, with attention given to current economic and legal constraints. Not available for credit to upper level students who have been admitted to the College of Business Administration.

FIN 2105 (FIN 202) INTRODUCTION TO INVESTMENTS (4)
Emphasizes the operations of the security markets in the U.S. and the risks and returns of alternative investment media. Designed for non-business administration students. Not available for credit to upper level students who have been admitted to the College of Business Administration.

FIN 3403 (FIN 301) PRINCIPLES OF FINANCE (5)
PR: ACC 300 and ECN 201. Examines the process of acquiring, allocating and supervising the use of resources with special emphasis on the tools and instruments for managing the finances of the firm, including solvency, liquidity, and profitability.

RMI 3010 (FIN 303) PRINCIPLES OF INSURANCE (5)
Analysis of insurable risks of both businesses and individuals. An examination of the characteristics of those areas of risk and uncertainty where the mechanisms of insurance are effective alternatives. The concept, contracts, and institutions involved in insurance are examined in relationship to the socio-economic environment.

REE 3040 (FIN 305) PRINCIPLES OF REAL ESTATE (5)
Economics of urban land utilization and the nature of property rights. Problems of urban development and the valuation of real property in terms of the structure and operations of the real estate market.

FIN 3233 (FIN 321) MONEY AND BANKING (4)
PR: ECN 202. Examines the structure and operations of our monetary system, commercial banking, central banking, money, and capital markets, and provides an introduction to monetary theory and policy.

FIN 3604 (FIN 351) INTERNATIONAL FINANCE (5)
PR: ECN 202 or CI. Factors affecting international business; assessment of risk; international managerial finance; institutions and instruments of international business finance.

RMI 4110 (FIN 403) LIFE, HEALTH & DISABILITY INSURANCE (5)
PR: FIN 303, ECN 331. The course will analyze the use of life, health and disability insurance contracts as a method of dealing with the risks of death, sickness, and disability. It will also include an analysis of cost determination of the various types of coverage.

RMI 4210 (FIN 404) PROPERTY INSURANCE (4)
PR: FIN 303. A discussion/lecture course dealing with recognition of personal and business property risks, coverages which may be used in dealing with these risks, and understanding the underwriting, marketing and social problems associated with these coverages. Topics include commercial and residential fire insurance, inland marine and transportation coverages, and multi-peril contracts. Not limited to finance majors.

RMI 4113 (FIN 405) CASUALTY INSURANCE (4)
PR: FIN 303. A discussion/lecture course dealing with recognition of personal and business casualty risks, coverages which may be used in dealing with these risks, and understanding the underwriting, marketing, and social problems associated with these coverages. Topics include workmen's compensation, public liability, auto liability, suretyship and crime insurances. Not limited to finance majors.

FIN 4414 (FIN 411) ADVANCED CORPORATION FINANCE (4)
PR: FIN 301. An examination of the financial policies of corporations, with special reference to dividend policy, financial structure, capital expenditures, acquisitions, mergers, and reorganization.

FIN 4504 (FIN 421) PRINCIPLES OF INVESTMENTS (4)
PR: FIN 301 and ECN 202. Survey of the risks and returns of investment media in relation to the investment objectives of individual and institutional investors. Includes an examination of the capital markets, information flows, and analytical techniques in terms of their impact upon the valuation process.

REE 4301 (FIN 425) REAL ESTATE INVESTMENT ANALYSIS (4)
PR: FIN 301 and 305. A comprehensive and in-depth study of the determinants of the market and financial feasibility of the real estate investment decision. The development of market and site analyses, theories of urban development patterns, and the role of taxation will be studied along with the application of analytical techniques for decision making. The course is not restricted to Finance majors.

REE 4204 (FIN 426) REAL ESTATE FINANCE (4)
PR: FIN 425. A comprehensive analysis of the institutional and legal framework of real estate financing together with an introduction to the financing techniques which are traditionally utilized to finance real estate. Includes methods of raising debt and equity funds. Analysis of real property for financing purposes is stressed in a decision-making context and how that decision affects the real estate investment. The course is not restricted to Finance majors.

FIN 4303 (FIN 431) FINANCIAL INSTITUTIONS (4)
PR: FIN 321. A study of financial institutions and their roles in the capital market in the savings allocation, investment and financial decision making process.

FIN 4834 (FIN 451) FEDERAL RESERVE SYSTEM AND MONETARY POLICY (4)
PR: ECN 323 or FIN 321. An analysis of the Federal Reserve System, with special emphasis on the formulation and administration of monetary policy and on monetary theory.

FIN 4443 (FIN 461) FINANCIAL POLICIES AND STRATEGIES (3)
PR: FIN 411. Senior seminar for majors in finance. Quantitative and qualitative analysis of financial policies based on independent readings and empirical research.

FIN 4524 (FIN 471) PORTFOLIO MANAGEMENT (3)
PR: FIN 421. Study of portfolio policies and strategies of individual and institutional investors. This course utilizes both quantitative and case study approaches to problem solving.

FIN 4915 (FIN 481) INDEPENDENT RESEARCH (1-5)
PR: CI. Individual study contract with instructor and department chairman required. The research project will be mutually determined by the student and instructor. May be repeated up to 10 hours.

FIN 4934 (FIN 483) SELECTED TOPICS IN FINANCE (1-5)
PR: CI. Topics to be selected by Instructor and Department Chairperson on pertinent Finance issues.

——— (FIN 497) INDEPENDENT STUDY (1-4)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 8 credit hours. (S/U only.)

FIN 5405 (FIN 501) BUSINESS FINANCE (3)
PR: ACC 501 and ECN 501 or their equivalents. Accelerated introduction to fundamentals of business finance. Emphasis is placed on the formal presentation of financial models for decision making. The institutional features of the financial environment are also covered. Not open to undergraduate students enrolled in the College of Business Administration.

FIN 6426 (FIN 601) FINANCIAL MANAGEMENT (3)
PR: FIN 501 or equivalent. An examination of financial practice at the level of the individual firm with emphasis on quantitative analysis of the variables affecting liquidity, solvency and profitability.

FIN 6246 (FIN 602) CAPITAL MARKETS (3)
PR: ECN 502 or equivalent. An investigation of the capital

markets and their relationship to the external financing of firms.

FIN 6446 (FIN 611) FINANCIAL POLICY (3)
PR: FIN 601. A case study approach to financial policy and strategy with an emphasis on major financial decisions in the area of external financing, mergers, acquisitions, recapitalization, and reorganization.

FIN 6816 (FIN 621) INVESTMENTS (3)
PR: FIN 501 or equivalent, CI. An examination of the risks and returns of alternative investment media within the framework of various valuation models. Special attention is given to the investment process and the criteria for investment decisions.

FIN 6804 (FIN 651) THEORY OF FINANCE (3)
PR: FIN 601, GBA 603 or CI. A systematic and rigorous course in the theory of finance. Topics will include the theory of choice and the allocation of financial resources, criteria for optimal investments, under certainty and uncertainty, the financing decision and the cost of capital.

——— (FIN 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

FIN 6934 (FIN 683) SELECTED TOPICS IN FINANCE (1-6)
PR: Graduate standing and CI. A variable credit course depending upon the scope and magnitude of the work required. Includes special lecture series.

——— (FIN 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

FOREIGN LANGUAGES

Chairperson: A. L. Motto; *Professors:* C. W. Capsas, E. F. McLean, V. I. Milani, A. L. Motto, E. J. Neugaard, R. A. Stelzmann; *Associate Professors:* R. A. Cherry, E. G. Glenisson, W. H. Grothmann, C. de la Menardiere, D. P. Schenck, C. E. Scruggs, J. C. Tatum; *Assistant Professors:* C. J. Cano, W. R. Hampton, D. Ierardo, J. D. Noonan, V. E. Peppard, L. A. Seminario.

General Foreign Languages (FOL)

FOL 3001 (FOL 383) GENERAL FOREIGN LANGUAGE I (1-4)
A general-purpose course that may be used for transfer of credit, credit by examination and similar matters; may also be used for formal courses in less-commonly taught languages or in professional translation.

FOL 4200 (FOL 483) GENERAL FOREIGN LANGUAGE II (1-4)
A general-purpose course that may be used for transfer of credit, credit by examination and similar matters; may also be used for formal courses in less-commonly taught languages or for workshops in professional interpreting.

FOL 4905 (FOL 485) DIRECTED STUDY (1-4)
Departmental approval required.

FOL 5906 (FOL 585) DIRECTED STUDY (1-4)
PR: FOL 483 or equivalent.

Arabic (ARA)

ARA 3110 (ARA 390) MODERN ARABIC I (3)
An intensive study of the basic grammar, syntax, pronunciation and development of reading and oral skills.

ARA 3111 (ARA 391) MODERN ARABIC II (3)
PR: ARA 390. A continuation of ARA 390.

Classics (CLS)

COURSES IN TRANSLATION

CLT 3290 (CLS 310) CLASSICAL LITERATURE IN TRANSLATION: TRAGEDY (4)
Introduction to the masterworks of Greek and Roman tragedy, with analyses of plays by Aeschylus, Sophocles, Euripides and Seneca.

CLT 3300 (CLS 311) CLASSICAL LITERATURE IN TRANSLATION: COMEDY AND SATIRE (4)
Survey of the major works of Greek and Roman comedy and satire, including works by Aristophanes, Menander, Terence, Plautus, Petronius, Martial, Horace and Juvenal.

CLT 3322 (CLS 312) CLASSICAL LITERATURE IN TRANSLATION: EPIC AND LYRIC (4)
Study of epics and short lyric forms in Greco-Roman literature, including Homer and Vergil, poets from the 'Greek Anthology,' Catullus, Propertius, and Horace.

CLT 3370 (CLS 351) CLASSICAL MYTHOLOGY (4)
Study of the more important myths of the Greeks and Romans as laid down in classical literature and of the impact that Classical mythology made on modern Western and, in particular, English literature.

CLT 3040 (CLS 359) CLASSICAL WORD ROOTS IN SCIENCE (3)
A course in the Greek and Latin word stock used in all sciences (including medicine), technology, and law. Students' needs determine specific content of the course.

For GREEK and LATIN courses, see GRE and LAT prefixes.

French (FRE)

COURSES IN TRANSLATION

FRT 3115 (FRE 310) HIGHLIGHTS OF FRENCH LITERATURE IN TRANSLATION (4)
A study *in English* of French life through writers since the revolution. Elective for students in all departments.

FRE 1120 (FRE 101) BEGINNING FRENCH I (3)
The first course in the study of elementary French. Emphasis on the development of basic skills in comprehension, speaking and reading.

FRE 1121 (FRE 102) BEGINNING FRENCH II (3)
PR: FRE 101 or equivalent. A continuation of French 101.

FRE 1102 (FRE 103) BEGINNING FRENCH III (3)
PR: FRE 102 or equivalent. A continuation of French 101 and 102.

FRE 1060 (FRE 199) FRENCH FOR READING (3)
Designed to provide a reading ability in French that will support research in other disciplines.

FRE 2200 (FRE 201) INTERMEDIATE FRENCH I (4)
PR: French 103 or equivalent. A review of the basic structure of spoken and written French. May be taken concurrently with FRE 202.

FRE 2201 (FRE 202) INTERMEDIATE FRENCH II (4)
PR: French 103 or equivalent. Readings in French on the intermediate level. May be taken concurrently with FRE 201.

FRE 3420 (FRE 301) COMPOSITION I (4)
A fundamental composition course for students who have completed FRE 201 or 202.

FRE 3410 (FRE 303) CONVERSATION I (4)
PR: FRE 103. For development of basic conversational skills.

FRE 3500 (FRE 308) FRENCH CIVILIZATION (4)
Readings and discussion on the cultural history of France. (Formerly FRE 410.)

FRT 3115 (FRE 310) See above—COURSES IN TRANSLATION

FRE 4421 (FRE 401) COMPOSITION II (4)
Continuation of French composition. This course is designed to follow FRE 301.

FRE 4780 (FRE 403) CONVERSATION II (4)
PR: FRE 303 or equivalent proficiency. Conversation practice with concentration on current idiomatic usage.

FRW 4120 (FRE 405) INTRODUCTION TO FRENCH NOVEL (4)
PR: FRE 202. Study of the development of the novel. Will include Chrétien de Troyes, Rabelais, Flaubert, Balzac, Proust, Camus, Sartre, Robbe-Grillet.

FRW 4121 (FRE 406) INTRODUCTION TO FRENCH POETRY AND DRAMA (4)
PR: FRE 202. Study of the development of poetry and drama. Will include Racine, Corneille, Molière, Anouilh, Ionesco, Villon, Ronsard, DuBellay, Lamartine, Hugo, Vigny, Musset, Baudelaire, Mallarmé, Rimbaud, Valéry, Péguy, Eluard, Apollinaire, Char.

FRE 4930 (FRE 483) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

FRE 4905 (FRE 485) DIRECTED STUDY (1-4)
Departmental approval required.

FRW 5410 (FRE 501) LITERATURE OF THE MIDDLE AGES (4)
PR: FRE 405. Major genres, including epics, Arthurian romances, drama and lyric poetry. Readings in modern French translation.

FRW 5420 (FRE 502) LITERATURE OF THE RENAISSANCE (4)
PR: FRE 405. A study of Renaissance French humanism including Rabelais, Montaigne, and the Pléiade poets.

FRW 5222 (FRE 521) CLASSICAL PROSE AND POETRY (4)
PR: FRE 405. Emphasis on Malherbe, La Fontaine, Boileau, Descartes and Pascal.

FRW 5310 (FRE 522) CLASSICAL DRAMA (4)
PR: FRE 405. Corneille, Molière and Racine.

FRW 5440 (FRE 531) 18th CENTURY LITERATURE (4)
PR: FRE 405. The classical tradition and the new currents of thought in the Age of Enlightenment.

FRW 5530 (FRE 532) PRE-ROMANTICISM (4)
PR: FRE 405. The precursors of romanticism. Emphasis on Rousseau, Bernardin de St.-Pierre, Chénier and Chateaubriand.

FRW 5535 (FRE 541) ROMANTICISM (4)
PR: FRE 406. A study of the romantic movement with emphasis on Lamartine, Vigny, Musset and Hugo.

FRW 5550 (FRE 542) REALISM (4)
PR: FRE 406. A detailed study of realism with emphasis on Balzac and Flaubert.

FRW 5558 (FRE 543) NATURALISM AND SYMBOLISM (4)
PR: FRE 406. A detailed study of the naturalist school with emphasis on Zola, les Goncourt, Maupassant and Daudet.

FRW 5283 (FRE 551) THE 20th CENTURY NOVEL (4)
PR: FRE 406. Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet.

FRW 5226 (FRE 552) 20th CENTURY POETRY AND THEATRE (4)
PR: FRE 406. Valéry, Claudel, Anouilh, Montherlant, Sartre, Ionesco.

FRW 5934 (FRE 583) SELECTED TOPICS (1-4)
PR: Upper-level or graduate standing. Study of an author, movement, or theme.

FRW 6405 (FRE 601) OLD FRENCH (4)
PR: Graduate standing. An introduction to the Old French language and literature. Readings from representative texts. Required of all M.A. candidates.

FRW 6411 (FRE 612) MEDIEVAL LITERATURE (4)
PR: Graduate standing. A study in depth of Old French literature of the Middle Ages.

FRW 6319 (FRE 622) SEMINAR ON CLASSICAL DRAMA (4)
PR: Graduate standing. A study of the works of Corneille, Racine or Molière.

FRE 6910 (FRE 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

FRE 6934 (FRE 683) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

FRW 6938 (FRE 691) GRADUATE SEMINAR (4)
Topics vary. May be repeated.

FRE 6710 (FRE 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (FRE 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

FRE 6971 (FRE 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

German (GER)

COURSES IN TRANSLATION

GET 3111 (GER 310) HIGHLIGHTS OF GERMAN LITERATURE IN TRANSLATION (4)
An analysis *in English* based on translations of the most significant works of the middle ages of Luther, Grimmelshausen, Lessing, Goethe, Kant, Hegel, Nietzsche, Mann, Heidegger, Kafka, Hesse, and contemporary writers of current interest. Elective for students in all departments.

GER 1100 (GER 101) BEGINNING GERMAN I (3)
The first course in the study of elementary German. Emphasis on the development of basic skills in comprehension, speaking and reading.

GER 1101 (GER 102) BEGINNING GERMAN II (3)
PR: GER 101 or equivalent. A continuation of GER 101.

GER 1102 (GER 103) BEGINNING GERMAN III (3)
PR: GER 102 or equivalent. Continuation of GER 102.

GER 1060 (GER 199) GERMAN FOR READING (4)
Designed to provide a reading ability in German that will support research in other disciplines.

GER 2200 (GER 201) INTERMEDIATE GERMAN I (4)
PR: GER 103 or equivalent. A review of the basic structure of spoken and written German. May be taken concurrently with GER 202.

GER 2201 (GER 202) INTERMEDIATE GERMAN II (4)
PR: GER 103 or equivalent. Readings in German on the intermediate level. May be taken concurrently with GER 201.

GER 3420 (GER 301) GERMAN COMPOSITION I (4)
A fundamental course for students who have completed GER 201 or 202.

GER 3410 (GER 303) CONVERSATION I (4)
PR: GER 103. For development of basic conversational skills.

GER 3500 (GER 308) GERMAN CIVILIZATION (4)
PR: GER 201 or 202. Readings in German on the cultural history of Germany.

GET 3111 (GER 310) See above—COURSES IN TRANSLATION

GER 4421 (GER 401) COMPOSITION II (4)
Practical training in modern German usage and differences of style.

GER 4411 (GER 403) CONVERSATION II (4)
Free conversation based on the current German idiom.

GEW 4120 (GER 405) SURVEY OF GERMAN LITERATURE I (4)
Old High German and Middle High German literature in modern German translation; the literature of Humanism and Baroque, the classical period.

GEW 4121 (GER 406) SURVEY OF GERMAN LITERATURE II (4)
The romantic period, 19th and 20th centuries.

GEW 4930 (GER 483) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

GEW 4900 (GER 485) DIRECTED STUDY (1-4)
Departmental approval required.

GER 5840 (GER 513) HISTORY OF THE GERMAN LANGUAGE (4)
A diachronic approach to the study of the German language. The course traces the history and development of the language from Indo-European through Germanic, Old, Middle, and New High German.

GEW 5603 (GER 521) FAUST I (4)
Sources, form, content, and literary significance of Urfaust and Faust I.

GEW 5600 (GER 531) GOETHE (4)
Selected novels, poems: Werther, Wahlverwandtschaften, Wilhelm Meister, Westöstlicher Divan.

GEW 5610 (GER 532) SCHILLER (4)
Selected dramas, philosophical and aesthetical writings.

GEW 5515 (GER 535) THE ENLIGHTENMENT (4)
Selected dramas and critical writings by Lessing, Wieland, Kant.

GEW 5540 (GER 543) ROMANTICISM (4)
Jenaer circle and Heidelberger circle; the late romantic period, the writers between Classicism and Romanticism.

GEW 5550 (GER 544) REALISM (4)
Selected works by Grillparzer, Grabbe, Büchner, Hebbel, Heine, Immerman, Stifter, Keller, Meyer, Storm, Raabe, Hulshoff and Mörike.

GEW 5485 (GER 552) 20th CENTURY LITERATURE TO 1945 (4)
A study of major styles in German literature from 1900 to WWII with emphasis on Hauptmann, Schnitzler, Hofmannsthal, George, Rilke, Kaiser, Heym, Trakl, Thomas Mann, Hesse, Kafka, Benn, Brecht.

GEW 5488 (GER 553) 20th CENTURY LITERATURE 1945-PRESENT (4)
Study of major trends in German literature since WWII with emphasis on Borchert, Frisch, Dürrenmatt, Böll, Uwe Johnson, Grass, Aichinger, Eich, Enzensberger, Bachmann.

GEW 5934 (GER 583) SELECTED TOPICS (1-4)
PR: Upper-level or graduate standing. Study of an author, movement. or theme.

GEW 6400 (GER 601) MIDDLE HIGH GERMAN (4)
An introduction to the Middle High German language and the classical literature of that period. Readings from the epics of Hartmann von Aue, Wolfram von Eschenbach, Gottfried von Strassburg, and Minnesang (courtly love poetry).

GEW 6604 (GER 631) FAUST II (4)
An analysis of Goethe's last work: mythology, literary significance and critical evaluation.

GEW 6915 (GER 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

GEW 6934 (GER 683) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

GEW 6938 (GER 691) GRADUATE SEMINAR (4)
Topics vary. May be repeated.

GER 6908 (GER 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

Greek (GRE)

GRE 1100 (GRE 101) BEGINNING CLASSICAL GREEK I (3)
An introductory course in classical Greek grammar with appropriate readings.

GRE 1101 (GRE 102) BEGINNING CLASSICAL GREEK II (3)
PR: GRE 101 or equivalent. An introductory course in classical Greek grammar with appropriate readings.

GRE 1102 (GRE 103) BEGINNING CLASSICAL GREEK III (3)
PR: GRE 102 or equivalent. An introductory course in classical Greek grammar with appropriate readings.

GRE 2210 (GRE 201) INTERMEDIATE GREEK I (4)
PR: GRE 103 or equivalent. Review of grammar; readings in Plato and Homer.

GRE 2211 (GRE 202) INTERMEDIATE GREEK II (4)
PR: GRE 103 or equivalent. Review of grammar; readings in Plato and Homer.

GRE 2212 (GRE 203) INTERMEDIATE GREEK III (4)
PR: GRE 103 or equivalent. Review of grammar; readings in Plato and Homer.

GRE 3110 (GRE 390) MODERN GREEK I (3)
An intensive study of the basic grammar, syntax, pronunciation and development of reading and oral skills.

GRE 3111 (GRE 391) MODERN GREEK II (3)
PR: GRE 390.

GRW 4905 (GRE 485) DIRECTED STUDY (1-4)
Study of special topics chosen by the student in cooperation with the professor.

Hebrew (HEB)

HEB 3110 (HEB 390) MODERN HEBREW I (3)
An intensive study of the basic grammar, syntax, pronunciation and development of reading and oral skills.

HEB 3111 (HEB 391) MODERN HEBREW II (3)
PR: HEB 390.

Italian (ITA)

COURSES IN TRANSLATION

ITT 3115 (ITA 310) ITALIAN CLASSICS IN TRANSLATION (4)
The works of the fathers of the Renaissance—Dante, Petrarch, Boccaccio, Machiavelli, Castiglione and others—are read and discussed *in English.*

ITT 3488 (ITA 311) MASTERPIECES OF 20th CENTURY ITALIAN LITERATURE IN TRANSLATION (4)
Studies of the works of Pirandello, Silone, Moravia, Lampedusa, Levi, etc.

ITA 1120 (ITA 101) BEGINNING ITALIAN I (3)
The first course in the study of elementary Italian. Emphasis is on the development of basic skills in comprehension, speaking and reading.

ITA 1121 (ITA 102) BEGINNING ITALIAN II (3)
PR: ITA 101 or equivalent. A continuation of ITA 101.

ITA 1102 (ITA 103) BEGINNING ITALIAN III (3)
PR: ITA 102 or equivalent. A continuation of ITA 101 and 102.

ITA 2200 (ITA 201) INTERMEDIATE ITALIAN I (4)
PR: ITA 103 or equivalent. A review of the basic structure of spoken and written Italian.

ITA 2201 (ITA 202) INTERMEDIATE ITALIAN II (4)
PR: ITA 103 or equivalent. Readings in Italian on the intermediate level. May be taken concurrently with ITA 201.

ITA 3420 (ITA 301) ITALIAN COMPOSITION I (4)
To develop the student's ability in writing Italian, to increase his ability in comprehension and use of grammatical elements.

ITA 3410 (ITA 303) ITALIAN CONVERSATION I (4)
PR: ITA 103. For development of basic conversational skills.

ITA 3500 (ITA 308) ITALIAN CIVILIZATION (4)
Readings and discussion on the cultural history of Italy. (Formerly ITA 410.)

ITT 3115 (ITA 310) See above—COURSES IN TRANSLATION

ITT 3488 (ITA 311) See above—COURSES IN TRANSLATION

ITA 4421 (ITA 401) ITALIAN COMPOSITION II (4)
The study of syntax is intensified and the vocabulary is expanded.

ITA 4410 (ITA 403) CONVERSATION II (4)
PR: ITA 303 or equivalent. Free and directed conversation in Italian on contemporary topics.

ITW 4120 (ITA 405) SURVEY OF ITALIAN LITERATURE I (4)
Origins of Italian Literature, together with general aspects of the literature of the Middle Ages and the Renaissance.

ITW 4121 (ITA 406) SURVEY OF ITALIAN LITERATURE II (4)
The literature of the Seventeenth through the Twentieth century, with special emphasis on the movements of the Nineteenth and Twentieth centuries.

ITW 4605 (ITA 412) DANTE—DIVINE COMEDY I (4)
The allegorical, poetic, religious, historical, mythological, and classical aspects of the Inferno are read and discussed.

ITA 4930 (ITA 483) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

ITW 4905 (ITA 485) DIRECTED STUDY (1-4)
Departmental approval required.

ITW 6910 (ITA 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

ITA 6908 (ITA 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

Latin (LAT)

LAT 1100 (LAT 101) BEGINNING LATIN I (3)
An introductory course in Latin grammar with appropriate readings.

LAT 1101 (LAT 102) BEGINNING LATIN II (3)
PR: LAT 101 or equivalent. An introductory course in Latin grammar with appropriate readings.

LAT 1102 (LAT 103) BEGINNING LATIN III (3)
PR: LAT 102 or equivalent. An introductory course in Latin grammar with appropriate readings.

LAT 2210 (LAT 201) INTERMEDIATE LATIN I (4)
PR: LAT 103 or equivalent, Review of grammar; Readings in Vergil, Ovid and Martial.

LAT 2211 (LAT 202) INTERMEDIATE LATIN II (4)
PR: LAT 103 or equivalent. Review of grammar; readings in Vergil, Ovid, and Martial.

LAT 2212 (LAT 203) INTERMEDIATE LATIN III (4)
PR: LAT 103 or equivalent. Review of grammar; readings in Vergil, Ovid, and Martial.

LNW 3660 (LAT 304) ROMAN ELEGIAC POETS I: CATULLUS (4)
PR: Basic Knowledge of Latin. Readings in Catullus. Study of techniques and tradition in Romans lyric poetry.

LNW 3322 (LAT 305) ROMAN ELEGIAC POETS II: PROPERTIUS AND TIBULLUS (4)
PR: Basic knowledge of Latin. Readings in Propertius and Tibullus; further study of art and tradition in Roman lyric poetry.

LNW 3675 (LAT 309) HORACE (4)
PR: Basic knowledge of Latin. Readings in the Odes and Epodes of Horace; study of the ode's traditions.

LNW 3311 (LAT 318) ROMAN COMEDY I: PLAUTUS (4)
PR: Basic knowledge of Latin. Readings of selected plays by Plautus; introduction to comedy—its theory and practice.

LNW 3312 (LAT 319) ROMAN COMEDY II: TERENCE (4)
PR: Basic knowledge of Latin. Readings of selected plays by Terence.

LNW 3665 (LAT 332) CICERO (4)
PR: Basic knowledge of Latin. Readings in the epistles of Cicero.

LNW 3500 (LAT 373) CICERO AND ROMAN PHILOSOPHY (4)
PR: Basic knowledge of Latin. Readings in the philosophic writings of Cicero, together with a consideration of eclectic thought.

LNW 3501 (LAT 374) SENECA AND ROMAN PHILOSOPHY (4)
PR: Basic knowledge of Latin. Readings in the philosophic writings of Lucius Annaeus Seneca, together with an examination of Stoic, Epicurean, and Eclectic thought.

LNW 4361 (LAT 421) ROMAN SATIRE I (4)
PR: Basic knowledge of Latin. Readings in the Satyricon of Petronius. Introduction to the nature of satire.

LNW 4362 (LAT 422) ROMAN SATIRE II (4)
PR: Basic knowledge of Latin. Readings in Seneca's Apocolocyntosis, the satires of Horace, and Juvenal. Introduction to the tradition and art of formal verse satire.

LNW 4381 (LAT 463) LIVY (4)
PR: Basic knowledge of Latin. Readings in the ideas and artistry of this Roman historian.

LNW 4930 (LAT 483) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

LNW 4900 (LAT 485) DIRECTED READING (1-4)
Departmental approval required.

Portuguese (POR)

POR 3130 (POR 326) ACCELERATED PORTUGUESE I (4)
PR: Two years of another Romance Language or Latin. Basic grammar, syntax, pronunciation and development of reading and oral skills.

POR 3210 (POR 327) ACCELERATED PORTUGUESE II (4)
PR: POR 326. Continues development of reading and oral skills.

POR 4420 (POR 401) COMPOSITION (4)
PR: POR 327. Emphasis on syntax, verb morphology and accurate writing.

POW 4120 (POR 405) PORTUGUESE LITERATURE (4)
PR: POR 327. Emphasis on Camoens and later writers.

PRT 4400 (POR 406) BRAZILIAN LITERATURE (4)
PR: POR 327. Emphasis on Machado de Assis and later writers.

POW 6910 (POR 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

Romance (ROM)

FOL 5752 (ROM 517) ROMANCE PHILOLOGY (4)
PR: Upper level or graduate standing.

FOW 5405 (ROM 518) MEDIEVAL AND EARLY ROMANCE LITERATURE (4)
PR: ROM 517.

FOW 6800 (ROM 689) BIBLIOGRAPHY (2)
PR: Graduate standing. Research methods. Includes familiarity with major journals and bibliographies, and a practicum. (S/U only.)

Russian (RUS)

COURSES IN TRANSLATION

RUT 3110 (RUS 310) RUSSIAN CLASSICS IN TRANSLATION (4)
Masterpieces of 19th century Russian literature *in English.* The major works of Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, Tolstoy, and Chekhov. Elective for all students in all departments.

RUT 3111 (RUS 311) 20TH CENTURY RUSSIAN LITERATURE IN TRANSLATION (4)
Masterpieces of 20th century Soviet literature *in English.* The major works of Bely, Olesha, Babel, Zamyatin, Bulgakov, Pasternak, and Solzhenitzyn. Elective for all students in all departments.

RUS 1100 (RUS 101) BEGINNING RUSSIAN I (3)
The first course in the study of elementary Russian. Emphasis on the development of basic skills in comprehension, speaking and reading.

RUS 1101 (RUS 102) BEGINNING RUSSIAN II (3)
PR: RUS 101 or equivalent. A continuation of RUS 101.

RUS 1102 (RUS 103) BEGINNING RUSSIAN III (3)
PR: RUS 102 or equivalent. Continuation of RUS 102.

RUS 1060 (RUS 199) RUSSIAN FOR READING (3)
This course is designed to provide reading ability in Russian so that research may be done in other disciplines.

RUS 2200 (RUS 201) INTERMEDIATE RUSSIAN I (4)
PR: RUS 103 or equivalent. A review of the basic structure of spoken and written Russian. May be taken concurrently with RUS 202.

RUS 2201 (RUS 202) INTERMEDIATE RUSSIAN II (4)
PR: RUS 103 or equivalent. Readings in Russian on the intermediate level. May be taken concurrently with RUS 201.

RUS 3420 (RUS 301) RUSSIAN COMPOSITION I (4)
Development of writing skills in Russian.

RUS 3240 (RUS 303) CONVERSATION I (4)
PR: RUS 103. For development of basic conversational skills.

RUT 3110 (RUS 310) See above—COURSES IN TRANSLATION

RUT 3111 (RUS 311) See above—COURSES IN TRANSLATION

——— (RUS 401) RUSSIAN COMPOSITION II (4)
A continuation of RUS 301.

RUS 4241 (RUS 403) CONVERSATION II (4)
PR: RUS 303 or equivalent. A continuation of Russian 303.

RUW 4120 (RUS 405) SURVEY OF RUSSIAN LITERATURE I (4)
Russian literature from its origins with major emphasis on the first half of the 19th century.

RUW 4121 (RUS 406) SURVEY OF RUSSIAN LITERATURE II (4)
Late 19th and 20th century Russian literature to the present.

RUW 4624 (RUS 453) DOSTOEVSKY (4)
Reading and discussion of the major works of Dostoevsky.

RUW 4614 (RUS 454) TOLSTOY (4)
Reading and discussion of the major works of Tolstoy.

RUS 4900 (RUS 483) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

RUS 4905 (RUS 485) DIRECTED STUDY (1-4)
Departmental approval required.

RUS 6910 (RUS 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

Spanish (SPA)

COURSES IN TRANSLATION

SPT 3110 (SPA 310) SPANISH MASTERPIECES IN TRANSLATION (4)
Outstanding literary works of Spain, *in English.* Open to all non-majors.

SPT 3131 (SPA 313) LATIN AMERICAN LITERATURE IN TRANSLATION (4)
Outstanding works of Brazil and Spanish America, *in English.* Open to all non-majors.

SPN 1100 (SPA 101) BEGINNING SPANISH I (3)
The first course in the study of elementary Spanish. Emphasis on the development of basic skills in comprehension, speaking and reading.

SPN 1101 (SPA 102) BEGINNING SPANISH II (3)
PR: SPA 101 or equivalent. A continuation of SPA 101.

SPN 1102 (SPA 103) BEGINNING SPANISH III (3)
PR: SPA 102 or equivalent. A continuation of SPA 102.

SPN 2200 (SPA 201) INTERMEDIATE SPANISH I (4)
PR: SPA 103 or equivalent. A review of the basic structure of spoken and written Spanish. May be taken concurrently with SPA 202.

SPN 2201 (SPA 202) INTERMEDIATE SPANISH II (4)
PR: SPA 103 or equivalent. Readings in Spanish on the intermediate level. May be taken concurrently with SPA 201.

SPN 3300 (SPN 301) COMPOSITION I (4)
A fundamental composition course for students who have completed SPA 201 or 202.

SPN 3410 (SPA 303) CONVERSATION I (4)
PR: SPA 103. For development of basic conversational skills.

SPN 3500 (SPA 308) HISPANIC CIVILIZATION (4)
The culture and civilization of Spain and Spanish America. (Formerly SPA 410.)

SPT 3110 (SPA 310) See above—COURSES IN TRANSLATION

SPT 3131 (SPA 313) See above—COURSES IN TRANSLATION

SPN 4301 (SPA 401) COMPOSITION II (4)
PR: SPA 301 or equivalent. A study of syntax, grammar, and stylistic devices of the Spanish language.

SPN 4411 (SPA 403) CONVERSATION II (4)
PR: SPA 303 or equivalent. To improve fluency in spoken Spanish.

SPW 4120 (SPA 405) SURVEY OF SPANISH LITERATURE I (4)
PR: SPA 202 or equivalent. From the origins through the 17th century.

SPW 4121 (SPA 406) SURVEY OF SPANISH LITERATURE II (4)
PR: SPA 202 or equivalent. From the 18th century to the present.

SPW 4130 (SPA 407) SURVEY OF SPANISH-AMERICAN LITERATURE (4)
PR: SPA 202 or equivalent. An introduction to the study of

Spanish-American literature from the Colonial period to the present. Emphasis on modern writers since Dario.

SPW 4390 (SPA 483) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

SPW 4900 (SPA 485) DIRECTED STUDY (1-4)
Departmental approval required.

SPN 5790 (SPA 501) PHONOLOGY (4)
PR: SPA 301. A study of the Spanish sound system.

SPW 5310 (SPA 524) GOLDEN AGE DRAMA (4)
PR: SPA 405. Lope de Vega, Alarcón, Tirso, Calderón, and others.

SPW 6244 (SPA 525) THE PICARESQUE NOVEL (4)
Realistic prose-fiction of the Renaissance and Golden Age. (Formerly SPA 625.)

SPW 5605 (SPA 526) THE QUIJOTE (4)
Cervantes' masterpiece *Don Quijote de la Mancha.*

SPW 5535 (SPA 540) ROMANTICISM (4)
PR: SPA 406. Poetry and drama of the first half of the 19th century.

SPW 5555 (SPA 542) REALISM (4)
PR: SPA 406. Prose fiction of the 19th century.

SPW 5725 (SPA 546) GENERATION OF 1898 AND AFTER (4)
PR: SPA 406. From Ganivet to Lorca

SPW 5726 (SPA 550) GENERATION OF 1927 (4)
PR: SPA 406. A study of vanguard literature in Spain between 1918 and 1936.

SPW 5482 (SPA 552) POST CIVIL WAR LITERATURE (4)
PR: SPA 406. The drama and novel since 1936.

SPW 5775 (SPA 565) CARIBBEAN LITERATURE (4)
PR: SPA 407. Emphasis on contemporary Cuban and Puerto Rican literatures.

SPW 5755 (SPA 570) MEXICAN LITERATURE (4)
PR: SPA 407. Major writers of all genres. Emphasis on modern writers.

SPW 5765 (SPA 575) LITERATURE OF ARGENTINA AND URUGUAY (4)
PR: SPA 407. Emphasis on the gaucho theme and contemporary prose fiction.

SPW 5934 (SPA 583) SELECTED TOPICS (1-4)
PR: Upper-level or graduate standing. Study of an author, movement, or theme.

SPN 6845 (SPA 601) HISTORY OF THE SPANISH LANGUAGE (4)
Traces the development of Spanish from its Latin origins to the present.

SPW 6301 (SPA 624) SEMINAR ON GOLDEN AGE DRAMA (4)
A specialized study of a major Golden Age theme or dramatist.

SPW 6910 (SPA 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

SPW 6934 (SPA 683) SELECTED TOPICS (1-4)
Study of an author, movement, or theme.

SPW 6936 (SPA 691) GRADUATE SEMINAR (4)
Topics vary. May be repeated.

SPW 6940 (SPA 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

SPN 6908 (SPA 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

SPW 6971 (SPA 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

GENERAL BUSINESS ADMINISTRATION (GBA)

BUL 2100 (GBA 261) LAW AND THE INDIVIDUAL (5)
A study of the nature, functions, sources, formulation, and administration of law with the special emphasis on the practical aspects of criminal, tort, estate, divorce, property, business, constitutional, and other areas of law. Not available for credit to students who have been admitted to the College of Business.

COC 3201 (GBA 333) COMPUTERS IN BUSINESS I (3)
An introductory interdisciplinary examination of the impact of computers on all areas of business decision-making. Problems are reduced to schematic logic, programmed and tested using the computer. Computer hardware, software, history and terminology are introduced.

COC 3202 (GBA 351) COMPUTERS IN BUSINESS II (5)
PR: GBA 333. An advanced interdisciplinary examination of the impact of computer systems on the business enterprise. Concepts of data collection, information theory, business systems analysis, free maintenance and update systems are developed.

BUL 3121 (GBA 361) BUSINESS LAW I (5)
The nature of legal institutions, essentials of a binding contract, remedies granted in event of breach of contract and rights acquired by assignment of contracts.

BUL 3122 (GBA 362) BUSINESS LAW II (5)
PR: GBA 361. Legal problems in marketing of goods, nature of property, sales of personal property, securing of credit granted, nature and use of negotiable instruments.

BUL 3101 (GBA 363) THE LAW OF BUSINESS ASSOCIATIONS (5)
PR: GBA 361. A study of the law of corporations, the law of partnerships, and the law of agency.

SES 3331 (GBA 371) BUSINESS COMMUNICATIONS (4)
Analysis and application of the principles of persuasion in business communication; composition and evaluation of functional business letters; examination of effective organization strategy, text, tabular and graphic presentation in formal business report.

MAN 4910 (GBA 481) INDEPENDENT RESEARCH (1-5)
PR: CI. Individual study contract with instructor and department chairman required. The research project will be mutually determined by the student and instructor. May be repeated up to 10 hours.

MAN 4930 (GBA 483) SELECTED TOPICS IN BUSINESS ADMINISTRATION (1-6)
The content and organization of this course will vary according to the current interests of the faculty and needs of students.

——— (GBA 497) INDEPENDENT STUDY (1-4)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 8 credit hours. (S/U only.)

MAN 4795 (GBA 499) SENIOR SEMINAR IN ADMINISTRATION (3)
PR: Senior Standing. The course is intended to provide a unifying, integrating, and coordinating opportunity to tie together concepts, principles, and skills learned separately in other, more specialized courses in Business Administration.

MAN 5925 (GBA 501) CBA WORKSHOP (1-6)
Professional applications workshop in various areas of finance, marketing, economics, accounting, management. May be repeated when subjects differ.

MAN 5772 (GBA 570) ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT COUNSELING (2-4)
Provide an opportunity to apply prior studies in various aspects of business administration. Focus is on strengths/weaknesses of an on-going small business. Recommendations for improvement are to be developed based on student analysis and shared with the business principals. Actual use of the recommendations may be initiated by the student or by the business principal and student together. Results should be monitored and further assessed either by the originating student, or by other students conducting follow-up analysis of the same small business firm.

MAN 6715 (GBA 601) LEGAL ENVIRONMENT OF BUSINESS (3)
A study of the governmental regulation of business emphasizing the constitutional limitations on the powers of the federal government, the administration of the federal anti-trust laws, and administrative law.

QMB 6603 (GBA 603) QUANTITATIVE METHODS I (3)
PR: College Algebra or equivalent. Mathematical techniques for administrative problems, including linear programming, game theory, and optimization models and procedures using calculus and matrix algebra.

QMB 6656 (GBA 605) QUANTITATIVE METHODS II (3)
PR: College Algebra, ECN 331, or equivalents. Probability and sampling, Bayesian decision theory, and the design of experiments, as applied to administrative problems.

MAN 6796 (GBA 615) INTEGRATIVE SEMINAR (3)
PR: CI. The integration of analysis and policy for the decision-making process in administration. This course should be taken at the end of a student's program.

MAN 6911 (GBA 681) DIRECTED RESEARCH (var.)
PR: GR . Master's level. Repeatable. (S/U only.)

——— (GBA 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

MAN 6971 (GBA 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

GEOGRAPHY (GPY)

Chairperson: J. W. Stafford; *Professors:* R. H. Fuson, S. C. Rothwell; *Associate Professors:* H. J. Schaleman, Jr., D. M. Stowers, J. W. Stafford; *Assistant Professors:* H. H. Kim, L. D. Limoges; *Visiting Assistant Professor:* P. S. Segretto; *Provisional Assistant Professor:* M. E. Jones; *Instructor:* R. C. Holmes.

GEO 1930 (GPY 100) GEOGRAPHY OF CURRENT EVENTS (4)
Application of basic geographic principles of the analysis of contemporary events in various parts of the world.

GEO 3013 (GPY 301) SYSTEMATIC GEOGRAPHY (5)
Principles and concepts of the discipline; maps, earth-sun relations, weather, and climate.

GEO 3370 (GPY 302) SYSTEMATIC GEOGRAPHY (5)
PR: GPY 301 or CI. Landforms and conservation of resources. Latter part of course deals with man's use of the natural environment.

GEO 3402 (GPY 303) HUMAN GEOGRAPHY (5)
PR: GPY 301 or CI. Systematic treatment of man's activities on earth; population, settlement, agriculture, industry, trade, transportation, and political aspects are among those considered.

GEO 3901 (GPY 315) ELEMENTS OF GEOGRAPHY (1)
An independent study program in the basic elements of physical and cultural geography. Topics include maps and map reading, history of geography, earth form, weather, climate, soils, water, plants and animals, landforms and minerals, conservation, political, economic, language and religion, settlement and population, and urban. Course is designed primarily for non-majors. A student may enroll for a maximum of five hours (5 sections) during any quarter. (S/U only.)

GEA 3002 (GPY 370) GENERAL GEOGRAPHY (5)
Selected topics in regional and topical geography offered as survey courses. Open to all students.

GEA 3000 (GPY 371) WORLD REGIONAL GEOGRAPHY (5)
Comparative and analytical analysis of representative regions of the world with emphasis on cultural, political, economic, and physical diversity.

GEO 3931 (GPY 375) WEATHER AND MAN (5)
The inter-relationship between the atmospheric environment and man.

GEO 4200 (GPY 420) PHYSICAL GEOGRAPHY (5)
PR: GPY 301 recommended or CI. Man's interaction with the physical environment, including any one or a combination of the following topics: landforms, weather, climate, soils, vegetation, water.

——— (GPY 421) METEOROLOGY (5)
PR: GPY 301 recommended or CI. An introduction to the basic study of the components of the earth's atmosphere and the interrelated processes involved. Weather elements included are temperature, atmospheric moisture, pressure, winds, clouds, precipitation, and storms. Basic weather forecasting and analysis.

——— (GPY 422) CLIMATOLOGY (5)
PR: GPY 301 recommended or CI. An introductory course which includes an examination of climatic classification systems, problem climates, and the application of climate to selected topics such as world vegetation patterns, agriculture, housing, and health.

GEO 4210 (GPY 423) PHYSIOGRAPHY (5)
PR: GPY 301 recommended or CI. Regional analysis of the physical complex of North America, including a detailed study of landforms and their distribution and processes of landform evolution.

GEO 4280 (GPY 424) HYDROLOGY (5)
PR: GPY 301 recommended or CI. An in-depth study of the hydrologic cycle with emphasis on surface water components. Particular topics may include precipitation, evapotranspiration, water budget, streamflow, and probability analysis.

GEO 4260 (GPY 425) SOILS (5)
PR: GPY 301 recommended or CI. An introduction to the study of soils with emphasis on soil morphology, conservation, classification, and world distribution of basic soil groups.

GEO 4300 (GPY 426) BIOGEOGRAPHY (5)
PR: GPY 301 recommended or CI. Study of the distribution of animal life and vegetation with emphasis on their economic and geographic significance to man.

GEO 4510 (GPY 427) MINERALS (5)
PR: GPY 301 recommended or CI. Analysis of the location, utilization, and economic significance of various selected minerals used by man and the resulting modification of the natural landscape.

GEO 4890 (GPY 428) COASTAL ZONE MANAGEMENT (5)
PR: GPY 301 recommended or CI. Identification and analysis of various physical, environmental, and cultural elements with emphasis on the impact of economic activities on these elements.

GEO 4420 (GPY 440) CULTURAL GEOGRAPHY (5)
PR: GPY 301 recommended or CI. A study of the temporal-spatial relationship of culture and nature. Emphasis is placed on man's role in using and modifying the landscape and the effect of his global distribution on his economic activities, political development, and cultural differentiation.

GEO 4500 (GPY 441) ECONOMIC GEOGRAPHY (5)
PR: GPY 301 recommended or CI. Location factors and principles, utilizing theoretical and empirical studies. Focus upon the spatial organization of economic production, consumption, and exchange systems.

GEO 4470 (GPY 442) POLITICAL GEOGRAPHY (5)
PR: GPY 301 recommended or CI. The geographic factors underlying political decisions, those which influence the outcome of political decisions, and the geographic consequences of political decisions and actions. Geopolitical relationships are examined at the local, state, national and supranational levels.

GEO 4602 (GPY 443) URBAN GEOGRAPHY (5)
PR: GPY 301 recommended or CI. Analysis of the spatial properties of urban areas. Emphasis is placed on factors of urban growth, location, spacing, and size; examined are the geographic factors supporting urban development, site, situation, the internal structure, and the hinterland.

GEO 4460 (GPY 444) HISTORICAL GEOGRAPHY (5)
PR: GPY 301 recommended or CI. Survey of evolving landscapes through time; analysis is made by means of systematic and regional methods in order to re-construct the changing culture-nature equation.

GEO 4440 (GPY 445) POPULATION GEOGRAPHY (5)
PR: GPY 301 recommended or CI. An analysis of contemporary patterns in world and regional distributions of people and geographical factors underlying these patterns and their changes.

——— (GPY 446) SETTLEMENT GEOGRAPHY (5)
PR: GPY 301 recommended or CI. The interrelationships of human settlement types and their natural habitats; site, situation, form, and function are examined. Emphasis is on rural settlement, but urbanization is considered.

——— (GPY 447) CONSERVATION (5)
PR: GPY 301 recommended or CI. The distribution, exploitation, and conservation of physical and human resources, ecology.

GEO 4390 (GPY 448) WATER RESOURCES (5)
PR: GPY 301 recommended or CI. A general overview of the hydrologic cycle and the impact of cultural development on its various components. May also include a survey of regional water problems.

GEO 4700 (GPY 449) TRANSPORTATION GEOGRAPHY (5)
PR: GPY 301 recommended or CI. Reciprocal relations between freight and passenger transportation and land use organization in terms of site requirements, traffic generation characteristics, circulation problem zones of production-fabrication-consumption.

GEO 4580 (GPY 450) MANUFACTURING GEOGRAPHY (5)
PR: GPY 301 recommended or CI. Theories in industrial location; locational analysis of selected manufacturing industries; examined are zones of production-fabrication-consumption; regional treatment of selected manufacturing zones.

GEO 4800 (GPY 451) AGRICULTURAL GEOGRAPHY (5)
PR: GPY 301 recommended or CI. Factors influencing the spatial organization and patterns of agricultural land use, agricultural enterprises and systems, and regional analysis of agriculture; attention is given to the origin and diffusion of domestic plants.

GEO 4530 (GPY 452) GEOGRAPHY OF ENERGY (5)
PR: GPY 301 recommended or CI. An examination of the primary sources of energy from the standpoint of systematic and regional geography. Consideration is given to the resource base, production, and consumption. Special attention is given to OPEC and environmental problems.

——— (GPY 453) URBAN AND REGIONAL PLANNING (5)
PR: GPY 301 recommended or CI. The geographic foundations of the modern city, metropolitan development, and the trend toward megalopolis. Examined are the political problems of conflicting jurisdictions at the local, county, state, national, and international levels.

GEO 4340 (GPY 454) MAN AND NATURAL HAZARDS (5)
PR: GPY 301 recommended or CI. An examination of environmental hazards; their influence on man and man's attempt to overcome them. Some of the topics considered are hurricanes, tornadoes, earthquakes, tidal waves, fire, freezes, and droughts.

GEA 4194 (GPY 460) REGIONAL GEOGRAPHY (5)
PR: GPY 301 recommended or CI. Variable title course to systematically study and compare special regions identified by the instructor.

GEA 4270 (GPY 461) GEOGRAPHY OF FLORIDA (5)
PR: GPY 301 recommended or CI.

GEA 4260 (GPY 462) GEOGRAPHY OF THE SOUTHEAST UNITED STATES (5)
PR: GPY 301 recommended or CI.

GEA 4930 (GPY 463) GEOGRAPHY OF THE AMERICAN HEARTLAND (5)
PR: GPY 301 recommended or CI.

GEA 4400 (GPY 464) GEOGRAPHY OF LATIN AMERICA (5)
PR: GPY 301 recommended or CI.

GEA 4410 (GPY 465) GEOGRAPHY OF SOUTH AMERICA (5)
PR: GPY 301 recommended or CI.

GEA 4300 (GPY 466) GEOGRAPHY OF MIDDLE AMERICA (5)
PR: GPY 301 recommended or CI.

GEA 4600 (GPY 467) GEOGRAPHY OF AFRICA (5)
PR: GPY 301 recommended or CI.

GEA 4500 (GPY 468) GEOGRAPHY OF EUROPE (5)
PR: GPY 301 recommended or CI.

GEA 4554 (GPY 469) GEOGRAPHY OF THE USSR (5)
PR: GPY 301 recommended or CI.

GEA 4360 (GPY 470) GEOGRAPHY OF THE GULF OF MEXICO (5)
PR: GPY 301 recommended or CI.

GEA 4202 (GPY 471) GEOGRAPHY OF ANGLO-AMERICA (5)
PR: GPY 301 recommended or CI.

GEO 4391 (GPY 472) AMERICAN WATER RESOURCES (5)
PR: GPY 301 recommended or CI.

GEA 4703 (GPY 473) GEOGRAPHY OF ASIA (5)
PR: GPY 301 recommended or CI.

GEO 4910 (GPY 481) INDIVIDUAL RESEARCH (1-5)
PR: 30 hours in geography and chairperson's permission prior to registration. May be repeated.

GEO 4900 (GPY 485) DIRECTED READING (1-5)
PR: 30 hours in geography and chairperson's permission prior to registration. May be repeated.

GEO 4114 (GPY 490) GEOGRAPHIC TECHNIQUES AND METHODOLOGY (5)
PR: GPY 301 recommended or CI. Selected topics in various geographic techniques and methodologies and their application.

GEO 4100 (GPY 491) CARTOGRAPHY (5)
PR: GPY 301 recommended or CI. Cartographic techniques of map compilation and presentation, including generalization, symbolization, reproduction, and utilization.

GEO 4124 (GPY 492) AIR PHOTO INTERPRETATION (5)
PR: GPY 301 recommended or CI. Use of air photos and other remote sensing devices in detecting, identifying and analyzing objects on the earth's surface from the perspective of space.

GEO 4040 (GPY 493) MAP INTERPRETATION (5)
PR: GPY 301 recommended or CI. Analysis and synthesis of various types of maps and map projections.

GEO 4164 (GPY 494) QUANTITATIVE METHODS (5)
PR: GPY 301 recommended or CI. Use of statistical analysis in geographic research.

GEO 5065 (GPY 501) GEOGRAPHIC LITERATURE AND HISTORY (4)
PR: Senior or graduate standing in geography, or CI. The origins and development of the discipline as revealed through an examination of the principal written sources. Special attention paid to leading personalities and modern periodicals.

GEO 5166 (GPY 503) METHODOLOGY I: QUANTITATIVE (4)
PR: Senior or graduate standing in geography, and a course in statistics, or CI. The application of quantitative techniques to geographic problems; factor, sensitivity, and spatial analysis.

GEO 5105 (GPY 505) METHODOLOGY II: CARTOGRAPHIC (4)
PR: Senior or graduate standing in geography, GPY 491 (Cartography), or CI. Application of various techniques for presenting graphic illustrations as research tools.

GEO 5945 (GPY 507) METHODOLOGY III: FIELD WORK (4)
PR: Senior or graduate standing in geography. Data collection in a field situation, including observation, classification, interpretation, and presentation of the data.

GEO 6945 (GPY 601) METHODOLOGY IV: ACADEMIC (4)
PR: Graduate standing in geography. Current trends in college geography, with the emphasis on the junior college program. Not available to thesis students.

GEO 6209 (GPY 603) SEMINAR IN ADVANCED PHYSICAL GEOGRAPHY (4)
PR: Graduate standing in geography. Analytic study of a problem selected from one or more aspects of the atmosphere, biosphere, hydrosphere, or litosphere. May be repeated once for credit, but topic may not be repeated.

GEO 6428 (GPY 605) SEMINAR IN ADVANCED CULTURAL GEOGRAPHY (4)
PR: Graduate standing in geography. Analytic study of a problem selected from one or more aspects of the cultural landscape (urban, political, economic, population, settlement). May be repeated once for credit.

GEA 6195 (GPY 607) SEMINAR IN ADVANCED REGIONAL GEOGRAPHY (4)
PR: Graduate standing in geography. Analytic study of a selected region of the world. May be repeated once for credit, but region may not be repeated.

GEO 6119 (GPY 609) SEMINAR IN ADVANCED TECHNIQUES & METHODOLOGY (4)
PR: Graduate standing in geography. Analytic study of a selected geographic technique (such as remote sensing, graphics, photo interpretation, or computer applications) or an investigation into an aspect of methodology. May be repeated once for credit but topic may not be repeated.

GEO 6918 (GPY 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

GEO 6947 (GPY 689) DIRECTED TEACHING (1-9)

GEO 6948 (GPY 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student (S/U only.)

GEO 6918 (GPY 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

GEO 6908 (GPY 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

GEO 6971 (GPY 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

GEOLOGY (GLY)

Chairperson: R. A. Davis, Jr.; *Professors:* R. A. Davis, Jr., W. J. Ragan; *Associate Professors:* W. H. Huang, R. G. Stevenson, Jr., S. B. Upchurch; *Assistant Professors:* T. V. Mayou, M. T. Stewart; *Visiting Assistant Professor:* F. Bopp, III; *Adjunct:* W. H. Taft.

GLY 2000 (GLY 201) INTRODUCTION TO GEOLOGY (4)
An introduction to the materials, processes and history of the earth. Students may elect to enroll in Gly 202 concurrently. *No credit for geology majors or students with credit in GLY 371.*

GLY 2000 (GLY 202) BASIC GEOLOGY LABORATORY (1)
Laboratory examination of mineral and rock specimens, topographic and geologic maps, aerial photographs, and fossils. *To be taken in conjunction with GLY 201, 203, 205 or 371.* May not be repeated for credit. *No credit for geology majors.*

GLY 2850 (GLY 205) ENVIRONMENTAL GEOLOGY (4)
A first course in geology emphasizing environmental aspects of the earth's crust such as earthquakes, depletion of the earth's resources, water supply problems, and geologic land use and planning. Students may enroll in GLY 202 concurrently. *No credit for geology majors.*

GLY 2016 (GLY 210) GEOLOGY I: EARTH MATERIALS (4)
Study of minerals and rocks that comprise the earth's crust. Basic introduction to the origin and classification of earth materials. Fundamentals of the rock cycle. Designed for science majors. Lec.-lab.

GLY 2017 (GLY 211) GEOLOGY II: EARTH PROCESSES (4)
Study of surface and subsurface processes of the earth including weathering transportation and accumulation of sediment, earthquakes, and other crustal movement, and movements of fluids. Emphasis on streams, coasts, glacial environments, and aeolion environments, and the resulting landforms. Designed for science majors. Lec.-lab.

GLY 2100 (GLY 212) GEOLOGY III: EARTH HISTORY (4)
Study of the physical and biological history of the earth including evolution of the major groups of organisms, continental drift, and interpretation of ancient environments. Designed for science majors. Lec.-lab.

GLY 3610 (GLY 302) PRINCIPLES OF INVERTBRATE PALEONTOLOGY (5)
PR: GLY 212 or CI. Emphasis on morphology and habits of fossils invertebrate groups as they evolved through geologic time. Comparisons with modern examples or similar organisms. Stratigraphic distribution of major groups. Lec.-lab.

GLY 3005 (GLY 310) ROCKS, MINERALS AND GEMS (4)
A general course in the occurrence, classification, and economics of earth materials. *Designed for the non-science student* or rock collector who is interested in something beyond a basic introductory course. Although no prerequisites are necessary, it is recommended that either GLY 201, 205 or 371 be taken prior to enrollment in GLY 310. *No credit for geology majors.*

GLY 3650 (GLY 320) LIFE OF THE GEOLOGIC PAST (4)
General course in development of organisms through geologic time including invertebrates, vertebrates, and plants. Designed for non-science majors interested in fossils, their origins and scientific value in the rock record. Although no prerequisite is necessary, it is recommended that either GLY 201, 205 or 371 be taken prior to enrollment in GLY 320. *No credit for geology majors.*

GLY 3820 (GLY 351) INTRODUCTION TO HYDROGEOLOGY (5)
PR: Eight hours of geology, MTH 123 or equivalent, or CI. Occurrence, circulation and distribution of subsurface water, its chemical and physical properties, relation to the geologic environment, exploration and development. Lec.-field-lab.

GLY 3400 (GLY 361) STRUCTURAL GEOLOGY (4)
PR: 12 hours of geology, MTH 123 or equivalent or CI. Study of the origin and development of structural features of the earth's crust. Applications of principles of geology, physics, and mathematics to understanding relationships of strata and interpreting structural features. Lec.-lab.

GLY 3006 (GLY 371) GEOLOGY OF OUR NATION'S PARKS (4)
Representative parks used to illustrate current concepts in geology. Students may enroll in GLY 202 concurrently. *For the non-science student. No credit for geology majors or students with credit in GLY 201.*

GLY 4750 (GLY 401) FIELD METHODS (4)
PR: 20 hours of geology courses, or CI. Fundamentals of geology in the field; compass and plane table mapping, mapping of aerial photos, reconaissance surveys, interpretation of geologic structure. Lec.-lab, field trips.

GLY 4550 (GLY 405) DEPOSITIONAL SYSTEMS (4)
PR: GLY 211, 212 or equivalent. Study of modern sedimentary environments and their relationships to one another in order to understand environments preserved in the rock record. Physical chemical, and biological aspect of terrestrial, transitional and marine sedimentary environments will be examined in light of their eventual preservation in rocks.

GLY 4730 (GLY 409) MARINE GEOLOGY (4)
PR: 20 hours of geology or CI. General survey of the geology of the ocean floor from beaches to oceanic trenches including sediments, processes, tectonics and history. (Formerly GLY 512.)

GLY 4210 (GLY 410) CRYSTAL CHEMISTRY AND CRYSTALLOGRAPHY (4)
PR: GLY 210, one year chemistry and MTH 123 or equivalent or CI. Theory and application of crystal chemistry and crystallography to rock forming minerals. Emphasis on atomic structures, symmetry and Miller indices of minerals. Lec.-lab.

GLY 4200 (GLY 411) MINERALOGY (4)
PR: GLY 410 or CI. Origin, occurrence and chemistry of mineral groups with emphasis on rock forming minerals. Identification of common minerals by physical and chemical properties. Lec.-lab. (Formerly GLY 311).

GLY 4220 (GLY 412) OPTICAL MINERALOGY (4)
PR: GLY 411 or CI. Theory and use of the polarizing microscope. Emphasis on techniques for identification of rock forming minerals in thin section. Lec.-lab.

GLY 4310 (GLY 413) IGNEOUS AND METAMORPHIC PETROGRAPHY (5)
PR: GLY 412. Systematic study of igneous and metamorphic complexes using modern methods of rock study, emphasizing use of the polarizing microscope for thin section analysis. Lec.-lab. (Formerly GLY 513.)

GLY 4555 (GLY 423) SEDIMENTOLOGY (4)
PR: GLY 405, 412 or CI. Analysis of sedimentary rock and sedimentary structures as related to their environments of deposition. Textural and mineralogical study of sediments and statistical applications of sediment analysis. Lec.-lab., field trips.

GLY 4511 (GLY 431) PRINCIPLES OF STRATIGRAPHY (4)
PR: GLY 405. Emphasis on classical principles of litho-and biostratigraphy, stratigraphic nonmenclature, development of stratigraphic philosophy, and paleogeographic reconstruction of sedimentary basins. Lec.-lab., field trips. (Formerly GLY 531.)

GLY 4700 (GLY 433) GEOMORPHOLOGY (4)
PR: Senior or advanced junior standing and CC. Origin, evolution and distribution of landforms. (Formerly GLY 533.)

GLY 4816 (GLY 441) ECONOMIC MINERAL DEPOSITS (4)
PR: 20 hours of geology or CI. Principles involved in the origin, occurrence, recovery, and use of mineral resources. Lec.-lab., field trips.

GLY 4710 (GLY 471) GEOLOGY OF SOILS (4)
PR: General Chemistry or equivalent. The origin, geologic development, formation, and nature of soils. Fundamentals of soil science, including the physical, chemical, and biological factors affecting soil fertility with special application to the soils and ecology of Florida. Lec.-lab., field trips. *For non-majors.*

GLY 4040 (GLY 473) CONCEPTS IN EARTH SCIENCE (5)
Earth's environment in space, including a selected study of its materials, processes, climate, oceans, soils, and history. Lec.-disc., field trips. *No credit for geology majors.*

GLY 4821 (GLY 475) HYDROGEOLOGY AND HUMAN AFFAIRS (4)
PR: Open to all junior and senior level students. Geologic analyses of the present critical and urgent problems of water resources, pollution control, water supply, flood control, and underground waste disposal as they relate to economic, legal, and other social aspects of modern society. Field trips. *No credit for geology majors.*

GLY 4915 (GLY 481) UNDERGRADUATE RESEARCH (1-5)
PR: Senior or advanced junior standing and written permission of department prior to registration. Individual experimental investigations with faculty supervision. (S/U only.)

GLY 4930 (GLY 483) SELECTED TOPICS IN GEOLOGY (1-6)
Each topic is a course under the direction of a faculty member with the content depending on the interests of the students and faculty involved. All areas of geology included. Departmental permission required prior to registration.

GLY 4920 (GLY 492) GEOLOGY COLLOQUIUM (1)
PR: Senior standing in Geology. Weekly topical lectures by faculty, graduate students and invited speakers. *Required of all senior geology majors,* to be repeated for a total of 3 credit hours. (S/U only.)

——— (GLY 497) INDEPENDENT STUDY (1-4)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated. (S/U only.)

GLY 5341 (GLY 504) PETROLOGY OF CHEMICAL ROCKS (4)
PR: GLY 302, 412 or CI. Origin, mineralogy, and petrology of chemical and organic sedimentary deposits including

evaporites, carbonates, cherts, oil and gas, coal and sedimentary iron ores. Lec.-lab, field trips.

GLY 5450 (GLY 521) PRINCIPLES OF APPLIED GEOPHYSICS (4)
PR: Senior or advanced junior standing, one year of Physics, or CI. Elementary treatment of gravimetric, magnetic, electric, and seismic geophysical techniques as applied to site investigations and mineral deposits. Lec.-lab, field trips.

GLY 5615 (GLY 532) ADVANCED STRATIGRAPHIC PALEONTOLOGY (5)
PR: GLY 302, 405 or CI. Morphology, geologic distribution and stratigraphic ranges of important invertebrate guide fossils. Lec.-lab, field trips.

GLY 5825 (GLY 553) ADVANCED HYDROGEOLOGY (4)
PR: GLY 351, MTH 213 or 303, PHY 215-216, or CI. Aquifer evaluation and quantitative determination of the hydraulic characteristics of hydrogeologic systems. Lec.-field-lab.

GLY 5241 (GLY 571) GENERAL GEOCHEMISTRY (4)
PR: One year college chemistry, GLY 411 or CI. Age, formation and evolution of the earth with application of basic chemical concepts and processes that govern the distribution of elements in geologic environments.

GLY 5245 (GLY 573) ANALYTICAL TECHNIQUES IN GEOLOGY (5)
PR: One year college chemistry, GLY 412 or CI. Use and application of modern analytical methods including X-ray, atomic absorption, and other geochemical techniques, Interpretation and statistical analysis of data acquired. Lec.-lab.

GLY 5932 (GLY 583) SELECTED TOPICS IN GEOLOGY (1-5)
PR: Senior or advanced junior standing and CC. Each topic is a course in directed study under supervision of a faculty member. All areas of geology included. Departmental permission required prior to registration.

GLY 6575 (GLY 603) COASTAL SEDIMENTATION (4)
PR: GLY 423 or equivalent. Study of modern coastal sedimentary environments with emphasis on beaches, inlets, deltas, estuaries and marshes. Analysis of sedimentary process and resulting morphology of sediment bodies. Lec.-lab, field trips.

GLY 6351 (GLY 608) CARBONATE PETROGRAPHY (4)
PR: GLY 412, 504 or equivalent or CI. Origin and environmental interpretation of carbonate rocks with emphasis on thin section study as means of interpreting ancient depositional and diagenetic environments. Lec.-lab.

GLY 6349 (GLY 609) SANDSTONE PETROGRAPHY (4)
PR: GLY 412, 403 or CI. Origin and environmental interpretation of sandstones including fine grained terrigenous sediments. Emphasis on thin-section study of sandstones as means of interpreting ancient depositional and diagenetic environments. Lec.-lab.

GLY 6660 (GLY 620) MARINE PALEOECOLOGY (4)
PR: GLY 302, 423 or CI. Interpretation of the relationships between ancient organisms and their environment with emphasis on the substrate. Applications of modern benthic marine environments and sediment-organism relationships to the fossil record. Lec.-field trips

GLY 6826 (GLY 652) DEVELOPMENT OF GROUND-WATER RESOURCES (4)
PR: GLY 553 or CC. Analysis of cause-effect relationships between ocean, streams, lakes, and aquifers; planning and design of hydrogeology resources investigations. Lec.-lab, field trips.

GLY 6250 (GLY 661) CLAY MINERALOGY (4)
PR: Graduate standing in geology or CI. Composition, structures, origin, and diagenesis of clay minerals. Identification of clay minerals by X-ray diffraction techniques.

GLY 6290 (GLY 672) SEDIMENTARY GEOCHEMISTRY (4)
PR: GLY 571 or CI. Fundamentals of aqueous geochemistry in relation to chemical and biochemical precipitation of sedimentary materials. Geochemistry of fluids with emphasis on diagenesis.

GLY 6246 (GLY 673) CHEMICAL EQUILIBRIA IN THE EARTH (4)
PR: GLY 571 or CI. Application of basic solution geochemistry and equilibria concepts to geologic problems with emphasis on geochemical reactions at low temperatures and pressures.

GLY 6910 (GLY 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

GLY 6735 (GLY 683) SELECTED TOPICS IN GEOLOGY (1-6)
PR: I. May be repeated for credit.

GLY 6931 (GLY 691) GRADUATE SEMINAR (1)
PR: CC. May be repeated for credit. (S/U only.)

——— (GLY 692) ADVANCED TOPICS IN GEOLOGY (2)
PR: Graduate standing in Geology. Study of current topics in Geology. Required of all graduate students in Geology. May be repeated for credit.

GLY 6974 (GLY 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

GLY 6910 (GLY 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

GLY 6905 (GLY 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

GLY 6972 (GLY 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

HISTORY (HTY)

Chairperson: R. R. Trask; *Professors:* C. B. Currey, G. H. Mayer, J. W. Silver, R. R. Trask; *Associate Professors:* J. M. Belohlavek, E. B. Billingsley, T. P. Dilkes, G. H. Kleine, L. A. Perez,Jr., E. M. Silbert, J. M. Swanson; *Assistant Professors:* D. R. Carr, R. P. Ingalls, M. M. LaGodna, S. F. Lawson, K. A. Parker, G. K. Tipps, R. J. VanNeste, C. J. Wrong; *Instructor:* D. C. Jordan

PART I

EUH 2101,2102 (HTY 201,202) ANCIENT HISTORY I, II (4,4)
A survey study of the ancient civilization. 201 treats Near Eastern and Greek history to the beginning of the career of Alexander the Great; 202 treats the career of Alexander, the Hellenistic World, and Rome to the death of Constantine. Attention is drawn to the correlative work in CLS 321, Ancient Civilizations.

AMH 2010,2020 (HTY 211,212) AMERICAN HISTORY I, II (4,4)
A history of the United States with attention given to relevant developments in the Western Hemisphere, 211: European origins to 1877; 212: 1877 to present.

EUH 2121,2122 (HTY 221,222) MEDIEVAL HISTORY I, II (4,4)
A thematic survey of the Middle Ages. 221 deals with the nascent, Christian civilization of Europe, circa 300-1050 A.D.; 222 treats the mature medieval civilization of Europe, circa 1050-1500.

EUH 2200,2201 (HTY 231,232) MODERN EUROPEAN HISTORY I, II (4,4)
A thematic survey of Europe in the modern age. 231 treats the period from the Renaissance to the French Revolution; 232, from the French Revolution to the present.

PART II

AMH 3110 (HTY 301) AMERICAN COLONIAL HISTORY TO 1750 (4)
A study of European interest and involvement in America from the Age of Reconnaissance to 1750. Attention is given to imperial conflicts, religious development, economic growth, and the beginnings of distinctive American views.

AMH 3130 (HTY 302) THE AMERICAN REVOLUTIONARY ERA (4)
A study of American development from 1750 to 1789 with emphasis on institutional development and the establishment of the American national system as an outgrowth of revolution and counter-revolution.

AMH 3140 (HTY 303) THE AGE OF JEFFERSON (4)
A study of the formation of the American national state, the development of political parties, continental expansion and reform movements. Covers the period from 1783 to 1828.

AMH 3160 (HTY 304) THE AGE OF JACKSON (4)
A study of the formation of the American national state, the development of political parties, continental expansion and reform movements. Focuses upon the years from 1828 to the Compromise of 1850.

AMH 3170 (HTY 305) THE CIVIL WAR AND RECONSTRUCTION (4)
The events and personalities of the 1850's; the Civil War and Reconstruction including politics, slavery, reform and expansion are examined in addition to the military conflict.

AMH 3201 (HTY 306) THE UNITED STATES, 1877-1914 (4)
A study of the transiton of American society from the era of Reconstruction to WWI focusing on industrialization, expansion, and urbanization. (Formerly HTY 319.)

AMH 3231 (HTY 307) THE UNITED STATES, 1914-1945 (4)
A comprehensive study of the United States from the beginning of World War I to the end of World War II. Consideration of social and intellectual, political, economic, and diplomatic developments from the presidency of Woodrow Wilson through the presidency of Franklin Roosevelt. (Formerly HTY 320.)

AMH 3270 (HTY 308) THE UNITED STATES SINCE 1945 (4)
A study of American society from the end of World War II to the present. Developments in the political, economic, social and intellectual spheres will be studied and related to the role of the United States in international politics.

AMH 3510 (HTY 309) AMERICAN FOREIGN RELATIONS TO 1898 (4)
The development of American Foreign Relations in the Agricultural era. (Formerly HTY 409.)

AMH 3511 (HTY 310) AMERICAN FOREIGN RELATIONS SINCE 1898 (4)
A history of American Foreign Relations in the Industrial era. (Formerly HTY 410.)

AMH 3402 (HTY 311) THE ORIGINS AND GROWTH OF THE AMERICAN SOUTH (4)
A chronological study of the South in its relations with the rest of the United States focusing on the origins and development of Southern institutions and thought.

AMH 3403 (HTY 312) THE SOUTH AND THE NATION (4)
The growth of the "New South," and the increasing integration and assimilation of the South in the nation.

AMH 3540 (HTY 313) UNITED STATES MILITARY HISTORY (4)
A study of United States military history from the American colonial period to the present. The United States military experience is studied within the context of related international and domestic developments and integrated with European antecedents.

AMH 3500 (HTY 314) AMERICAN LABOR HISTORY (4)
A study of American workers with emphasis on the period from the 1860's to the present. The course examines the impact of industrial change on workers and their responses as expressed in strikes, unions, and political action.

AMH 3460 (HTY 315) AMERICAN URBAN HISTORY (4)
A study of cities in American history from the colonial period to the present. The course focuses on the process of urbanization and the changing quality of urban life.

AMH 3421 (HTY 317) EARLY FLORIDA HISTORY (4)
A history of colonial Florida under the Spanish and English. Florida as an area of discovery, colonization and imperial conflict; the emergence of Florida within its regional setting.

AMH 3423 (HTY 318) MODERN FLORIDA HISTORY (4)
Florida from its acquisition by the United States in 1821 to the present time. Stresses political, economic, and cultural growth and the affect of the environment.

EUH 3401 (HTY 321) HELLENIC GREECE (4)
A study of Greece in the Ancient period focusing on the Pre-Hellenic and Hellenic periods to the death of Philip of Macedon.

EUH 3402 (HTY 322) HELLENISTIC GREECE (4)
A study of the career of Alexander The Great and of major developments in the Hellenistic period.

EUH 3412 (HTY 325) ROMAN REPUBLIC (4)
A study of the Roman Republic in the period from its establishment in 509 B.C. to the death of Julius Caesar in 44 B.C. A prelude deals with Roman origins in the Regal period.

EUH 3413 (HTY 326) ROMAN EMPIRE (4)
A study of the Roman Empire in the period from the death of Julius Caesar in 44 B.C. to the death of Marcus Aurelius, A.D. 180.

EUH 3188 (HTY 327) MEDIEVAL SOCIETY (4)
An investigation into the daily life and attitudes of the medieval peasant and townsman, and the agrarian-urban economy and society which affected their lives.

EUH 3189 (HTY 328) MEDIEVAL POLITICS (4)
An inquiry into the nature, distribution, and use of political power in the middle ages. Studies of the Ecclesiastical and secular nobility, their political actions, attitudes and lives.

——— (HTY 330) EARLY MODERN EUROPEAN NATIONAL HISTORIES (4)
A study of major developments in specific countries. Each permanent section of the course will be devoted to the history of an individual country: Section 001, British history to 1715; Section 002, French history to 1789; Section 003, German history to 1870; Section 004, Russian history to 1855. May be repeated for credit providing the student enrolls in a different permanent section.

——— (HTY 331) MODERN EUROPEAN NATIONAL HISTORIES (4)
A study of Modern historical developments in specific countries. Each permanent section will be devoted to an individual country: Section 001, British history 1715 to Present; Section 002, French history 1789 to Present; Section 003, German history 1870 to Present; Section 004, Russian 1855 to Present;

Section 005, Italian history 1861 to Present. May be repeated for credit providing student enrolls in a different permanent section.

EUH 3531 (HTY 345) BRITISH EMPIRE (4)
British Empire and Commonwealth. A study of the first and second British Colonial Empires, the emergence of the British Commonwealth into the Commonwealth of Nations.

AMH 3800 (HTY 347) HISTORY OF CANADA (4)
A study of the major themes in the political and social development of Canada, with particular emphasis on the origins and development of French-Canadian nationalism, continentalism, and dominion-provincial relations.

LAH 3021 (HTY 350) SPAIN, PORTUGAL AND THE IBERIAN EMPIRES (4)
A study of the peoples of the Iberian peninsula from the late medieval period to 1898 with emphasis on the Spanish and Portuguese empires in the Western Hemisphere. (Formerly HTY 251, HTY 352.)

LAH 3022 (HTY 351) MODERN LATIN AMERICA (4)
A study of the emergence of the Latin American state. Emphasis is on Latin America since the wars of emancipation with special attention to the Third World character of the region, including independence, underdevelopment, imperialism and revolution. (Formerly HTY 252.)

LAH 3430 (HTY 353) MEXICO (4)
A thematic study of Mexican history from Pre-Columbian cultures to the 20th Century, with special emphasis on colonial society, the emergence and development of the Mexican state and the Mexican Revolution.

LAH 3470 (HTY 354) CARIBBEAN HISTORY (4)
A thematic study of major political and socio-economic developments in the Caribbean area.

LAH 3600 (HTY 355) HISTORY OF BRAZIL (4)
A study of the social, economic, military and political development of Portuguese Brazil in an otherwise Spanish American continent. Emphasis is on the nineteenth and twentieth centuries.

LAH 3480 (HTY 356) HISTORY OF CUBA (4)
An examination of Cuban history from Columbus to Castro. Emphasis on a thematic study of Cuba, including conquest and colonization, the nineteenth century struggles for independence, the political-economy of the Republic, and the revolutionary processes of the twentieth century.

ASH 3403 (HTY 357) ANCIENT AND IMPERIAL CHINA (4)
A survey of Chinese history from the earliest agrarian societal forms through the height of Chinese civilization in the Ming Dynasty (ca. 15th-16th Centuries).

ASH 3404 (HTY 358) MODERN CHINA (4)
A survey of the 19th and 20th Centuries up to the creation of the Chinese People's Republic in 1949.

EUH 3140 (HTY 360) HISTORY OF THE RENAISSANCE (4)
A social and cultural view of Europe during the Renaissance. Specific attention will be given to the artistic and philosophical developments in relation to the social, economic and political situation. (Formerly HTY 425.)

EUH 3145 (HTY 361) THE REFORMATION AND THE WARS OF RELIGION (4)
A social and cultural approach to European history from Luther to the Thirty Years War, (1517-1648). Religious and political conflicts and solutions will be examined in light of the cultural, social and economic characteristics of the period. (Formerly HTY 426.)

EUH 3204 (HTY 362) HISTORY OF THE ENLIGHTENMENT (4):
The history of Europe from the Peace of Westphalia (1648) to the outbreak of the French Revolution. (Formerly HTY 428.)

EUH 3205 (HTY 363) HISTORY OF NINETEENTH CENTURY EUROPE (4)
A comparative study of major economic, political, and sociocultural developments in 19th Century Europe.

EUH 3206 (HTY 364) HISTORY OF TWENTIETH CENTURY EUROPE (4)
A comparative study of major economic, political and sociocultural developments in 20th Century Europe. (Formerly HTY 430.)

EUH 3302 (HTY 365) BYZANTINE HISTORY TO 867 (4)
A thematic treatment of the history of Byzantium from 324 A.D. to 867. Course explores social, economic, religious and political developments together with consideration of literature, learning and the arts.

EUH 3303 (HTY 336) IMPERIAL BYZANTIUM (4)
A study of the Byzantine Empire during the period 867-1453. Emphasizing causes for its decline and fall.

AFH 3100 (HTY 367) INTRODUCTION TO AFRICAN HISTORY (4)
An outline survey of precolonial African history including a prefatory introduction to the use of primary sources (such as archaeology, oral tradition, cultural anthropology, comparative linguistics, documents) in reconstructing the African past. (Also listed as AFA 333.)

AFH 3200 (HTY 368) AFRICAN HISTORY SINCE 1850 (4)
Survey of the colonial and post-colonial history of Africa. Emphasis on the impact of European and other alien influences on the continent, emergence of independent African states and post-independence problems of nation building and economic development. (Also listed as AFA 334.)

HIS 3930 (HTY 381) SPECIAL TOPICS (4)
This course is designed to emphasize a selected historical problem or issue that is meaningful and challenging to the student. A variety of instructional approaches will be taken to the material. Topics will be changed each quarter.

WOH 4270 (HTY 400) SOCIAL AND INTELLECTUAL HISTORY (4)
A study of major social & intellectual developments in the areas of concentration offered by the Department. Each area is represented by one of the following permanent sections: Section 001, The Ancient World; Section 002, Medieval Europe; Section 003, Modern Europe; Section 004, Latin America; Section 005, The United States of America. May be repeated for credit providing the student enrolls in a different section.

WOH 4270 (HTY 461) REVOLUTIONS IN THE MODERN WORLD (4)
A comparative study of the major revolutions in world history and a study of the relationship between revolution and other forms of social change.

HIS 4461 (HTY 465) SCIENCE AND CIVILIZATION (4)
A thematic study of the interrelationship of science and society in modern history, science as a social institution in history.

HIS 4900 (HTY 485) DIRECTED READING (1-4)
PR: CI. Arrangement with instructor prior to registration. Readings in special topics.

PART III

HIS 4152 (HTY 487) THEORY OF HISTORY (4)
PR: To be taken during the senior year. An investigation of the philosophical problems of history, with emphasis on the evolution of the discipline. (Formerly HTY 587.)

HIS 4936 (HTY 491) PRO-SEMINAR IN HISTORY (4)
PR: CI. Advanced topics in the fields emphasizing readings, discussion, research, and writing. One pro-seminar is required of all history majors. Non-majors may enroll with the consent

of the instructor. Topic vary within each field. (Formerly HTY 591.)

HIS 4070 (HTY 492) RESEARCH IN HISORY (4)
PR: CI. Introduction to the methods of historical research and writing, bibliography and directed research in special topics designed to meet the particular needs and interests of individual students. Should be taken in the term immediately following enrollment in HTY 491. (Formerly HTY 592.)

HIS 6112 (HTY 600) ANALYSIS OF HISTORICAL KNOWLEDGE (4)
PR: Graduate Standing. A study of History as a form of knowledge with emphasis on explanatory devices and models of the discipline and the application of Social Science theory to the problems of Historical thought.

HIS 6113 (HTY 601) THEORY AND INTERPRETATION (4)
A systematic examination and evaluation of various schools of historical interpretation.

HIS 6920 (HTY 680) COLLOQUIUM IN HISTORY (4)
Reading and discussion of selected topics within the fields. Subject and scope to be determined by the instructor. May be repeated for credit.

HIS 6904 (HTY 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

HIS 6939 (HTY 691) SEMINAR IN HISTORY (4)
Research in selected problems within the fields. Subject and scope to be determined by the instructor. May be repeated for credit. The master's candidate is required to satisfactorily complete work in at least one graduate seminar to fulfill the requirement for the Master's degree in History.

HIS 6908 (HTY 697) INDEPENDENT STUDY (var.)
Independent study in which students must have a contract with an instructor. Repeatable. (S/U only.)

HIS 6971 (HTY 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

HUMANITIES (HUM)

Chairperson: D. Rutenberg; *Professors:* T. B. Hoffman, H. Juergensen, G. S. Kashdin, E. M. MacKay, D. Rutenberg; *Associate Professors:* C. B. Cooper, H. B. Gowen, A. J. Sparks, S. A. Zylstra; *Assistant Professors:* S. L. Gaggi, J. R. Spillane.

HUM 3024 (HUM 308) THE HUMANITIES (4)
The Arts. Analyses of selected works of film, literature, music, and visual arts, including a variety of periods, nationalities and art forms, emphasizing artistic diversity.

HUM 3271,3272,3273 (HUM 311,312,313) HUMANITIES AND HUMANE VALUES (5,5,5)
Masterpieces of music, visual arts, theater, literature, and philosophy in varying cultural and historical situations.

HUM 3214 (HUM 315) THE HUMANITIES (4)
Studies in Culture: The classical and medieval periods. Analyses of selected works of classical and medieval architecture, drama, sculpture, intellectual prose, and other art forms. Typical course focus is on architecture, drama, and intellectual prose.

HUM 3236 (HUM 316) THE HUMANITIES (4)
Studies in Culture: The Renaissance and the 19th Century. Analyses of selected fiction, drama, painting, architecture, music, and other art forms. Typical course focus is on painting and music.

HUM 3251 (HUM 317) THE HUMANITIES (4)
Studies in Culture: The 20th Century. Analyses of selected works of 20th Century art, primarily emphasizing film, with secondary emphases on painting and fiction. (Formerly CBS 317.)

HUM 3580 (HUM 350) THE CURRENT SCENE (2)
Live performances in contemporary media will be followed by discussions. The course is designed to bring students into direct contact with artists and their work and to establish an environment for the free exchange of ideas, reactions and judgments of the works presented. The course will emphasize recent developments in the arts with some special attention to current innovations; film environments, mixed-media, improvisational theatre, random composition, kinetic art, and others. (S/U only.)

HUM 4471,4473 (HUM 411,412) TWENTIETH-CENTURY ARTS AND LETTERS (5, 5)
PR: Sophomore standing or CI. Case studies in the arts and letters of the twentieth century.

HUM 4442,4443 (HUM 415,416) ARTS AND LETTERS OF THE ROMANTIC PERIOD (4, 4)
PR: Sophomore standing or CI. Case studies in the arts and letters of the romantic period.

HUM 4444,4445 (HUM 417,418) NINETEENTH-CENTURY ARTS AND LETTERS (4, 4)
PR: Sophomore standing or CI. Case studies in the arts and letters of the nineteenth century.

HUM 4440,4441 (HUM 419,420) THE ENLIGHTENMENT (4, 4)
PR: Sophomore standing or CI. Case studies in the arts and letters of the Enlightenment.

HUM 4435,4436 (HUM 423,424) RENAISSANCE ARTS AND LETTERS (4, 4)
PR: Sophomore standing or CI. Case studies in the arts and letters of the Renaissance.

HUM 4433,4434 (HUM 427,428) MEDIEVAL ARTS AND LETTERS (4, 4)
PR: Sophomore standing or CI. Case studies in the arts and letters of the middle ages.

HUM 4431,4432 (HUM 431,432) CLASSICAL ARTS AND LETTERS (4, 4)
PR: Sophomore standing or CI. Case studies in the arts and letters of the ancient world.

HUM 4905 (HUM 481) DIRECTED STUDY (1-5)
Specialized individual study determined by the student's needs and interests.

HUM 4930 (HUM 483) SELECTED TOPICS IN HUMANITIES (1-5)
PR: Sophomore Standing or CI. This course will deal with a recurrent theme in the arts as, for example, love or death, or will focus on artistic centers such as Renaissance Florence or Paris in the 1920's. Topics will vary; course may be repeated for credit with change of content.

HUM 4906 (HUM 491) SELECTED PROBLEMS IN HUMANITIES (4)
Problems in the interrelationships among the fine arts and the natural, social and behavioral sciences. A senior essay for humanities majors.

HUM 5452, 5454, 5456 (HUM 535, 536, 537) HUMANITIES IN AMERICA (4,4,4)
Case studies in the arts and letters of the United States.

HUM 5422 (HUM 538) AFRICAN ARTS AND LETTERS (4)
Examples from both the traditional and contemporary arts and letters of Africa. Africa as a subject in Western art.

HUM 5485, 5486 (HUM 539, 540) SELECTED NON-WESTERN HUMANITIES (4, 4)
Materials chosen from arts and letters of Asia, Oceania, and

the Middle East. May be repeated for credit with change of content.

HUM 5412 (HUM 541) HUMANITIES IN THE ORIENT: INDIA (4)
Examples from the arts and letters of India and the relationship of these arts to the Hindu and Buddhist philosophy-religions.

HUM 5414 (HUM 542) HUMANITIES IN THE ORIENT: CHINA (4)
Examples from the arts and letters of China; their relationship to Taoism, Confucianism and other Chinese philosophies; Western influences on 20th-century Chinese arts and letters.

HUM 5415 (HUM 543) HUMANITIES IN THE ORIENT: JAPAN (4)
Examples from the arts and letters of Japan, their relationship to Zen Buddhism and other Japanese philosophy-religions; Western influences on 20th-century Japanese arts and letters.

HUM 5465 (HUM 545) LATIN AMERICAN ARTS AND LETTERS (4)
Analysis of selected Latin American works of art in their cultural context.

HUM 6493 (HUM 601) STUDIES IN CLASSICAL ARTS AND LETTERS (4)
PR: Graduate Standing. Examples from the arts and letters of ancient Greece and their relationship to Aegean myths, religions and philosophies. Classical Greek influences on later cultures.

HUM 6494 (HUM 603) STUDIES IN MEDIEVAL ARTS AND LETTERS (4)
PR: Graduate Standing. Studies in medieval philosophies and their artistic and social expression. Concentrations on early Christian music and manuscript, the communal and monastic ideal (400-1000 A.D.); Romanesque architecture, neo-Platonism and emerging humanism (1000-1200 A.D.); Gothic visual arts—cathedrals, stained glass, sculpture—and scholastic philosophy (1200-1500 A.D.).

HUM 6495 (HUM 605) STUDIES IN RENAISSANCE ARTS AND LETTERS (4)
PR: Graduate standing. Masterpieces and major artists of the Renaissance in Continental Europe and England. (Formerly HUM 623).

HUM 6496 (HUM 607) STUDIES IN ENLIGHTENMENT ARTS AND LETTERS (4)
PR Graduate Standing. Studies in painting, sculpture, music, literature, and architecture in relation to philosophical determinism and political absolution.

HUM 6497 (HUM 609) STUDIES IN NINETEENTH CENTURY ARTS AND LETTERS (4)
PR: Graduate Standing. Examples from the arts and letters of the nineteenth century, their relationship to philosophical, social, and historical developments, and to the arts and letters of the twentieth century.

HUM 6475 (HUM 611) STUDIES IN CONTEMPORARY ARTS AND LETTERS (4)
Concentration on major artists and recent trends.

HUM 6909 (HUM 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

HUM 6934 (HUM 683) SELECTED TOPICS IN HUMANITIES (1-4)
Each topic is a course of study in a subject not covered by a regular course. May be repeated for credit with change of content.

HUM 6909 (HUM 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

HUMAN SERVICES (HUS)

Coordinator: T. A. Rich; *Faculty:* E. E. Allen, A. S. Gilmore, W. P. Mangum, S. V. Saxon, J. Taylor, W. Vasey.

HUS 3010 (HUS 326) INTRODUCTION TO HUMAN SERVICES (4)
An introduction to the field of human services. Study of the professions and agencies involved in providing human services. Analysis of the values and ethics of various professional associations. (Formerly SSI 326.)

HUS 3300 (HUS 327) SOCIAL POLICY IN THE UNITED STATES (4)
PR: HUS 326 or CI. Historical development of social policy in the United States. The impact of industrialization and urbanization on the individual and family. The changing roles of family, community, state and nation. Analysis of current issues. (Formerly SSI 327.)

SOW 4332 (HUS 426) COMMUNITY ORGANIZATION AND DEVELOPMENT (4)
PR: HUS 326 or CI. An interdisciplinary approach to community organization and development. A synthesis of social, cultural, psychological, economic, and political information concerning community structure and change. Approaches to the introduction of community change. (Formerly SSI 426.)

HUS 4020 (HUS 427) THE LIFE CYCLE (5)
An examination of individuals as they move through the various stages of the life-cycle—from birth until death. Attention is given to the physiological and psychosocial changes which occur during infancy, childhood, adolescence, young adulthood, middle age, old age, etc. Indentification of major needs of individuals at different stages of life cycle. (Formerly SSI 427.)

HUS 4500 (HUS 428) PLANNING AND EVALUATION OF HUMAN SERVICES PROGRAMS (4)
PR: HUS 326 or CI. Review of approaches to planning, coordination, and evaluation of human services programs. Methods of determining efficiency and effectiveness of health, rehabilitation, welfare and community action programs. Application of planning and evaluation techniques to human services fields. (Formerly SSI 428.)

MHT 4302 (HUS 429) INTERVIEWING (4)
PR: HUS 326 or CI. The principles and techniques of interviewing. Use of interviewing in information gathering, research and helping relationships. Attention given to developing skills in communication across cultural, social, economic and age barriers. (Formerly SSI 429.)

HUS 5224 (HUS 526) INTERVENTION TECHNIQUES (4)
PR: HUS 326 or CI. Attention will be given to techniques of intervention at individual, small group, and community levels. The need for crisis intervention program in modern society. (Formerly SSI 526.)

INTERDISCIPLINARY LANGUAGE-LITERATURE (LLI)

LIS 2001 (LLI 200) USE OF THE LIBRARY (2)
An introduction to the resources of the University of South Florida Library. Emphasis will be placed on library materials germane to the course work of the undergraduate. (S/U only.)

ENG 3930 (LLI 383) SELECTED TOPICS (3-5)
Course contents depend on student's need and instructor's interest. Agreement with instructor required prior to registration.

ENG 5934 (LLI 583) SELECTED TOPICS (2-5)
Course contents depend on student's need and instructor's interest. Agreement with instructor required prior to registration.

LIBERAL STUDIES (ALA)

Director: J. B. Camp, Associate Professor.

——— (ALA 301) STRUCTURES OF KNOWLEDGE AND KNOWING (4)
The distinctive modalities of human knowledge and consciousness as reflected in the classic distinctions between: sensory/motor, qualitative/quantitative, logical/mathematical, normative/descriptive, ethical/physical, substance/function, etc., apart and in relation to non-rational knowledge.

——— (ALA 311) PROGRESS AND UTOPIA (4)
Examination of the modern backgrounds of contemporary awareness: particularly the development of historical awareness of ourselves as scientifically, technologically, and sociologically "progressive" — in relation to both utopic and dystopic futures.

——— (ALA 313) FREEDOM AND THE SELF (4)
Analysis of the notion of the self in relation to the idea of freedom, involving comparative treatment of the variety of standpoints of conceiving the individual personality in relation to the social context.

——— (ALA 483) SELECTED TOPICS (2-5)
Course content determined by student's and instructor's interest and need.

——— (ALA 491) SEMINAR: MAN AND NATURE (4)
PR: Senior standing or CI. Examination of aspects of contemporary theories of nature and man deriving in the liberal arts, to the purpose of developing a general assessment of contemporary knowledge and methods of knowing.

LINGUISTICS (LIN)

Director: R. W. Cole; *Professors:* R. C. O'Hara; *Associate Professors:* J. C. Caflisch III, J. B. Camp, R. W. Cole.

LIN 3010 (LIN 301) INTRODUCTION TO LINGUISTICS (4)
Introduction to the basic principles of linguistic science; phonological and grammatical analysis and description; language change and genetic relationships. (Note: One section of LIN 301 is for Anthropology majors and requires ANT 201 as a prerequisite.)

LIN 3801 (LIN 321) LANGUAGE AND MEANING (4)
A survey introduction for non-specialists to the basic principles of semantic and the way language conveys ideas.

LIN 4040 (LIN 401) DESCRIPTIVE LINGUISTICS (4)
PR: LIN 301, ENG 475, or CI. Introduction to the basic techniques of formalizing linguistic descriptions through elementary phonological, morphological, and syntactic data solution-problems drawn from a variety of languages. Both taxonomic and generative analyses and descriptions will be developed and compared.

LIN 4377 (LIN 405) LANGUAGE TYPES OF THE WORLD (4)
An introduction to linguistic typology consisting in a systematic comparison of characteristic representatives of the various language types, such as Vietnamese, Malay, Hungarian, Swahili, Sanskrit, Hebrew, and others. No knowledge of any of these languages on the part of the student is presumed. (Formerly LIN 551.)

LIN 4600 (LIN 431) INTRODUCTION TO SOCIOLINGUISTICS (4)
PR: LIN 301 or ENG 475. An analysis of the interrelation of a language and the structure of the society using it. The linguistic behavior patterns characteristic of particular social, political, economic, educational, and racial groups. Problems in communication between strata. (Formerly LIN 540.)

LIN 4701 (LIN 441) PSYCHOLINGUISTICS (4)
PR: LIN 301 or ENG 475. The nature of linguistic structure and its correlates in behavior and perception. Examination of the hypotheses of Whorf, Chomsky, and others. (Formerly LIN 541.)

LIN 4930 (LIN 483) SELECTED TOPICS (3-5)
PR: CI. Course content depends upon student's needs and instructor's interest and may range over the entire field of linguistics.

LIN 4903 (LIN 485) DIRECTED READING (3-5)
PR: CI. Readings in special topics. Must be arranged prior to registration.

LIN 6081 (LIN 600) INTRODUCTION TO GRADUATE STUDY IN LINGUISTICS (2)
Required of all M.A. candidates. An introduction to the aims and methodology of linguistics as a graduate discipline: the field of linguistics and its relationship to adjacent arts and sciences; bibliographical resources; methods of research; and a brief survey of the historical development of linguistics and current issues in the field.

LIN 6380 (LIN 601) SYNTACTIC DESCRIPTION (4)
Analysis of syntactic descriptions of various languages through data-solution problems in co-occurrence relations, agreement, permutation, conjoining, and embedding. Feature grammars and other models are discussed.

LIN 6240 (LIN 602) PHONOLOGICAL DESCRIPTION (4)
Analysis of the phonological component of a grammar, its role and formal structures. The generative model is compared to taxonomic descriptions. Theory and data-solution problems.

LIN 6128 (LIN 611) HISTORICAL LINGUISTICS (4)
An advanced survey of the principles and methodology of historical linguistics.

LIN 6146 (LIN 612) COMPARATIVE LINGUISTICS (4)
The principles and methodology of comparative linguistics, focusing upon a major Indo-European subfamily, such as Romance, Germanic, or Balto-Slavic.

LIN 6820 (LIN 621) STUDIES IN SEMANTICS (4)
Selected problems in the area meaning and the relationship between linguistic structure and cognition. Mappings of presupposition, kinship fields, emotive concepts, and other problems are surveyed. Theories such as Fodor-Katz-Chomsky, Ross-Lakoff-McCawley, and others are contrasted.

LIN 6377 (LIN 623) THE STRUCTURE OF A SPECIFIC LANGUAGE (4)
A linguistic examination of the phonological, morphological, and syntactic structures of both common and uncommon languages, such as Arabic, German, Mikasuki, Seneca, Swahili, and Rusian, etc. No prior knowledge of uncommonly-taught or unwritten languages is presumed on the part of the student (e.g., Mikasuki, Seneca, Swahili). However, when the course focuses upon a regularly-taught major world language (e.g.,

French, German, Russian, Spanish, etc.), an elementary knowledge of that language will be presumed on the part of the student. May be repeated up to ten credit hours with change in content/title.

LIN 6117 (LIN 625) HISTORY OF LINGUISTIC THOUGHT (4)
Survey of the development of language study in the West from Antiquity to the present: Classical and medieval theories of language; origins of traditional grammar; rationalist linguistic theory and philosophical grammar, and an examination of the origin of contemporary linguistic controversies. (Formerly LIN 511.)

PHI 6226 (LIN 626) LANGUAGE AND NATURE (4)
A study of the development of language as an instrument for ordering human consciousness in terms of European ideas of Nature, with special emphasis upon the dialectic, relational, and popular modalities of conceptual representation. (Formerly HII 610.)

PHI 6228 (LIN 627) LANGUAGE AND LIMIT (4)
Introduction to the principles of the logic of natural languages including semantic analysis of logical relations between selected syntactic structures (active/passive, raising, case relations, etc.); logical dominance in semantic structure; applications of logic to questions of linguistic meta-theory. (Formerly HII 620.)

LIN 6425 (LIN 631) FORMAL STYLISTICS (4)
Studies in the relationship between the development of language study and literary criticism; developments in modern linguistic theory and their application to problems of aesthetics, literary structure, and style.

LIN 6435 (LIN 633) FIELD METHODS (4)
PR: LIN 401 and SPE 503. An introduction to the techniques of gathering language data in the field and to making an analysis of such data. Native informants are brought on campus to replicate the field experience: students will become familiar with equipment and tools used by linguists in the field. (Formerly LIN 530.)

LIN 6810 (LIN 635) SEMIOTICS (4)
PR: CI. Introduction to kinesics and paralinguistics: the linguist structure of gesture, proxemics, and other significant areas of non-verbal communication and signaling behavior. (Formerly LIN 543.)

LIN 6601 (LI 639) SOCIOLINGUISTICS (4)
Detailed analysis of the phenomenon of language variation with emphasis upon the research methodology of socio-linguistics and the implications of its finding for current linguistic theory. (Formerly LIN 540.)

LIN 6715 (LIN 645) DEVELOPMENTAL PSYCHOLINGUISTICS (4)
PR: LIN 301, ENG 475, or CI. A survey of current research and theory in the processes of normal language acquisition and development. (Formerly LIN 545.)

LIN 6139 (LIN 661) TOPICS IN THEORETICAL LINGUISTICS (4)
Offerings will include current issues in any area of linguistic theory.

LIN 6407 (LIN 671) APPLIED LINGUISTICS (4)
Analysis of the phonological, morphological and syntactic features of English as a basis for linguistic application to problems of English language acquisition by non-native speakers. (Formerly LIN 641.)

LIN 6110 (LIN 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only)

LIN 6932 (LIN 683) SELECTED TOPICS (3-5)
Content will depend upon instructor's interests and student's needs. Such topics as computational and mathematical linguistics, biolinguistics, dialectology and linguistic geography, and pidgins and creoles may be treated, as well as the study of the structures of languages not ordinarily taught.

LIN 6940 (LIN 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (LIN 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

LIN 6971 (LIN 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

MANAGEMENT (MAN)

Chairperson: H. M. Schroder; *Professors:* A. C. Bartlett, R. E. Dutton, M. Karlins, H. M. Schroder J. J. Sherman; *Associate Professors:* S. J. Birkin, M. Goldberg, D. N. Harlow, T. E. Johnson, D. R. Kenerson, J. T. Knippen, K. R. Van Voorhis; *Assistant Professors:* H. C. Allen, J. P. Vincelette, R. M. Walsh; *Assistants:* S. Moore, J. Walsh; *Lecturer:* H. W. Stirling.

MAN 3010 (MAN 301) PRINCIPLES OF MANAGEMENT (5)
Study of the fundamentals of management, integrating the classical, behavioral, and management science approaches into an organized system of concepts and practices.

MAN 3810 (MAN 312) INTRODUCTION TO MANAGEMENT SCIENCE (4)
A survey of management science techniques and their application to problem solving and decision making.

MAN 3150 (MAN 322) ORGANIZATIONAL BEHAVIOR ANALYSIS (4)
A survey of the behavioral and research literature in the behavioral and social sciences relevant to organizational functioning. Emphasis will be placed on the role of the individual, the group and inter-group relations in organizational settings and the impact of managerial environments on organizational behavior and change. Two hours lecture, two hours management problem laboratory.

MAN 3401 (MAN 332) INDUSTRIAL RELATIONS (4)
A conceptualization of the administrative problems arising from unionization. Emphasis on the relationships between management and employee representatives in private and public employment, and on the historical and legal framework of industrial relations.

MAN 3301 (MAN 341) PERSONNEL MANAGEMENT (3)
Systematic analysis of major functions in personnel, including manpower planning, recruiting, selection, job evaluation, performance appraisal, wage and salary, incentives, training and development, etc., emphasizing the role of the individual in the organization.

MAN 4503 (MAN 421) OPERATIONS MANAGEMENT: A SYSTEMS APPROACH (3)
A systems approach to the study of effective operations management tools and concepts. Computerized approaches to problem solving are introduced and an emphasis is placed on interpretation of output for decision making purposes. A knowledge of the basic tools and techniques of management science is required.

MAN 4201 (MAN 431) ADVANCED ORGANIZATIONAL BEHAVIOR ANALYSIS (3)
Methods of analyzing complex organizational functioning and performance will be studied using selected behavioral models. This course assumes a familiarity with the literature in the field of organizational behavior and its general implications for

management. One hour lecture and two hours management laboratory.

MAN 4770 (MAN 441) ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT (4)
PR: ACC 201, ACC 202, MKT 301; or CI. Study of the factors involved in starting and managing a small to medium-size business. Emphasis on conduct of pre-business feasibility study, selection of business field and organization structure, and successful management of marketing, personnel, production, accounting, finance, and related areas.

MAN 4776 (MAN 442) SMALL BUSINESS MANAGEMENT COUNSELING (4)
PR: MAN 441 or CI. Application of various aspects of business administration in analyzing strengths and weakness of an on-going small business. Development of recommendations for improvement and initiation of steps to assist business principal in evaluation and implementation. Emphasis on developing management consulting skills and recognizing implications of small business owner-manager's capabilities and attitudes for success in implementing recommendations.

MAN 4120 (MAN 451) MANAGERIAL BEHAVIORAL LABORATORY (3)
The development of first hand understanding of the personal, inter-personal and inter-group factors involved in social interaction. A general knowledge of the literature in the field of organizational behavior and social psychology is assumed. One hour lecture and two hours behavior dynamics laboratory.

MAN 4210 (MAN 453) CHANGING ORGANIZATIONS (3)
The central unifying concept is the role of the Change Agent. Theory and research related to social-organizational change and resistance to change is considered along with its implications for the design of conditions and their differential effects on organizational climate. A knowledge of the literature in organizational and social behavior is necessary. Lecture and management laboratory.

MAN 4710 (MAN 461) LABOR RELATIONS LAW (3)
A survey of the various legal constraints applicable to labor-management relations. Includes practice in use of library resources for discovering statutes, cases or administrative rulings. This course assumes a general understanding of the organizations of management and union, the role of each in collective bargaining, and traditional methods for resolving industrial conflict. One and one-half hours lecture, one and one half hours case analysis and research.

MAN 4430 (MAN 463) SEMINAR IN NEGOTIATION AND ADMINISTRATION OF LABOR AGREEMENTS (3)
An application of industrial relations theory to cases provided by the instructor. Includes exercises in contract negotiation, administration, grievance settlement, and arbitration. This course assumes a general understanding of the organizations of management and union, the role of each in collective bargaining, and traditional methods of resolving industrial conflict. Three hours laboratory under supervision of instructor.

MAN 4125 (MAN 465) LABORATORY IN THE RESOLUTION OF GROUP CONFLICT (3)
An application of conflict resolution theory to a variety of social settings, including industrial and governmental organizations and inter-racial conflict. This course assumes a general understanding of inter-personal and group behavior. Three hours laboratory under the supervision of instructor.

QMB 4600 (MAN 471) MANAGEMENT SCIENCE APPLICATIONS (3)
A study of the application of management science models to typical organizational problems. Emphasis is on (1) problem formulation (2) data collection and (3) interpretation and implementation of solutions. A laboratory using decision science problems of organizations is a major part of this course. A knowledge of the basic tools and techniques of management science is required.

QMB 4654 (MAN 472) MANAGEMENT SCIENCE MODELS (3)
A study of the theoretical basis of various management science models. These include linear, integer, dynamic, quadratic and geometric programming; plus, gradient methods and branch and bound. A knowledge of the basic tools and techniques of management science is required.

QMB 4703 (MAN 473) SIMULATION AND MODELING TECHNIQUES (3)
A study of manual and computer simulation techniques and their application to problem solving in management (behavioral and quantitative). Knowledge of a computer language and the basic tools and techniques of management science is advised.

MAN 4931 (MAN 481) INDEPENDENT RESEARCH (1-5)
PR: CI. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 10 hours.

MAN 4930 (MAN 483) SELECTED TOPICS IN MANAGEMENT (1-5)
PR: CI. Topics to be selected by instructor and department chairperson for pertinent Management issues.

——— (MAN 497) INDEPENDENT STUDY (1-4)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 8 credit hours. (S/U only.)

MAN 4930 (MAN 499) INTEGRATIVE SEMINAR IN MANAGEMENT (3)
PR: One of the following group: MAN 312, MAN 322, MAN 332; and two additional upper level MAN courses, and senior standing; or CI. A capstone course intended to integrate the concepts, generalizations, principles, and skills learned separately in previous, more specialized courses in Management and Administration. Emphasis, decision-making, action planning, and implementation.

MAN 5051 (MAN 501) SURVEY OF MANAGEMENT (3)
A background-building course for senior undergraduates or beginning graduate students who require additional background in any course area. Modules will be offered in behavioral, quantitative and industrial relations areas.

MAN 5735 (MAN 572) URBAN MANAGEMENT (3)
A problem-oriented course dealing with an analysis of a modern urban environment and urban management systems. Urban managers may participate in the seminar and significant urban problems will be used as vehicles for instruction. These will include the development of a management information system for making land use decisions and the planning and evaluation of community development programs.

MAN 6156 (MAN 601) MANAGEMENT OF ORGANIZATIONAL BEHAVIOR (3)
A survey course emphasizing the applications of theory and research in behavioral and social sciences to the practice of management. Topics include the determinants of behavior in complex organizations, the impact of work environments on employees, organization diagnosis and change using field data wherever possible.

QMB 6652 (MAN 602) ADMINISTRATIVE DECISION PROCESSES (3)
PR: GBA 603 and GBA 605. A survey of the development and implementation of systematic decision processes in organizations. The course analyzes the application of Management Science and Operations Management techniques to problem solving in organizations.

MAN 6135 (MAN 603) MANAGEMENT OF COMMUNICATIONS (3)
The analysis, organization and presentation of verbal and written communications and reports. Students will select and define a problem area, construct an annotated bibliography in that area, develop a research design for collection and analysis of appropriate data, and write a report on the proposed program in a form acceptable to the organizational and academic community. This work should represent a first step in selecting and developing a thesis. (MAN 699).

MAN 6851 (MAN 604) SIMULATION OF ADMINISTRATIVE SYSTEMS (3)
A study of manual and computer simulation techniques and their application to administrative problem solving. The course emphasizes: model design and construction; data collection and analysis; model testing and implementation problems. A computer language, such as GPSS or SIM-SCRIPT, is used for model construction.

QMB 6651 (MAN 606) QUANTITATIVE ANALYSIS OF MANAGEMENT DECISIONS (1-3)
A study of the development and application of Operations Research tools for administrative problem solving. Using a decision science lab and case approach, the course emphasizes: systematic data collection for problem analysis; identification of appropriate tools for various types of problems; implementation difficulties; and, analysis and interpretation of results.

MAN 6409 (MAN 607) MANAGEMENT OF CONFLICT (1-3)
A survey of the literature on social conflict with emphasis on the causes of conflict within and between various types of organizations. The course will examine and evaluate traditional, as well as, innovative techniques for the resolution of conflict.

MAN 6569 (MAN 608) THE MANAGEMENT OF OPERATIONS (1-3)
A study of the development of systematic planning and control systems at the operational level in organizations. Topics include, but are not limited to: quality control, materials management, cost control, work measurement and work flows, inventory management, production control, and project management and control.

MAN 6107 (MAN 609) MANAGERIAL BEHAVIOR (3)
A laboratory approach to the understanding of patterns of interpersonal and inter-group behavior which are significant for the managerial role. Topics include perception expectation, motivation, defenses, conformity—deviation, status, anxiety, behavior control, self development, leadership styles, efficient utilization of time, and a critical analysis of current procedures used for manager development.

QMB 6691 (MAN 610) COMPUTERS AND MANAGEMENT: THE EXECUTIVE VIEWPOINT (1-3)
A study of the use and impact of computers in modern organizations. The course emphasizes: current practices and future trends; the extended use of computers for broader planning and decision making systems; the development of Data Based Management Systems and MIS; and, the behavioral problems associated with computerization. Students desiring "hands-on" computer experience may register for an additional special topics course to be taken concurrently with this course.

MAN 6206 (MAN 611) ORGANIZATIONAL THEORY AND ITS IMPLICATIONS FOR THE MANAGER (1-3)
The course covers the major theories of organization and a comparative analysis of the differential options these theories provide for managerial strategy. It deals with the design of managerial environments for accomplishing different goals, the research literature in this field and the implication of this research for prediction and design of environmental change.

MAN 6219 (MAN 613) THE MANAGEMENT OF ORGANIZATIONAL CHANGE (1-3)
An experiential learning course utilizing real data from profit and not-for-profit organizations. The course is designed to provide students with direct experience in the systematic planning, implementation and control of change. By actually collecting and analyzing real data each student develops an operationally viable model for the changes inevitable in any ongoing organization.

MAN 6405 (MAN 614) LABOR RELATIONS LAW (3)
A survey of the various legal constraints applicable to the employer-employee relationship. Included are such areas as collective bargaining, civil rights, and fair labor standards. (Also offered as ECN 614.)

MAN 6797 (MAN 615) THE PRACTICE OF MANAGEMENT (1-4)
The course offers the student the opportunity to focus on an overall organization and to gain an understanding of the interaction between various components which the manager must integrate—the economic, financial, social, political, and technological. The aim is to provide students with experience in integrative skills through organizational design, planning and control, communication and leadership. To be taken during the last two quarters of study; preferably the final quarter.

MAN 6055 (MAN 621) MANPOWER MANAGEMENT (3)
A study of the major factors involved in the development of an effective manpower management strategy; including manpower planning, selection, organization and job design, performance of evaluation, career advancement, employer benefits, rights and compensation. Emphasis is on an open-system view recognizing the need to operate within the complex external legal and societal environment while reducing internal conflict.

MAN 6061 (MAN 622) PLANNING, CONTROL AND HUMANISM IN MANAGEMENT (4)
A study of an increasing dilemma which is central to the role of all those in supervisory or managerial roles—the conflict between the need to exercise increasingly efficient controls through behavior, planning and budgets and the need for more humanistic management. The dilemma will be considered in a framework of stages of organizational development showing how stages occur in a particular order, how control is managed at each stage and how the conflict between control and humanism decreases with progression. Methods for accomplishing more rapid organizational progression through stages will be presented.

MAN 6911 (MAN 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

MAN 6930 (MAN 683) SELECTED TOPICS (1-6)
This course is designed to be taken either: in a tutorial format under the general guidance of a faculty member on some facet of management not regularly offered in a regular course; or, in conjunction with any regularly scheduled graduate course where a more indepth study of the subject is mutually deemed to be beneficial to the student's program. Topics would include, but not limited to: management of health care, managing governmental systems, managing educational systems, entrepreneurial management, managing not-for-profit organizations, managing motivation development. May be retaken for credit providing topic selected is different.

——— (MAN 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

MAN 6971 (MAN 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

MARINE SCIENCE (MSC)

Chairperson: J. C. Briggs (Acting). *Professor:* H. J. Humm. *Associate Professors:* R. C. Baird, P. R. Betzer, K. L. Carder and T. L. Hopkins, T. E. Pyle. *Assistant Professors:* N. J. Blake, L. J. Doyle, K. A. Fanning.

OCE 3001 (MSC 311) INTRODUCTION TO OCEANOGRAPHY (3)
Topics in biological chemical, geological and physical oceanography presented in lectures by a number of specialists in these fields.

OCE 5085 (MSC 511) MARINE POLICY (3)
PR: MSC 311 or CI. Course explores marine problems and their impact on society. Topics of interest include financing and organization of marine science; regulation (local, state, and Federal) of uses of marine waterways, and the sea; political, social, and legal problems associated with marine pollution and the recovery and development of marine resources; conservation and public decision-making in the marine sphere.

ZOO 5456 (MSC 519) ICHTHYOLOGY (5)
PR: CI or senior or graduate status: BIO 201-203, BIO 465 (helpful), ZOO 311 (helpful). The evolution, systematics, and ecology of fishes. (Also offered as ZOO 519.)

OCC 5050 (MSC 521) CHEMICAL OCEANOGRAPHY (4)
PR: CHM 213 and CI. The ocean as a chemical system, including composition, physical-chemical aspects, role of nutrients, trace metals, interaction between bottom and overlying water, modern methods of analysis in routine use in oceanography. Lec-lab.

OCG 5050 (MSC 531) GEOLOGICAL OCEANOGRAPHY (4)
PR: Graduate standing or CI. An introduction to the physical, historical sedimentary, and structural geology of the ocean basins and their borders. Lec.-lab.

OCP 5051 (MSC 541) PHYSICAL OCEANOGRAPHY (4)
PR: Graduate standing or CI, PHY 305. The world ocean including its morphology, physical properties, currents, waves, tides, heat budget, and related topics. Lec.-lab.

OCB 5050 (MSC 551) BIOLOGICAL OCEANOGRAPHY (4)
PR: Graduate standing or CI, BIO 201-203. The study of life in the sea with special reference to distribution, reproduction, adaptation, competition, and populations. Lec.-lab. For students who have not majored in a biological science.

OCE 5934 (MSC 583) SELECTED TOPICS IN OCEANOGRAPHY (1-4)
PR: CI. Special topics in biological, chemical, geological, and physical oceanography.

EOC 6080 (MSC 610) SCIENTIST-IN-THE-SEA, I, HYPERBARIC OPERATIONS (4)
PR: CI and diver certification (NAVI or equiv.). Basic principles, physiology, and psychology involved in submarine hyperbaric operations, inside and outside habitats. Lec.-lab. (Also listed as EGB 610.)

EOC 6081 (MSC 611) SCIENTIST-IN-THE-SEA II, MARINE SCIENCES (4)
PR: CI and diver certification (NAVI or equiv.) Research equipment and techniques for underwater work in oceanography presented by practicing research workers in the field. Lec.-lab. (Also listed as EGB 611.)

EOC 6082 (MSC 612) SCIENTIST-IN-THE-SEA III, UNDERWATER ENGINEERING (4)
PR: CI and diver certification (NAVI or equiv.). The ocean as a constraint for construction and devices. Factors involved in planning and design of underwater operations and experimental devices. Lec.-lab. (Also listed as EGB 612.)

OCC 6057 (MSC 622) METHODS IN CHEMICAL OCEANOGRAPHY (2)
PR: MSC 521 or CI. An intensive study of the use and limitations of field and laboratory equipment which is a standard part of chemical oceanographic research into the behavior of dissolved and particulate constituents in seawater.

OCG 6075 (MSC 632) METHODS IN GEOLOGICAL OCEANOGRAPHY (2)
PR: MSC 531 or CI. Description and application of the modern techniques of geology and geophysics used to investigate the marine environment. Included in the subject matter are basic remote sensing techniques, sampling problems, seismic profiling, laboratory methods and interrated data analysis. Lec.-lab, field trips.

OCP 6056 (MSC 642) METHODS IN PHYSICAL OCEANOGRAPHY (2)
PR: MTH 305, MSC 541 or MSC 521, and CI. Field and laboratory techniques for acquisition, reduction, display, and discussion of physical oceanographic data (e.g., waves, tides, currents, dissolved and suspended constituents).

OCP 6264 (MSC 643) OCEANIC MODELING (3)
PR: MSC 541, MTH 501 or equivalent, and CI. Theory of oceanic modeling including classical analytic wind-driven circulation models, thermohaline models, and both explicit and implicit techniques for numerical modeling of circulation, upwelling, tidal velocities, and diffusion.

BOT 6426 (MSC 650) MARINE ALGAL ECOLOGY (3)
PR: BOT 543 or BOT 547 or CI. A consideration of environmental factors that influence the distribution, abundance, and growth of marine algae. (Also listed as BIO 650.)

PCB 6479 (MSC 651) MARINE PLANKTON SYSTEMATICS (4)
PR: ZOO 313. The identification of plankton from different depth zones in the sea and from various oceanic regions. Lec.-lab. (Also listed as BIO 651.)

OCB 6671 (MSC 652) METHODS IN BIOLOGICAL OCEANOGRAPHY (2)
PR: CI. To acquaint students with field and laboratory equipment and techniques currently used in biological oceanography. Emphasis will be on field problems especially those requiring research at sea.

BOT 6427 (MSC 653) MARINE PLANKTON ECOLOGY (4)
PR: ZOO 313. The relations and distributions of planktonic organisms as affected by their physical, chemical and biological environments. Lec.lab. (Also listed as BIO 653.)

PCB 6476 (MSC 656) DYNAMICS OF MARINE BENTHIC COMMUNITIES (4)
PR: EGB 204, ZOO 557, or CI. Theoretical approach to the study of benthic communities in fluctuating and constant environments. Methods of analysis of benthic data will be evaluated and discussed. Computer programs will be utilized for analysis wherever possible. Lec-lab.

OCE 6942 (MSC 671) FIELD STUDIES IN MARINE SCIENCE (4)
PR: One of the following: MSC 521, 531, 541, 551, 622, 632, 642, 652, or CI. Combination of class room study with the collection, analysis, and interpretation of field data to attack specific problems in marine science both for deep sea and nearshore environments.

OCE 6972 (MSC 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

OCE 6934 (MSC 683) SELECTED TOPICS IN OCEANOGRAPHY (1-4)
PR: CI. Special topics in biological, chemical, geological, and physical oceanography.

OCE 6939 (MSC 691) GRADUATE SEMINAR IN OCEANOGRAPHY (1)
PR: Graduate standing. May be repeated. (S/U only.)

——— (MSC 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

OCE 6971 (MSC 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

MARKETING (MKT)

Chairperson: T. E. Ness; *Professors:* D. C. Sleeper, W. D. Stevens; *Associate Professors:* R. L. Anderson, S. A. Baumgarten, W. A. DeBord, J. S. Hensel, R. E. Klippel, T. E. Ness, T. W. Sweeney, H. H. Towery; *Assistant Professor:* J. D. Carmichael; *Instructors:* W. E. Cook, J. W. Oescher, E. J. Randall; *Lecturer:* D. E. Futhey

MAR 3023 (MKT 301) BASIC MARKETING (5)
PR: ACC 201, ECN 201; CR: ECN 202 or CI. Survey of the marketing of goods and services within the economy. The integration of functional, commodity, and institutional approaches from the consumer and managerial viewpoints.

MAR 3403 (MKT 311) PRINCIPLES OF SALESMANSHIP AND SALES MANAGEMENT (3)
PR: MKT 301. Personal selling and sales management as basic elements in the marketing strategy of firms. Includes the scientific management of resources and the dynamics of interpersonal and small group behavior and decision processes.

MAR 3303 (MKT 312) PRINCIPLES OF ADVERTISING AND SALES PROMOTION (3)
PR: MKT 301. A comprehensive coverage of advertising, stressing purposes, techniques, organization, research, and media selection including relationships with other marketing mix components. Consideration given to economic and social aspects of advertising and total promotional strategies.

MAR 3603 (MKT 316) MARKETING MODELS AND MARKETING SYSTEMS (3)
PR: ECN 331, GBA 333, MKT 402. An investigation of the utility of formal, logical, mathematical, and other quantitative methods and models as these might be applied to marketing management.

MAR 4153 (MKT 317) RETAILING MANAGEMENT (3)
PR: MKT 301. A comprehensive analysis of the retailing structure, institutions and environment. Includes pertinent management theories and practices in organizing, planning and controlling retail operations. (Formerly MKT 417.)

MAR 4613 (MKT 321) MARKETING RESEARCH (4)
PR: ECN 331, MKT 301. A study of research methods and techniques applicable to problem solving in marketing. Attention is also given to defining of information needs, determining the value of information, intrepreting and reporting information for use in marketing decision making. (Formerly MKT 411.)

MAR 4503 (MKT 325) CONSUMER BEHAVIOR (3)
PR: MKT 301; CR: MKT 321; or CI. An investigation and application of the behavioral factors affecting consumer demand. Consideration given to industrial, governmental and ultimate consumers. (Formerly MKT 413.)

MAR 4213 (MKT 401) MARKETING LOGISTICS (3)
PR: ECN 331, GBA 333, MKT 402, or CI. Analysis of the logistics of marketing systems for firms engaged in the marketing of goods and services. Component parts of each system are studied and analytical tools are presented for selecting those alternatives which will attain the goals of the firm.

MAR 3203 (MKT 402) MARKETING INSTITUTIONS AND CHANNELS (4)
PR: MKT 301. A detailed study of marketing channels as a functional area of marketing management responsibility and as a part of marketing strategy. Attention given to wholesaling and retailing and their structural, dynamic interrelationships including distribution logistics. (Formerly MKT 315.)

MAR 4353 (MKT 403) PUBLIC RELATIONS AND THE MARKETING PROCESS (3)
PR: MKT 312, MKT 325, or CI. Principles, practices, and problems in public relations as an integrated part of and supplement to marketing management responsibilities and decisions.

MAR 4453 (MKT 405) INDUSTRIAL MARKETING (3)
PR: MKT 311, MKT 402, or CI. Problems of marketing industrial goods. Characteristics of markets, channels, industrial sales, promotional practices, research and marketing policies.

MAR 4343 (MKT 407) MANAGEMENT OF ADVERTISING AND SALES PROMOTION (3)
PR: MKT 312, MKT 325, or CI. Discussion and analysis of cases bearing on managerial aspects of advertising and sales promotion including research, budget determination, strategy, tactics, and evaluation of results.

MAR 4243 (MKT 409) INTERNATIONAL MARKETING (3)
PR: MKT 301. A study of the procedures and problems associated with establishing marketing operations in foreign countries. The institutions, principles and methods involved in the solution of these business problems will be treated as well as effects of national differences on business practices.

MAR 4504 (MKT 414) SEMINAR IN APPLIED STUDIES IN MARKETING (3)
PR: MKT 325 and 3 MKT Courses at 400 level, and CI. In-depth discussion, formulation, application, and evaluation of advanced research techniques and practices as currently applied to facilitate marketing decisions.

MAR 4713 (MKT 419) MARKETING MANAGEMENT PROBLEMS (4)
PR: MKT 321, MKT 325, and 3 other MKT Courses, or CI. The integration of marketing knowledge applied to decision roles in managing the total marketing effort of firms, and coordination with other major functional areas on specific problems.

MAR 4903 (MKT 481) INDEPENDENT RESEARCH (1-5)
PR: CI. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 10 hours.

MAR 4933 (MKT 483) SELECTED TOPICS IN MARKETING (1-5)
PR: CI. Topics to be selected by instructor and department chairperson.

——— (MKT 497) INDEPENDENT STUDY (1-4)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 8 credit hours. (S/U only.)

MAR 5055 (MKT 501) SURVEY OF MARKETING (3)
PR: ECN 501. A critical analysis of the field of marketing including aspects of marketing policies, institutions, research, and trends. Special emphasis is given to product development, pricing strategy, channel selection, and promotion as a basis for marketing management decisions. Assigned readings, discussions, and reports.

MAR 6706 (MKT 601) ADVANCED MARKETING PROBLEMS (3)
PR: MKT 301, or 501 or equivalent; MKT 602; ECN 201-202 or 501-502 or equivalent; or CI. A study of the marketing problems of the firm approached from a management point of view. Emphasis is placed upon the development of the students' ability to analyze marketing situations, identify problems, determine solutions, implement corrective action, and plan marketing strategy.

MAR 6708 (MKT 602) ANALYSIS FOR MARKETING MANAGEMENT (3)
PR: MKT 301 or 501 or equivalent; GBA 603, GBA 605, or CI. The use of quantitative techniques and analytical concepts in marketing decision making; marketing research, model building and simulation; selected statistical decision techniques and computer applications.

MAR 6939 (MKT 603) SEMINAR IN MARKETING (3)
PR: MKT 301 or 501; ECN 601, 605. The study of contemporary marketing thought, advanced marketing concepts, and recent developments in the field of marketing. Readings, discussions, and individual investigation.

MAR 6506 (MKT 605) BEHAVIORAL CONCEPTS IN MARKETING DEICISION MAKING (3)
PR: MKT 601 or CI. The application and techniques of the behavioral sciences to the understanding and improvement of the marketing process and decision making concerning consumer behavior.

MAR 6346 (MKT 607) SEMINAR IN PROMOTIONAL POLICY AND STRATEGY (3)
PR: MKT 605 or CI. An analysis of theories and practices of advertising, selling and sales management, and sales promotion as they relate to the total marketing program of firms. Emphasis upon the coordination of promotional policy and strategy.

MAR 6216 (MKT 609) MARKETING CHANNELS AND PHYSICAL DISTRIBUTION MANAGEMENT (3)
PR: MKT 602, MKT 605, or CI. An analysis of the development of integrated distribution systems. Channel alternatives, including the institutions involved and physical flow, as a part of marketing strategy.

MAR 6616 (MKT 611) MARKETING RESEARCH AND INFORMATION SYSTEMS (3)
PR: MKT 602, GBA 603, GBA 605, or CI. A study of the marketing research process, methods and techniques and the need and applicability of information systems.

MAR 6916 (MKT 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

MAR 6936 (MKT 683) SELECTED TOPICS IN MARKETING (1-6)
PR: CC. The content and organization of this course will vary according to the interests of the faculty and students involved in any given term. Repeatable to a maximum of six hours.

——— (MKT 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

MASS COMMUNICATIONS (COM)

Chairperson: E. L. Sasser; *Professors:* A. M. Sanderson, E. L. Sasser; *Associate Professors:* W. G. Fudge, W. E. Griscti, R. L. Kerns, M. Lucoff; *Assistant Professors:* K. E. Fenderson, J. M. Halbe, C. L. Hilewick, D. A. Horsman, G. Meyer; *Instructors:* W. M. Brady, W. F. Moyse, K. Storr; *Lecturer:* G. G. Daugherty; *Visiting Professor:* Harry Skornia; *Visiting Lecturer:* D. K. Baldwin

MMC 3000 (COM 300) SURVEY OF MASS COMMUNICATIONS (3)
The functions of agencies of mass communication and their impact upon society; critical analyses of press performance in relation to current events; evaluation of the press through a study of its history. *Not open for credit to Mass Communications majors.*

MMC 3700 (COM 301) THE POPULAR ARTS IN AMERICA (4)
A survey of the growth of the popular arts (motion pictures, radio, television, art best sellers, jazz and other forms of music, the comics, etc.) as mirrors, transmitters and transformers of American cultural values.

MMC 3100 (COM 302) WRITING FOR THE MASS MEDIA (4)
PR: Sophomore standing; 2.5 GPR; grade of "C" in English 101, 102, 103; typing proficiency. An introduction to the basic skills of writing for the mass media with practice in library research, persuasive writing, and informational writing.

MMC 3602 (COM 303) MASS COMMUNICATIONS AND SOCIETY (4)
PR: Sophomore standing; 2.5 GPR; grade of "C" in English 101, 102, 103; typing proficiency. A survey of the history, theory, processes, and philosophy of mass communications and the mass media in the United States, and their relationship to the other major institutions of American society.

ADV 3000 (COM 311) INTRODUCTION TO ADVERTISING (4)
PR: COM 302 and COM 303. A study of the structures, functions, and persuasive language of advertising in mass media with attention to social, political, economic and legal aspects.

ADV 3302 (COM 312) ADVERTISING MEDIA STRATEGY (4)
PR: COM 311 or CI. Problems, techniques, strategy of media research, planning, budgeting and effective utilization in advertising.

ADV 3101 (COM 313) ADVERTISING COPY (4)
PR: ECN 100 or ECN 201, MKT 301, COM 311 or CI. Study and laboratory experience in preparation of advertising copy for newspapers, magazines, radio, television, direct mail, outdoor displays and special items.

ADV 3103 (COM 314) RADIO-TELEVISION ADVERTISING (4)
PR: COM 311 or CI. An intensive study and analysis of radio and television for advertising purposes, including copywriting, script and storyboard preparation, time buying and selling techniques, audience research methods, and basic production concepts.

JOU 3006 (COM 320) MAGAZINES IN SOCIETY (4)
PR: COM 302 and COM 303. A study of the development of various types of magazines in America, and a critical analysis of current problems and performance of periodicals along with changes indicated for the future.

JOU 3300 (COM 321) MAGAZINE ARTICLE AND FEATURE WRITING (4)
PR: COM 330, ENG 351, or CI. Planning, researching, writing and marketing articles for general and special interest magazines and newspaper magazine supplements; experience in developing article ideas; inductive analysis of contemporary magazine articles.

JOU 3203 (COM 325) MAGAZINE EDITING (4)
PR: COM 321 or CI. Comparative study of types of magazines and business papers as to objectives and content; planning to meet magazine objectives and reading interest; article and photograph selection and preparation for printing; use of research methods in planning and evaluation; ethical and legal problems of the editor.

JOU 3100 (COM 330) BEGINNING REPORTING (4)
PR: COM 302 and COM 303. Basic instruction in news judgment, sources of news, newsgathering and newswriting techniques. Typing ability is required.

JOU 3101 (COM 331) ADVANCED REPORTING (4)
PR: COM 330. Getting information and writing the more complex and specialized story, techniques of investigative and analytical reporting, including ethical and legal considerations.

JOU 3306 (COM 334) CRITICAL WRITING: EDITORIALS, REVIEWS, COLUMNS (4)
PR: COM 331, COM 433. Interpretive and opinion writing for

the mass media. Analysis and discussion of current events as a basis for critical thinking and editorial writing; evaluation of editorial pages of leading newspapers. Study of journalistic techniques involved in writing art, drama, music and book reviews and satire, sports or personal columns.

JOU 3940 (COM 337) REPORTING PRACTICUM (1-2)
PR: COM 435 and CI. For selected News-Editorial Sequence majors. Practical experience outside the classroom in a live newspaper reporting situation where the student works for academic credit under the tutelage of a professional practitioner.

PUR 3000 (COM 341) PRINCIPLES OF PUBLIC RELATIONS (4)
PR: COM 302 and COM 303. The functions of public relations within corporate and institutional structures; ethical standards of practice, and relationships of the practice to the public media and other modes of contemporary communication.

ENG 3130 (COM 351) LITERATURE AND THE FILM (3)
PR: ENG 102. A study of what happens when a novel is adapted for the movies; of the insights of modern writers and literary critics into the motion picture as an art form analogous to, yet distinct from, literature and of the impact of literature on film-making. *Not open for credit to COM majors.*

FIL 3502 (COM 352) PHILOSOPHY AND THE FILM (3)
A study of the philosophical implications of the motion picture as an art form; esthetics in general versus film esthetics; the connection between the world views of such modern philosophers as Bergson, Whitehead, and Bradley, and the world view expressed through the motion picture; the connections between "pure ideas," the ideas in the documentary film and the ideas in the fictional film. *Not open for credit to COM majors.*

FIL 3100 (COM 353) INTRODUCTION TO FILM WRITING (4)
PR: COM 354 or CI. An introduction to the techniques of writing for the film employing adaptations from fiction and examinations of scripts as models and as subjects for critical analysis. Special emphasis on learning the Language of the Camera.

FIL 3004 (COM 354) THE FILM AS MASS COMMUNICATION I: SYNTAX (4)
PR: COM 302 and COM 303. The language, conventions, elements and patterns of the film medium as related to current models of effective mass communication and new theories of non-verbal communication. Concurrent laboratory experiences in control of light and line.

FIL 3200 (COM 355) THE FILM AS MASS COMMUNICATION II: RHETORIC AND STYLISTICS (4)
PR: COM 354. A continuation of COM 354 to include the effective arrangements of scenes and sequences in motion picture and television films. Concurrent laboratory experiences in sound and editing.

FIL 3201 (COM 356) THE FILM AS MASS COMMUNICATION III: WORKSHOP (4)
PR: COM 355. Practical exercises, demonstrations and experiences in applying material covered in COM 354 and 355.

FIL 3401 (COM 357) CLASSICS OF THE SILENT FILM (4)
Examples of the silent film studies from social, intellectual, historical, and artistic points of view.

FIL 3402 (COM 358) CLASSICS OF THE SOUND FILM (4)
Examples of the sound film studies from social, intellectual, historical, and artistic points of view.

RTV 3000 (COM 361) INTRODUCTION TO BROADCASTING (4)
PR: COM 302 and COM 303. A survey of the organization, structure, and function of the broadcasting industry. (Formerly SPE 241.)

RTV 3300 (COM 362) BROADCAST NEWS (4)
PR: COM 330, COM 361. The study and methods in gathering, writing and editing newscasts for radio and television. (Formerly COM 335.)

RTV 3230 (COM 363) BROADCAST ANNOUNCING (4)
PR: COM 361. Development of skills required for effective announcing and other appearances before microphone and camera. (Formerly SPE 343.)

RTV 3210 (COM 364) RADIO PRODUCTION AND DIRECTION (4)
PR: COM 361. Radio production and direction; laboratory and broadcast experiences. (Formerly SPE 347.)

RTV 3941 (COM 367) RADIO PRACTICUM (1-2)
PR: COM 364 and CI. The study, rehearsal, and production of radio programs and materials. (Formerly SPE 348.)

RTV 3100 (COM 368) WRITING FOR RADIO AND TV (4)
PR: COM 361. The writing of radio and television scripts such as documentaries, children's programs, commercials, dramas, talks and demonstrations. (Formerly SPE 349.)

VIC 3000 (COM 370) INTRODUCTION TO VISUAL COMMUNICATIONS (4)
PR: COM 302 and COM 303. The survey of visual communication theory, history, contemporary application and social influences. Emphasis will be on still photography, motion pictures, video taping and graphics as applied to the media.

VIC 3100 (COM 371) PHOTOJOURNALISM I (4)
PR: COM 302 and COM 303. Camera operation, darkroom techniques, picture composition; editing, ethics, history and laws in connection with photojournalism.

VIC 3102 (COM 372) PHOTOJOURNALISM II (4)
PR: COM 371 or CI. Advanced process and practice of photography for publication. Content includes advanced camera and laboratory techniques, publication requirements and theory of photochemical color separation used in magazine and newspapers. Emphasis is placed on student production.

JOU 3205 (COM 375) TYPOGRAPHY I (4)
PR: COM 302 and COM 303. The history and design of type, major classifications of type faces, typographic nomenclature, printer's measurements and the science of type design and identification. Laboratory work.

JOU 3206 (COM 376) TYPOGRAPHY II (4)
PR: COM 375 or CI. A study of the history of typesetting, the emergence of computers and coldtype composition; extensive study and use of copyfitting methods for body type, display, and headlines; principles of typography and photocomposition including readability and legibility. Laboratory work.

MMC 3936 (COM 383) SELECTED TOPICS IN MASS COMMUNICATION STUDIES (1-4)
Courses designed to meet current or specific topics of interest to the instructor and students.

MMC 4300 (COM 400) INTERNATIONAL COMMUNICATION (4)
Mass communications as internal and international systems; flow of the news; international news communications networks; satellite communications; overseas activities of American media interests; international propaganda; communication and national development; international media organizations and their activities.

MMC 4200 (COM 403) HISTORY AND PRINCIPLES OF COMMUNICATIONS LAW (4)
PR: COM 302 and COM 303. Historic and Constitutional backgrounds of freedom and control of expression, statutory enactments, major Supreme Court cases, court decisions and administrative rulings which have shaped legal control of communications.

MMC 4201 (COM 405) GOVERNMENT AND THE MEDIA (4)
PR: COM 403. The relationships between government and the media, with emphasis on current activities of such regulatory

agencies as the Federal Communications Commission, the Federal Trade Commission and other commissions; the courts, the Congress and the Executive; examination of media and industry codes and standards.

ADV 4801 (COM 414) ADVERTISING CAMPAIGNS (4)
PR: COM 312, 313. Advanced advertising course requiring planning and production of complete general advertising campaign, including research, production methods, budgeting and media schedules.

ADV 4940 (COM 417) ADVERTISING PRACTICUM (1-2)
PR: Senior standing and CI. For selected Advertising Sequence majors. Practical experience outside the classroom in a live advertising situation where the student works for academic credit under the tutelage of a professional practitioner.

JOU 4208 (COM 425) MAGAZINE PLANNING AND PRODUCTION (4)
PR: COM 325, 371, 375. Research in new magazine design and production techniques; training in the creative use of typography, photography, art work, text in the "area concept"; letterpress and offset production; financial management of magazines; preparation of a detailed dummy for a model magazine.

JOU 4944 (COM 427) MAGAZINE PRACTICUM (2)
PR: Senior standing and CI. For selected Magazine Sequence majors. Practical experience outside the classroom in a live magazine or industrial publication situation where the student works for academic credit under the tutelage of a professional practitioner.

JOU 4200 (COM 433) NEWS EDITING I (4)
PR: COM 330. Evaluating news and its display; editing and rewriting copy for the mass media, with emphasis on the daily newspaper; news judgment, headlines, makeup; ethical problems.

JOU 4202 (COM 434) NEWS EDITING II (4)
PR: COM 433. Continuation of COM 433, with more intensive practice on the copydesk in evaluating, processing, editing and headlining live wire copy and local copy; experimental makeup; managing the copy desk. Current events and analysis of selected daily newspapers.

JOU 4105 (COM 435) PUBLIC AFFAIRS REPORTING (4)
PR: COM 331 or COM 362. Covering city council meetings, courthouse, city hall, courts, society, and other special assignments. Emphasis is on coverage of major governmental units of all levels of government, including examination and interpretation of public documents and records.

JOU 4941 (COM 437) EDITING PRACTICUM (1-2)
PR: Senior standing. COM 434, and CI. For selected News-Editorial Sequence majors. Practical experience outside the classroom at a daily newspaper copydesk, where the student works for academic credit under the tutelage of a professional news editor.

——— (COM 439) SEMINAR: CONTEMPORARY NEWSPAPER PROBLEMS (4)
PR: Senior standing and COM 434, COM 435 or CI. A study of the role of the free press in a democratic society and its efforts to fulfill its social and ethical obligations by analyses and discussions of the problems which face the reporter, the editor, and the publisher. (Formerly COM 539.)

PUR 4100 (COM 441) WRITING FOR PUBLIC RELATIONS (4)
PR: COM 330, 341. Persuasive writing techniques unique to the practice of public relations; application of principles and ethical practices to problem-solving situations drawn from case studies; writing formats used in promotional and publicity literature.

PUR 4700 (COM 447) PUBLIC RELATIONS PRACTICUM (2)
PR: Senior standing and CI. For selected Public Relations Sequence majors. Practical experience outside the classroom in a professional public relations situation where the student works for academic credits under the tutelage of a professional practitioner.

PUR 4601 (COM 449) PUBLIC INFORMATION (4)
PR: COM 441 or CI. The nature of government public information organization, practices and criticisms thereof; the role of information specialists in reporting government at all levels to the public; conceptual differences in approach and techniques between governmental and private sector public relations. (Formerly COM 541.)

FIL 4205 (COM 450) ADVANCED CAMERA TECHNIQUES (4)
PR: COM 354. Advanced camera technology, professional procedures, emulsion selection, color control, studio and location shooting, laboratory methods, matte shooting and special effects.

FIL 4403 (COM 451) SOCIAL HISTORY OF THE FILM TO 1945 (4)
PR: COM 302 and COM 303. The industrial, technological, philosophical and social factors bearing on the rise and development of the motion picture as a popular art. Intensive study of a series of films through screenings and readings.

FIL 4404 (COM 452) SOCIAL HISTORY OF THE FILM, 1945 TO THE PRESENT (4)
PR: COM 302 and COM 303. A continuation of COM 451, covering the development of the film from 1945 to the present. (COM 451 is not a prerequisite.)

FIL 4300 (COM 453) THE DOCUMENTARY FILM (4)
PR: Sophomore standing. The development of the documentary movement; earliest newsreels; Flaherty, Grierson and the GPO Unit, U.S. Government-sponsored films, the Canadian Film board, Cinema Verite; study of about 60 fact-films from some 20 countries. Stresses objective criteria, critical analysis.

FIL 4500 (COM 454) FILM CRITICISM (4)
PR: COM 330, 451, 452, 453, CI. The film as a mass medium, comparing and contrasting its mass communication aspect with other important aspects. Critical analyses of selected films and intensive readings in the theory of film. Literary, social, dramatic, philosophic and historic approaches to film criticism.

FIL 4206 (COM 455) ADVANCED FILM LIGHTING (4)
PR: COM 450 or CI. Advanced lighting of studio and location sets stressing professional procedures and standards from preproduction to post-production.

FIL 4207 (COM 456) SENSITOMETRY AND PHOTOMETRICS (4)
PR: COM 354. The materials and processes of cinema photo; response of materials to development and exposure.

FIL 4209 (COM 457) CINEMA DYNAMICS (4)
PR: COM 354. Techniques for the description and analysis of intra-frame movement. Concurrent laboratory in subject and camera movement.

FIL 4208 (COM 458) FILM DIRECTING (4)
PR: COM 354. Introduction to the techniques of film direction.

RTV 4220 (COM 461) TV PRODUCTION AND DIRECTION (4)
PR: COM 361 and junior standing. A basic course in the techniques of producing and directing TV programs. (Formerly SPE 441.)

RTV 4205 (COM 462) ADVANCED TV PRODUCTION AND DIRECTION (4)
PR: COM 461 and junior standing. Intensive study and practice of the techniques of TV production and direction with emphasis on both creative and experimental aspects of TV programming. (Formerly SPE 442.)

RTV 4301 (COM 463) TV NEWS FILM (4)
PR: COM 362 or CI. Techniques in writing and filming for television news.

RTV 4700 (COM 465) BROADCAST LAW (4)
PR: COM 361 or CI. A study of the broadcasting industry from the perspective of governmental regulation and the political process with special emphasis on how regulatory policy is determined.

RTV 4402 (COM 466) MEDIA CRITICISM: BROADCASTING (4)
PR: COM 361. A critical study of contemporary broadcast content. (Formerly COM 482.)

RTV 4942 (COM 467) TV PRACTICUM (1-2)
PR: COM 461 or CI. The study, rehearsal and production of television programs and materials. (Formerly SPE 443.)

RTV 4500 (COM 468) THE BROADCAST PROGRAM (4)
PR: COM 361. Program concepts, resources, costs, selection and scheduling. Analysis of programming in terms of structure, appeals and strengths.

ARV 4105 (COM 471) COLOR PHOTOGRAPHY (4)
PR: COM 372 or CI. Development of knowledge and skills of color photography for publication and presentation. Emphasis will be on the use of transparency and negative color materials in their application to the media. Laboratory required.

MMC 4910 (COM 481) INDIVIDUAL RESEARCH IN MASS COMMUNICATION (1-4)
PR: CC and CI. The course provides means for a student to do independent study in an area not covered by a numbered course.

MMC 4936 (COM 483) SELECTED TOPICS IN MASS COMMUNICATION STUDIES (1-4)
PR: Junior standing. Courses designed to meet current or specific topics of interest to instructors and students.

MMC 4900 (COM 485) DIRECTED READING IN MASS COMMUNICATION STUDIES (1-4)
PR: Junior standing, CC and CI. Reading and directed study in special topics.

MMC 4931 (COM 491) SENIOR SEMINAR: INTERCOMMUNICATION—THE MASS MEDIA IN PERSPECTIVE (4)
PR: Senior standing; open only to Mass Com. majors. The inter-relationships among the mass media and institutions; their effect upon each other and upon contemporary society.

MMC 5400 (COM 500) THEORY OF MASS COMMUNICATION (4)
PR: Senior standing. The nature of the mass communication process, its effects on individuals and groups; the moral, ethical, social and political implications in influencing and directing behavior. Analyses of theories of mass communication.

JOU 5891 (COM 530) JOURNALISM STUDIES (4)
PR: Senior standing. Not open for credit to COM majors. An intensive review of mass communication theory and practice as they relate to content in secondary school journalism courses, with some emphasis also on supervision of school publications.

FIL 5504 (COM 550) FILM STUDIES (4)
PR: Senior standing. Not open for credit to COM majors. An intensive review of film theory and practice as they relate to content in secondary school subjects such as English, social studies, history of journalism. Laboratory work.

FIL 5601 (COM 554) FILM PRODUCTION MANAGEMENT (4)
PR: COM 356. The planning and management of motion picture productions.

MMC 5910 (COM 581) INDIVIDUAL RESEARCH IN MASS COMMUNICATION (1-4)
PR: Senior standing, CC and CI. The course provides means for a student to do independent study in an area not covered by a numbered course.

MMC 5936 (COM 583) SELECTED TOPICS IN MASS COMMUNICATION STUDIES (1-4)
PR: Senior standing. Courses, including summer workshops, designed to meet current or specific topics of interest to the instructor and students.

MMC 5900 (COM 585) DIRECTED READINGS IN MASS COMMUNICATION (1-4)
PR: Senior standing, CC and CI. Reading and directed study in special topics.

MATHEMATICS (MTH)

Chairperson: M. N. Manougian; *Distinguished Professor:* A. W. Goodman; *Professors:* W. E. Clark, F. L. Cleaver, Y. F. Lin, M. N. Manougian, A. Mukherjea, J. S. Ratti, D. C. Rose, E. B. Saff, C. P. Tsokos; *Associate Professors:* S. M. Isaak, A. G. Kartsatos, J. E. Kelley, J. J. Liang, S. Y. Lin, M. M. McWaters, G. J. Michaelides, K. L. Pothoven, A. N. V. Rao, J. H. Reed, E. A. Thieleker, N. A. Tserpes, F. Zerla; *Assistant Professors:* J. J. Higgins, R. K. Nagle, S. C. Smeach, A. D. Snider, J. Turner, W. E. Williams, C. Zaiontz.

MGF 1113, 1114 (MTH 107, 108) MATHEMATICS AND THE MODERN WORLD I, II (4,4)
Illustrates the relationship of mathematics to our world and puts the development of mathematics in a historical perspective.

——— (MTH 109, 110) FUNCTIONAL MATHEMATICS I, II (4,4)
PR: Two years of secondary school mathematics including one year of algebra or MAT 120 (HCC course taught on USF campus) or CC. Designed as a terminal course for general cultural purposes. Explores the language of mathematics, set theory, linear programming, matrices, probability, statistics, applications.

MAC 1104 (MTH 122) COLLEGE ALGEBRA (4)
Real numbers and their properties, algebraic expressions, equations and inequalities, functions, polynominals, exponential and logarithmic functions. *(No credit for students with credit in MTH 101 or MTH 211.*

MAC 1114 (MTH 123) COLLEGE TRIGONOMETRY (3)
Angles, Trigonometric functions, properties and graphs of trigonometric functions, right triangles, laws of sines and cosines, polar coordinates. *(No credit for students with credit in MTH 101.)*

MAC 2242 (MTH 211) PRE-CALCULUS MATHEMATICS (4)
PR: Two years of secondary school mathematics including one year of algebra or MAT 120 (HCC course taught on USF campus) or CC. Students with strong secondary school mathematics preparation should start with MTH 212. Basic algebraic concepts, functions, and graphs. The sequence MTH 211-212-213 is primarily for students from Biological Sciences, Social Sciences and Business.

MAC 2243 (MTH 212) ELEMENTARY CALCULUS I (4)
PR: MTH 211 or MTH 122 or 4 years of secondary school mathematics or CC. The derivative, techniques of differentiation, curve sketching, applications of the derivative. *No credit for Mathematics majors or students with credit in MTH 303 or MTH 352.)*

MAC 2244 (MTH 213) ELEMENTARY CALCULUS II (4)
PR: MTH 212. Antiderivatives, the definite integral, techniques of integration, logarithmic and exponential functions, applications. *(No credit for Mathematics majors or students with credit in MTH 303 or MTH 352.)*

MAC 3411 (MTH 302) CALCULUS I (5)
PR: MTH 122, 123 with a grade of "C" or better or CC. Limits, derivatives, applications. *(No credit for students with credit in MTH 212 or MTH 351.)*

MAC 3412 (MTH 303) CALCULUS II (4)
PR: MTH 302 with a grade of "C" or better or CC. Antiderivatives, the definite integral, applications, log, exponential, and trig functions. *(No credit for students with credit in MTH 213 or MTH 352.)*

MAC 3413 (MTH 304) CALCULUS III (4)
PR: MTH 303 with a grade of "C" or better or CC. Integration, polar coordinates, conic sections, vectors, interdeterminate forms and improper integrals. *(No credit for students with credit in MTH 353.)*

MAC 3414 (MTH 305) CALCULUS IV (4)
PR: MTH 304 with a grade of "C" or better or CC. Vectors in 3-space, partial derivatives, multiple integrals. *(No credit for students with credit in MTH 354.)*

MHF 3102 (MTH 309) SET THEORY (3)
PR: MTH 302 or CC. Relations, functions, order, cardinal numbers.

STA 3404 (MTH 310) ELEMENTARY PROBABILITY (4)
Counting techniques, probability, expectation, probability distributions, the law of large numbers. *(No credit for Mathematics majors. Credit for department of Biology majors.)*

MAS 3114 (MTH 311) MATRICES AND APPLICATIONS (4)
Vectors and matrices with applications selected from linear programming, game theory and graph theory. Emphasis on applications to business and the social sciences. *(Credit for all science majors except Mathematics.)*

MAS 3103 (MTH 323) LINEAR ALGEBRA (4)
PR: MTH 302 or CC. Vectors, matrics, systems of linear equations, linear transformations.

MAE 3810 (MTH 331) NUMBER SYSTEMS (5)
The counting numbers, their properties and operations. The integers, their properties and operations. Prime numbers, modular arithmetic. Rational numbers, their properties and operations. *(No credit for science majors.)*

MAE 3811 (MTH 332) BASIC ALGEBRAIC CONCEPTS (4)
PR: MTH 331. Equations, systems of equations and inequalities. The real numbers as a complete ordered field. Complex numbers. *(No credit for science majors.)*

MTG 3204 (MTH 333) INFORMAL GEOMETRY (4)
Concepts of length, congruence, similarity, transformations in the plane. Ruler and compass constructions, impossible constructions coordinate systems, graphs, lines and curves. *(No credit for science majors.)*

STA 3023 (MTH 345) INTRODUCTORY STATISTICS I (5)
Hypothesis testing, estimation; normal, Chi-square, t, F, binomial, multinomial, distributions; ANOVA, CR, RCB designs; single df, regression, correlation, contingency tables. Students who successfully complete this course may *not* also receive credit for either ECN 331-431 Business and Economic Statistics or SSI 301 Social Science Statistics.

STA 3024 (MTH 346) INTRODUCTORY STATISTICS II (5)
PR: MTH 345 or CC. Factorials, ANCOV; multiple curvilinear regression; response surfaces; Latin square, Split Plots, incomplete blocks designs; distribution free methods.

MAC 3281 (MTH 351) ENGINEERING CALCULUS I (4)
PR: Pass diagnostic tests in algebra and trigonometry. Differentiation, limits, differentials, extrema, indefinite integral. *(No credit for students with credit in MTH 302 or MTH 212.)*

MAC 3282 (MTH 352) ENGINEERING CALCULUS II (4)
PR: MTH 351. Definite integral, trigonometric functions, log, exponential, applications. *(No credit for students with credit in MTH 303 or MTH 213).*

MAC 3283 (MTH 353) ENGINEERING CALCULUS III (3)
PR: MTH 352. Techniques of integration, numerical methods, analytic geometry, polar coordinates, vector algebra, applications. *(No credit for students with credit in MTH 304).*

MAC 3284 (MTH 354) ENGINEERING CALCULUS IV (3)
PR: MTH 353. Multivariate calculus, series, applications. *(No credit for students with credit in MTH 305.)*

MAP 4302 (MTH 401) DIFFERENTIAL EQUATIONS (4)
PR: MTH 305. First order linear and nonlinear differential equations, higher order linear equations, applications.

MAA 4211 (MTH 405) ADVANCED CALCULUS I (3)
PR: MTH 305 with a grade of "C" or better. Concepts of limit, continuity, differentiation, and integration of functions in one and several variables. Major topics include partial differentiation, Riemann-Stieltijes integrals, improper integrals, infinite series, uniform convergence, implicit-function theorems, line and surface integrals.

MAA 4212 (MTH 406) ADVANCED CALCULUS II (3)
PR: MTH 405. Continuation of MTH 405.

MAA 4213 (MTH 407) ADVANCED CALCULUS III (3)
PR: MTH 406. Continuation of MTH 406.

MAS 4311 (MTH 420) ELEMENTARY ABSTRACT ALGEBRA (3)
PR: MTH 309 or CC. Groups, rings integral domain, fields, integers, the rational, real and complex number systems.

MTG 4212 (MTH 423) GEOMETRY I (3)
PR: MTH 302. Emphasis on axiomatics, advanced Euclidean geometry, elements of projective geometry, non-Euclidean geometries.

MTG 4213 (MTH 424) GEOMETRY II (3)
PR: MTH 423. Continuation of MTH 423.

MAS 4156 (MTH 431) VECTOR ANALYSIS (3)
PR: MTH 305. The algebra and calculus of vectors, applications, general coordinates, introduction to tensor analysis. *(No credit for both MTH 407 and MTH 431.)*

STA 4442 (MTH 445) INTRODUCTORY PROBABILITY THEORY I (3)
PR: MTH 305 and MTH 309 or CC. Probability spaces, discrete and continuous probability distributions, expectations.

STA 4443 (MTH 446) INTRODUCTORY PROBABILITY THEORY II (3)
PR: MTH 445. Joint distributions, sums of random variables, weak and strong laws of large numbers, limit theorems.

MAD 4401 (MTH 447) NUMERICAL ANALYSIS I (4)
PR: MTH 323; ability to program a digital computer. Interpolation and quadrature, finite differences, numerical solution of algebraic and transcendental equations, numerical solution of differential equations, computer techniques.

MAD 4402 (MTH 448) NUMERICAL ANALYSIS II (4)
PR: MTH 401 and 447. Continuation of MTH 447.

MAT 4930 (MTH 483) SELECTED TOPICS IN MATHEMATICS (1-6)
PR: CI. The course content will depend on the interest of faculty members and student demand.

MAP 5316 (MTH 501) ADVANCED DIFFERENTIAL EQUATIONS I (4)
PR: MTH 323, MTH 401 or CC. Existence and uniqueness of solutions, oscillation and comparison theorems, asymptotic behaviour of solutions, stability, perturbation theory, applications.

MAP 5317 (MTH 502) ADVANCED DIFFERENTIAL EQUATIONS II (4)
PR: MTH 501. Continuation of MTH 501.

MHF 5302 (MTH 510) ELEMENTARY MATHEMATICAL LOGIC (3)
PR: CC. Truth tables, tautologies, quantifiers, rules of inference, informal proofs in mathematics.

MAS 5146 (MTH 511) ADVANCED LINEAR ALGEBRA (4)
PR: MTH 309, 323 or CC. Vector spaces, linear independence, dimensions, matrices, linear transformations.

MAA 5306 (MTH 513) REAL ANALYSIS I (4)
PR: MTH 305 and 309. Continuity, differentiation and derivatives, sequences and series of functions, convergence.

MAA 5307 (MTH 514) REAL ANALYSIS II (4)
PR: MTH 513. Continuation of MTH 513.

MTG 5366 (MTH 515) CALCULUS ON MANIFOLDS (4)
PR: MTH 511 and 514. Calculus of several variables.

MAA 5402 (MTH 520) COMPLEX ANALYSIS I (4)
PR: MTH 405. Complex numbers, analytic functions and mappings, integrals.

MAA 5403 (MTH 521) COMPLEX ANALYSIS II (4)
PR: MTH 520. Power series, residues and poles, conformal mappings.

MAS 5311 (MTH 523) ALGEBRA I (4)
PR: MTH 305, 309, 511. An introduction to group theory.

MAS 5312 (MTH 524) ALGEBRA II (4)
PR MTH 523. An introduction to Galois theory.

STA 5166 (MTH 525) APPLIED STATISTICAL METHODS I (4)
PR: MTH 445, CC. Statistical inference in physical and engineering sciences utilizing sample probability distributions, point and interval estimation and test of significance. 3 lecture periods and 1 lab period.

STA 5167 (MTH 526) APPLIED STATISTICAL METHODS II (4)
PR: MTH 525. Applications of analysis of variance and covariance, regression analysis use of x^2 for contingency tables and goodness of fit procedures. 3 lecture periods and 1 lab period.

MTG 5316 (MTH 531) TOPOLOGY I (4)
PR: MTH 305 and MTH 309. Metric and topological spaces, continuity, homeomorphism, connectedness, fundamental group, compact spaces, separation axioms, product spaces.

MTG 5317 (MTH 532) TOPOLOGY II (4)
PR: MTH 531. Continuation of MTH 531.

MAS 5158 (MTH 535) TENSOR ANALYSIS (3)
PR: MTH 431 or CC. The calculus of tensors, applications to differential geometry and physics.

MAP 5426 (MTH 537) SPECIAL FUNCTIONS (3)
PR: MTH 401. Orthogonal functions, the gamma functions, Bessell functions, applications.

MAP 5413 (MTH 539) FOURIER ANALYSIS (3)
PR: MTH 305 or CC. Trigonometric Fourier series, orthgonal systems, convergence of trigonometric Fourier series, operations on Fourier series.

MAA 5405 (MTH 540) COMPLEX ANALYSIS AND APPLICATION (3)
PR: MTH 305 or CC. Complex numbers, analytic and harmonic functons, power series, contour integrals, residues and poles with emphasis on applications.

MAP 5405 (MTH 541) PARTIAL DIFFERENTIAL EQUATIONS AND APPLICATIONS (3)
PR: MTH 401 and CC. Separation of variables, the heat equation, wave equation, Laplace's equation, classification, Green's functions with emphasis on applications.

MAP 5406 (MTH 542) METHODS OF APPLIED MATHEMATICS (3)
PR: MTH 401 and CC. Sturm-Liouville Theorem. Green's functions, integral equations, eigenvalue problems, diagonalization of matrices. Mathematical techniques for scientist and engineers.

MAP 5423 (MTH 543) INTEGRAL TRANSFORMS I (4)
PR: MTH 401, 405, or CC. Introduction to integral transforms with special emphasis on the Laplace and Fourier transforms, applications to differential equations.

MAP 5424 (MTH 544) INTEGRAL TRANSFORMS II (4)
PR: MTH 543. Continuation of MTH 543.

STA 5446 (MTH 545) PROBABILITY THEORY I (4)
PR: MTH 406 or MTH 513. Concepts of probability theory, axioms of probability, random variables, probability distributions and distributions of functions of stochastic variables.

STA 5447 (MTH 546) PROBABILITY THEORY II (4)
PR: MTH 545. Concepts of mathematical expectation, moment generating functions, probability generating functions, characteristic functions and limit theory of probability distributions.

STA 5326 (MTH 547) MATHEMATICAL STATISTICS I (3)
PR: MTH 546. Sample distribution theory, point & interval estimation theory and theory of hypothesis testing.

STA 5327 (MTH 548) MATHEMATICAL STATISTICS II (3)
PR: MTH 547. Statistical decision theory to include admissibility of Bayes rules, risk functions, minimax invariant rules and most powerful tests.

STA 5206 (MTH 549) STOCHASTIC PROCESS I (3)
PR: MTH 546. Basic concepts of stochastic processes, finite Markov chains random-walks with applications to life sciences and engineering.

STA 5526 (MTH 550) NON-PARAMETRIC STATISTICS I (3)
PR: MTH 547, CC. Theory and methods of non-parametric statistics, order statistics, tolerance region and their applications.

MAS 5215 (MTH 551) NUMBER THEORY (4)
PR: CC. Congruences, quadratic residues, selected topics.

MAD 5305 (MTH 553) INTRODUCTION TO GRAPH THEORY (3)
PR: CC. Brief introduction to classical graph theory (4-color conjecture, etc.), directed graphs, connected diagraphs, condensations, incidence matrics, Polya's Theorem, networks.

MAS 5147 (MTH 555) MATRIX COMPUTATIONS (3)
PR: MTH 323, ESC 302. Algorithms for solving linear inequalities and equalities. Diagonalization and tridiagonalization of matrices. Computing characteristic roots and vectors.

MAP 5449 (MTH 556) ASYMPTOTIC METHODS (3)
PR: MTH 501 or 542 and MTH 540 or 567. Asymptotic series, applications to differential equations and integrals, and perturbation theory.

STA 5646 (MTH 557) MATHEMATICAL OPTIMIZATION THEORY I (3)
PR: MTH 323. Review of matrix algebra. Theory of linear inequalities, polyhedral convex sets and duality. Theory of linear programming. Simplex method. Variants of the simplex method. Parametric programming. Applications.

STA 5647 (MTH 558) MATHEMATICAL OPTIMIZATION THEORY II (3)
PR: MTH 557 or CC. Theory of nonlinear programming, Convexity, duality, and optimality criteria. Convergence of solution algorithms. Unconstrained optimization and search techniques.

MAP 5403 (MTH 560) ANALYSIS OF ALGORITHMS (4)
PR: MTH 448 or CC. Mathematical Theory associated with algorithms for computer information processing; expected time and space requirements of algorithms, comparison of algorithms, construction of optimal algorithms, theory, underlying particular algorithms.

MAP 5404 (MTH 561) ANALYSIS OF ALGORITHMS II (4)
PR: MTH 560. Continuation of MTH 560.

MAD 5407 (MTH 563) ANALYSIS OF NUMERICAL METHODS I (4)
PR: MTH 323, MTH 401, EGB 204 or CC. Corequisite: MTH

405. Numerical matrix techniques, Iterative solutions of equations, polynomial approximations, numerical differentiation and integration, solution of ordinary and partial differential equations, accuracy and round-off error, convergence.

MAD 5408 (MTH 564) ANALYSIS OF NUMERICAL METHODS II (4)
PR: MTH 563. Continuation of MTH 563.

MAE 5872 (MTH 571) GEOMETRY FOR TEACHERS (3)
PR: MTH 423 and 424 and bachelor's degree or CC. Vectors, measures, perpendicularity and parallelism, properties of geometric figures, induction and deduction. *(No credit for Math. majors.*

MAE 5874 (MTH 573) ABSTRACT ALGEBRA FOR TEACHERS (3)
PR: MTH 323 and MTH 420 and bachelor's degree or CC. Groups, fields, vector spaces as they relate to high school algebra and geometry. *(No credit for Math. majors.)*

MAE 5875 (MTH 574) COMPLEX VARIABLES FOR TEACHERS (3)
PR: MTH 305 and MTH 420 and bachelor's degree or CC. Algebra and geometry of the complex numbers, functions of a complex variable, limits, derivatives, integrals, elementary functions and their geometry, fundamental theorem of algebra. *(No credit for Math. majors.)*

MAE 5876 (MTH 575) MATHEMATICAL ANALYSIS I FOR TEACHERS (3)
PR: MTH 305 and bachelor's degree or CC. Advanced consideration of limits continuity, derivatives, differentials. *(No credit for Math. majors.)*

MAE 5877 (MTH 576) MATHEMATICAL ANALYSIS II FOR TEACHERS (3)
PR: MTH 575 or CC. Advanced considerations of the definite integral, fundamental theorem of calculus, infinite series. *(No credit for Math. majors.)*

MAT 5932 (MTH 583) SELECTED TOPICS (1-6)
PR: Senior or junior standing and CC. Each topic is a course of study. 01-History of Mathematics, 03-Logic and Foundations, 05-Number Theory, 07-Topics in Algebra, 09-Mathematics for Physics, 11-Topics in Probabilty and Statistics, 13-Topics in Analysis, 15-Topics in Topology.

MAP 6336 (MTH 603) THEORY OF ORDINARY DIFFERENTIAL EQUATIONS I (4)
PR: MTH 501 or CC. Existence theorems, topics in oscillation theory, asymptotic behavior, stability and boundedness of solutions of differential equations.

MAP 6337 (MTH 604) THEORY OF ORDINARY DIFFERENTIL EQUATIONS II (4)
PR: MTH 603. Continuation of MTH 603.

MAA 6616 (MTH 605) MEASURE AND INTEGRATION I (3)
PR: MTH 514. Abstract measure and integration in sigma rings. Applications to Euclidean spaces, Fubini's Theorem, Radon Nikodym Theorem, Lp spaces.

MAA 6617 (MTH 606) MEASURE AND INTEGRATION II (3)
PR: MTH 605. Continuation of MTH 605.

MAA 6618 (MTH 607) MEASURE AND INTEGRATION III (3)
PR: MTH 606. Continuation of MTH 606.

MAA 6406 (MTH 611) COMPLEX ANALYSIS I (3)
PR: MTH 521. Theory of univalent and multivalent functions. Entire functions, Riemann surfaces, Approximation Theory in the Complex domain.

MAA 6407 (MTH 612) COMPLEX ANALYSIS II (3)
PR: MTH 611. Continuation of MTH 611.

MAA 6408 (MTH 613) COMPLEX ANALYSIS III (3)
PR: MTH 612. Continuation of MTH 612.

MAA 6516 (MTH 614) INTRODUCTION TO FUNCTIONAL ANALYSIS I (4)
PR: MTH 605. Linear Topological Spaces, normed linear spaces. Hahn-Banach Theorem, theorems on linear operators, dual spaces.

MAA 6517 (MTH 615) INTRODUCTION TO FUNCTIONAL ANALYSIS II (4)
PR: MTH 614. Continuation of MTH 614.

MAD 6616 (MTH 624) ADVANCED ALGEBRA I (4)
PR: MTH 524 or CC. Algebraic automata theory.

MAD 6617 (MTH 625) ADVANCED ALGEBRA II (4)
PR: MTH 624 or CC. Algebraic coding theory.

MTG 6326 (MTH 632) ADVANCED TOPOLOGY I (4)
PR: MTH 532 and CC. Function spaces, compactifications, covering spaces, other topics.

MTG 6327 (MTH 633) ADVANCED TOPOLOGY II (4)
PR: MTH 632. Continuation of MTH 632.

MTG 6346 (MTH 635) ALGEBRAIC TOPOLOGY (3)
PR: MTH 633 or CC. Homotopy, homology groups, local homology groups.

MTG 6356 (MTH 636) TOPOLOGICAL ALGEBRA I (4)
PR: MTH 633 and CC. Topological semigroups, topological groups, topological rings and fields, Haar measure.

MTG 6357 (MTH 637) TOPOLOGICAL ALGEBRA II (4)
PR: MTH 636. Continuation of MTH 636.

MTG 6256 (MTH 639) DIFFERENTIAL GEOMETRY (3)
PR: CC. Local differential geometry, curvature, evolutes and involutes, calculus of variations.

MAS 6218 (MTH 641) TOPICS IN NUMBER THEORY I (3)
PR: MTH 524 or CC. Continued fractions, approximations of irrational numbers, lattices, geometric theory, algebraic numbers, density of sequences of integers, analytic number theory, the prime number theorem.

MAS 6219 (MTH 642) TOPICS IN NUMBER THEORY II (3)
PR: MTH 641. Continuation of MTH 641.

MAP 6356 (MTH 643) PARTIAL DIFFERENTIAL EQUATIONS I (4)
PR: MTH 541 or CC. Classification of second order equations, Cauchy problems, Dirichlet and Neumann problems, mixed problems, properties of solutions.

MAP 6357 (MTH 644) PARTIAL DIFFERENTIAL EQUATIONS II (4)
PR: MTH 643. Continuation of MTH 643.

STA 6466 (MTH 645) ADVANCED PROBABILITY THEORY I (3)
PR: MTH 606 or CC. Measure theoretic approach to probability, random variables, distribution functions, expectation and characteristic functions.

STA 6467 (MTH 646) ADVANCED PROBABILITY THEORY II (3)
PR: MTH 645. Convergence of sequence of random variables, weak and strong laws of large numbers, limit theory of probability distributions.

STA 6346 (MTH 648) ADVANCED MATHEMATICAL STATISTICS (3)
PR: MTH 548. Convergence properties of stochastic variables, functions, distributions. Asymptotic comparison of various test procedures. Bounds on convergence rates.

STA 6827 (MTH 649) STOCHASTIC PROCESS II (3)
PR: MTH 549 or CC. Continuous parameter Markov chains, martingale theory, stationary processes with discrete and continuous increments.

STA 6527 (MTH 650) NON-PARAMETRIC STATISTICS II (3)
PR: MTH 550 or CC. Theory and applications of advanced non-parametric methods to include order statistics Kolmokoror-Smirnon and Cramer statistics.

MHF 6306 (MTH 651) LOGIC AND FOUNDATIONS I (4)
PR: CC. Propositional calculus, Post's theorem, first order and equality calculi, models, completeness and consistency theorems. Godel's theorem, recursive functions.

MHF 6307 (MTH 652) LOGIC AND FOUNDATIONS II (4)
PR: MTH 651. Continuation of MTH 651.

STA 6876 (MTH 653) TIME SERIES ANALYSIS I (3)
PR: MTH 547. Basic concepts of the theory and applications of time series analysis to include filtering, forecasting modeling, spectral analysis of univariate realizations with applications. (Formerly MTH 554.)

STA 6877 (MTH 654) TIME SERIES ANALYSIS II (3)
PR: MTH 653. Multivariate time series analysis of stationary process to include the theory of filtering, forecasting and spectral analysis.

MAP 6456 (MTH 655) TRIGONOMETRIC SERIES I (3)
PR: MTH 514. Selected Topics in Fourier Series and summability, orthogonal polynominals, almost periodic functions, completeness of sets of functions.

MAP 6457 (MTH 656) TRIGONOMETRIC SERIES II (3)
PR: MTH 655. Continuation of MTH 655.

MAP 6216 (MTH 657) CALCULUS OF VARIATIONS (4)
PR: MTH 514 and CC. Maxima and minima of functionals, problems of Lagrange, Bolza and Mayer and other topics.

MAS 6226 (MTH 659) ALGEBRAIC NUMBER THEORY (4)
PR: MTH 524 or CC. Algebraic number fields, algebraic integers, basic and discriminant of algebraic number fields, ideals, decomposition of ideals. Theorem of Minkowski, Applications of Galois Theory to the Theory of Ideals, Units.

STA 6746 (MTH 662) MULTIVARIATE STATISTICAL ANALYSIS I (3)
PR: MTH 653. The multivariate normal, estimation of mean vector and covariance matrix, correlation analysis, generalized T^2-statistics and testing of the general linear hypothesis. (Formerly MTH 562).

MAP 6207 (MTH 671) MATHEMATICAL OPTIMIZATION THEORY III (3)
PR: MTH 558 or CC, MTH 615. Linear programming in abstract spaces; integer programming; stochastic programming. Recent reseach in mathematical programming and related areas.

MAP 6447 (MTH 673) PARTIAL DIFFERENCE EQUATIONS (4)
PR: MTH 644 and either MTH 564 or MTH 561. Review of partial differential equations. Finite-difference approximations. Convergence, stability, and accuracy. Acceleration of convergence for elliptical equations. Techniques for hyperbolic equations. Schocks. Applications.

MAT 6911 (MTH 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

MAT 6932 (MTH 683) SELECTED TOPICS (1-6)
PR: CC. 01-Topology, 02-Analysis, 03-Algebra, 04-Applied Mathematics, 05-Graph Theory, 06-Number Theory, 07-Mathematics for Physics, 08-Probability, 09-Statistics, 10-Complex Analysis.

MAT 6938 (MTH 688) RECENT ADVANCES IN MATHEMATICS WITH EMPHASIS ON THEIR IMPACT ON COLLEGE-LEVEL COURSES (3-6)
A course designed to consider and study the recent developments of mathematics, especially those developments that have an effect on altering the basic concepts and ideas of mathematics and imply a change in the presentation of introductory material in the field. (Credit not applicable toward thesis degree requirements.) (S/U only.)

MAT 6939 (MTH 691) GRADUATE SEMINAR (1-6)
Direction of this seminar is by a faculty member. Students are required to present research papers from the literature. (S/U only.)

MAT 6945 (MTH 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

MAT 6915 (MTH 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

MAT 6908 (MTH 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

MAT 6971 (MTH 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

MAT 7912 (MTH 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

MAT 7980 (MTH 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

MEDICAL TECHNOLOGY (MET)

Director: E. D. Olsen; *Professors:* E. D. Olsen. W. S. Silver; *Associate Professor:* J. R. Linton.

MLS 3030 (MET 311) INTRODUCTION TO MEDICAL TECHNOLOGY (1)
PR: Senior standing and acceptance into an approved affiliated hospital. An introduction to the principles and practices of medical technology and their relationship to patient care. A hospital internship course for medical technology majors.

MLS 4215 (MET 431) CLINICAL MICROSCOPY I (5)
PR: Senior standing and acceptance into an approved affiliated hospital. Lecture and laboratory instruction such as urinalysis, parasitology, and histological technique. A hospital internship course for medical technology majors.

MLS 4216 (MET 432) CLINICAL MICROSCOPY II (5)
PR: Senior standing and acceptance into an approved affiliated hospital. A continuation of MET 431. A hospital internship course for medical technology majors.

MLS 4305 (MET 442) HEMATOLOGY (6)
PR: Senior standing and acceptance into an approved affiliated hospital. Lecture and laboratory instruction in the methods of study of hematological disorders. A hospital internship course for medical technology majors.

MLS 4405 (MET 451) CLINICAL BACTERIOLOGY (8)
PR: Senior standing and acceptance into an approved affiliated hospital. Instruction in lecture and laboratory on the various aspects of morphology, physiology, and classification of bacteria, especially those related to disease. A hospital internship course for medical technology majors.

MLS 4625 (MET 453) CLINICAL CHEMISTRY I (9)
PR: Senior standing and acceptance into an approved affiliated hospital. Instruction in the techniques and procedures for use in clinical chemical analyses. A hospital internship course for medical technology majors.

MLS 4545 (MET 454) CLINICAL CHEMISTRY II (9)
PR: Senior standing and acceptance into an approved affiliated hospital. A continuation of MET 453, including procedures required for serology, transfusions, blood preservation, and antibody studies. A hospital internship course for medical technology majors.

MLS 4605 (MET 485) CLINICAL LABORATORY INSTRUMENTAL ANALYTICAL TECHNIQUES (2)
PR: Senior standing and acceptance into an approved affiliated hospital. Instruction in the use of special laboratory instruments such as automated instruments, use of radioisotopes, and techniques of measuring basal metabolism. A hospital internship course for medical technology majors.

MEDICINE

Course listings for the College of Medicine may be found under the appropriate departmental headings: Anatomy, Biochemistry, Comprehensive Medicine, Family Medicine, Medical Microbiology, Medicine, Obstetrics and Gynecology, Ophthalmology, Pathology, Pediatrics, Pharmacology, Physiology, Psychiatry, Radiology, and Surgery.

Anatomy

Chairperson: H. N. Schnitzlein; *Professor:* H. N. Schnitzlein; *Associate Professor:* J. J. Dwornik; *Assistant Professors:* H. K. Brown, S. F. Chopin, T. M. Holt, M. F. Nolan, C. P. Phelps, E. G. Salter, Jr.

BMS 6100 (MED 600) GROSS ANATOMY (7)
PR: Admission to College of Medicine.

BMS 6110 (MED 602) MICROSCOPIC ANATOMY (4)
PR: Admission to College of Medicine.

BMS 6150 (MED 603) NEUROANATOMY (4)
PR: Admission to College of Medicine.

BMS 6160 (MED 604) ANATOMY SEMINAR (0)
PR: Consent of Chairman, Department of Anatomy.

BMS 7170 (MED 701) REGIONAL ANATOMY I—Head and Neck (5)
PR: Enrolled in College of Medicine.

BMS 7171 (MED 702) REGIONAL ANATOMY II—Thorax, Abdomen, Pelvis and Perineum (5)
PR: Enrolled in College of Medicine

BMS 7172 (MED 703) REGIONAL ANATOMY III—Extremities (5)
PR: Enrolled in College of Medicine.

BMS 7173 (MED 704) SYSTEMIC ANATOMY (20)
PR: Enrolled in the College of Medicine.

BMS 7174 (MED 705) MEDICAL DEVELOPMENT ANATOMY AND TERATOLOGY (5)
PR: Enrolled in College of Medicine.

BMS 7175 (MED 706) ADVANCED NEUROANATOMY (5)
PR: Enrolled in College of Medicine.

BMS 7176 (MED 707) ADVANCED MICROSCOPIC ANATOMY (5)
PR: Enrolled in College of Medicine.

BMS 7177 (MED 708) APPLIED NEUROANATOMY (10)
PR: Enrolled in College of Medicine.

GMS 6600 (MSG 601) CORE COURSE IN HUMAN ANATOMY (7)
PR: Admission to Ph.D. Program in Medical Sciences.

GMS 6609 (MSG 607) ADVANCED HUMAN GROSS ANATOMY (8-16)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6608 (MSG 608) ADVANCED MICROSCOPIC ANATOMY (4-8)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6601 (MSG 609) METHODS OF ELECTRON MICROSCOPY IN MEDICAL RESEARCH (4)
PR: MSG 601-MSG 606, MSG 608, MSG 610 or consent of Chairman.

GMS 6602 (MSG 610) NEURAL CORRELATES OF BEHAVIOR (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6603 (MSG 611) COMPARATIVE NEUROANATOMY (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6604 (MSG 612) HUMAN EMBRYOLOGY (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6605 (MSG 614) COMPARATIVE HEMATOLOGY (3)
PR: MSG 601-MSG 607, 608, or consent of Chairman.

GMS 6606 (MSG 615) ANATOMICAL ILLUSTRATIONS AND METHODS (3)
PR: MSG 601-MSG 606, MSG 607, 608, 610 or consent of Chairman.

GMS 6607 (MSG 616) HISTORY OF ANATOMY (2)
PR: MSG 601-MSG 606 or consent of Chairman.

Biochemistry

Chairperson: J. G. Cory; *Professor:* J. G. Cory; *Assistant Professors:* W. L. Adair, Jr., R. K. Keller, G. C. Ness, S. D. Schimmel, L. P. Solomonson.

BMS 6200 (MED 605) BIOCHEMISTRY (9)
PR: Admission to College of Medicine.

BMS 6230 (MED 606) BIOCHEMISTRY SEMINAR (0)
PR: Consent of Instructor.

BMS 7260 (MED 788) RESEARCH IN BIOCHEMISTRY (var.)
PR: Enrolled in College of Medicine

BMS 7262 (MED 789) MOLECULAR BASIS OF METABOLIC REGULATION (5)
PR: Admitted to College of Medicine.

GMS 6200 (MSG 603) CORE COURSE IN MEDICAL BIOCHEMISTRY (7)
PR: Admission to Ph.D. Program in Medical Sciences.

GMS 6103 (MSG 619) METABOLIC BASIS OF DISEASE (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6414 (MSG 657) BIOLOGICAL MEMBRANES-STRUCTURE AND FUNCTION (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6415 (MSG 658) LIPID METABOLISM AND REGULATION (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6416 (MSG 659) MACROMOLECULAR METABOLISM (4)
PR: MSG 601-MSG 606 or consent of Chairman.

Comprehensive Medicine

Professors: R. J. Loiselle, D. L. Smith; *Associate Professor:* M. M. Rath; *Assistant Professor:* W. M. Tucker

MEL 8203 (MED 801) FACTORS AFFECTING MEDICAL PRACTICE (10)

MEL 8204 (MED 802) MEDICAL BIOLOGICAL STATISTICS (var.)

MEL 8205 (MED 803) COMMUNITY MEDICINE—PUBLIC HEALTH (var.)

Family Medicine

Associate Professor: C. E. Aucremann; *Assistant Professors:* E. F. Ciliberto, F. Firestone.

MEL 7255 (MED 711) OUT-PATIENT FAMILY MEDICINE (var.)
PR: Enrolled in College of Medicine.

MEL 7256 (MED 712) IN-PATIENT FAMILY MEDICINE (var.)
PR: Enrolled in College of Medicine.

BCC 8171 (MED 850) FAMILY PRACTICE PRECEPTORSHIP (var.)

BCC 8172 (MED 851) FAMILY PRACTICE TUTORIAL (5-20)

Interdisciplinary

MEL 7320 (MED 700) EXTRAMURAL CLERKSHIP (var.)
PR: Enrolled in College of Medicine.

MEL 7100 (MED 727) EXPERIMENTAL ONCOLOGY (20)
PR: Enrolled in College of Medicine.

MEL 7102 (MED 763) PERINATOLOGY (10)
PR: Enrolled in College of Medicine.

MEL 7103 (MED 764) PEDIATRIC CARDIOLOGY (10)
PR: Enrolled in College of Medicine.

MEL 7105 (MED 766) RESEARCH AND CLINICAL EXPERIENCE IN ALLERGY (20)
PR: Enrolled in College of Medicine.

MEL 7104 (MED 777) DEPARTMENTAL OVERVIEWS (5-20)
PR: Enrolled in College of Medicine.

BCC 9180 (MED 900) AMBULATORY CARE ROTATION (20)

GMS 7418 (MSG 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

GMS 7930 (MSG 783) SELECTED TOPICS (1-4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 7939 (MSG 791) GRADUATE SEMINAR (1)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 7980 (MSG 799) DISSERTATION: DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

Internal Medicine

Chairperson: Roy H. Behnke; *Professors:* R. H. Behnke, H. G. Boren, H. W. Boyce, Jr., S. C. Bukantz, C. P. Craig, R. V. Farese, J. C. Hart, R. C. Hartmann, R. C. Kory, E. L. Lozner, T. E. McKell, R. A. Olsson, L. D. Prockop, D. L. Shires, Jr., W. A. Sodeman, Jr., A. Szentivanyi; *Associate Professors:* P. B. Dunne, S. P. Glasser, A. L. Goldman, J. W. Hickman, E. D. Means, M. J. Pickering, E. Spoto, Jr., W. L. Trudeau, Jr.; *Assistant Professors:* P. Altus, H. Bernal, F. Botero, M.L. Carr, A. de Quesada, S. C. Deresinski, S. H. Douthett, T. A. Ebel, E. A. Eikman, L. J. Foster, C. P. Garms, B. F. Germain, R. F. Lockey, B. S. Maniscalco, H. J. Nord, B. C. O'Malley, R. J. Pollet, D. N. Reifsnyder, S. I. Rifkin, H. I. Saba, C. W. Silverblatt, P. A. Singer, S. H. Soboroff, D. A. Solomon, D. W. R. Suringa; *Instructors:* J. L. Anderson III, C. C. Williams.

BMS 6810 (MED 619) INTRODUCTION TO MEDICINE (14)
PR: Admission to College of Medicine.

BMS 6830 (MED 621) PHYSICAL DIAGNOSIS (5)
PR: Admission to College of Medicine

BCC 6110 (MED 624) MEDICINE CLERKSHIP (20)
PR: Admission to College of Medicine.

MEL 7303 (MED 742) ELECTRO-CARDIOGRAPHIC INTERPRETATION (10)
PR: Enrolled in College of Medicine.

MEL 7321 (MED 743) CLINICAL DERMATOLOGY (10)
PR: Enrolled in the College of Medicine.

MEL 7305 (MED 744) CLINICAL ENDOCRINOLOGY AND METABOLISM (var.)
PR: Enrolled in College of Medicine.

MEL 7306 (MED 745) GASTROENTEROLOGY ELECTIVE (var.)
PR: Enrolled in College of Medicine.

MEL 7310 (MED 747) INFECTIOUS DISEASE (10)
PR: Enrolled in College of Medicine.

MEL 7313 (MED 749) CLINICAL NEPHROLOGY (10)
PR: Enrolled in College of Medicine.

MEL 7319 (MED 785) MEDICINE IN THE TROPICS (20)
PR: Enrolled in College of Medicine.

MEL 8308 (MED 810) HEMATOLOGY-ONCOLOGY (var.)

BCC 8121 (MED 811) CLINICAL NEUROLOGY CLERKSHIP (10)

MEL 8675 (MED 812) CONCEPTS OF NEUROLOGICAL DISEASE (1)

MEL 8676 (MED 813) NEUROLOGY OF AMBULATORY PATIENTS (5-10)

MEL 8674 (MED 814) CLINICAL NEUROLOGY PRECEPTORSHIP (10)

MEL 8696 (MED 815) RESEARCH IN NEUROLOGY (var.)

MEL 8333 (MED 816) ALLERGY AND PULMONARY DISEASE (10-20)

MEL 8334 (MED 817) ACTING MEDICINE INTERNSHIP (15)

MEL 8335 (MED 818) ELECTIVE IN AMBULATORY INTERNAL MEDICINE (10-20)

MEL 8315 (MED 819) AMBULATORY CARE ELECTIVE - ALLERGY AND PULMONARY DISEASE (var.)

MEL 8336 (MED 820) AMBULATORY CARE ELECTIVE - ENDOCRINOLOGY AND METABOLISM (10-20)

MEL 8302 (MED 821) CLINICAL CARDIOLOGY (VA) I (16)

MEL 8337 (MED 822) CLINICAL CARDIOLOGY (TGH) II (16)

MEL 8338 (MED 823) HEMATOLOGY-ONCOLOGY II (var.)

MEL 8339 (MED 824) CLINICAL RHEUMATOLOGY ELECTIVE (var.)

MEL 8388 (MED 825) RESEARCH IN RHEUMATOLOGY IMMUNOLOGY (var.)

Medical Microbiology

Chairperson: C. W. Fishel; *Professor:* C. W. Fishel; *Associate Professors:* D. G. Halkias, L. J. Paradise; *Assistant Professors:* R. J. Grasso, T. W. Klein, G. J. Lancz, W. M. LeFor, S. Pross, A. L. Winters

BMS 6300 (MED 607) MEDICAL MICROBIOLOGY (9)
PR: Admission to College of Medicine.

BMS 6320 (MED 608) MEDICAL MICROBIOLOGY SEMINAR (0)
PR: Consent of Chairman, Department of Medical Microbiology.

BMS 7360 (MED 728) CLINICAL MICROBIOLOGY (10)
PR: Enrolled in College of Medicine.

GMS 6100 (MSG 604) CORE COURSE IN MEDICAL MICROBIOLOGY (7)
PR: Admission to Ph.D. Program in Medical Sciences.

GMS 6101 (MSG 617) DIAGNOSTIC MICROBIOLOGY (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6102 (MSG 618) RESEARCH PLANNING AND METHODS (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6104 (MSG 620) CELLULAR IMMUNOLOGY (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6105 (MSG 621) ADVANCES IN IMMUNOLOGY (3)
PR: MSG 601-MSG 606 or consent of Chairman

GMS 6106 (MSG 622) IMMUNOCHEMISTRY (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6107 (MSG 623) ADVANCES IN VIROLOGY (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6108 (MSG 624) MICROBIAL PHYSIOLOGY AND GENETICS (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6109 (MSG 626) REGULATORY CONTROL MECHANISMS IN ANIMAL CELL SYSTEMS (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6110 (MSG 627) HOST-PARASITE INTERACTIONS (3)
PR: MSG 601-MSG 606 or consent of Chairman.

Obstetrics/Gynecology

Chairperson: J. M. Ingram; *Professors:* J. M. Ingram; *Associate Professors:* W. R. Anderson, C. L. Lay; *Assistant Professors:* J. T. Goodrich, A. M. Messina, B. S. Verkauf.

BCC 6130 (MED 628) OBSTETRICS-GYNECOLOGY CLERKSHIP (13)
PR: Admission to College of Medicine.

MEL 7404 (MED 713) GYNECOLOGIC ONCOLOGY (10)
PR: Enrolled in College of Medicine.

MEL 7440 (MED 714) RESEARCH IN OBSTETRICS-GYNECOLOGY (10)
PR: Enrolled in College of Medicine.

MEL 7411 (MED 715) PREPARATION FOR PRACTICE (var.)
PR: Enrolled in College of Medicine.

MEL 7410 (MED 716) THE INFERTILE COUPLE (10)
PR: Enrolled in College of Medicine.

Ophthalmology

Chairperson: W. C. Edwards; *Professor:* W. C. Edwards; *Associate Professor:* W. E. Layden; *Assistant Professors:* L. D. Perry, E. Torczynski; *Instructor:* J. D. Bartlett

MEL 7503 (MED 717) TUTORIAL COURSE OF ADVANCED OPHTHALMOLOGY (20)
PR: Enrolled in College of Medicine.

MEL 7501 (MED 718) MEDICAL OPHTHALMOLOGY (10)
PR: Enrolled in College of Medicine.

Pathology

Chairperson: H. Sidransky: *Professors:* H. A. Azar, H. Sidransky; *Associate Professors:* Paul Byvoet, E. Fosslein, D. G. Halkias, R. R. Pascal; *Assistant Professors:* L. H. Bernstein, N. Kandawalla, E. L. Lee; *Assistant Research Scientist:* C. N. Murty; *Associates in Research:* K. Nakano, D. Sayre, C. V. Vu, E. Verney.

BMS 6600 (MED 617) PATHOLOGY (16)
PR: Admission to College of Medicine.

BMS 6620 (MED 618) PATHOLOGY SEMINAR (0)
PR: Consent of Chairman, Department of Pathology.

BMS 6610 (MED 620) LABORATORY MEDICINE (4)
PR: Admission to College of Medicine.

BMS 7611 (MED 729) ELECTIVE IN LABORATORY MEDICINE (CHEMISTRY, HEMATOLOGY) (5)
PR: Enrolled in College of Medicine.

BMS 7663 (MED 730) PATHOLOGIC ANATOMY (AUTOPSIES AND SURGICAL PATHOLOGY) (var.)
PR: Enrolled in College of Medicine.

BMS 7662 (MED 731) SURGICAL PATHOLOGY (10)
PR: Enrolled in College of Medicine.

BMS 7661 (MED 732) EXPERIMENTAL PATHOLOGY (20)
PR: Enrolled in College of Medicine.

GMS 6300 (MSG 606) CORE COURSE IN PATHOLOGY (7)
PR: Admission to the Ph.D. Program in Medical Sciences.

GMS 6111 (MSG 628) HUMAN SYSTEMIC PATHOLOGY (4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6112 (MSG 629) BIOCHEMICAL PATHOLOGY (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6113 (MSG 630) IMMUNOPATHOLOGY (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6301 (MSG 631) ADVANCED GROSS PATHOLOGY (2)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6302 (MSG 632) ADVANCED MICROSCOPIC PATHOLOGY (2)
Pr: MSG 601-MSG 606 or consent of Chairman.

GMS 6303 (MSG 633) ELECTRON MICROSCOPY OF DISEASE STATES (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6304 (MSG 634) AUTORADIOGRAPHIC TECHNIQUES (2)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6417 (MSG 660) ANIMAL RESEARCH METHODS (4)
PR: MSG 601-MSG 606 or consent of Chairman.

Pediatrics

Chairperson: L. A. Barness; *Professors:* L. A. Barness, A. W. Root; *Associate Professors:* L. Cimino, J. Curran, J. A. Hallock, J. M. Judisch, J. I. Malone; *Assistant Professors:* S. Adler, S. Brodsky, R. M. Cavanaught, Jr., H. Harris, K. L. Meloff, E. O. Reiter, R. Sosa, T. A. Tedesco.

BCC 6140 (MED 626) PEDIATRICS CLERKSHIP (13)
PR: Admission to College of Medicine.

MEL 7551 (MED 720) INPATIENT PEDIATRICS, TAMPA GENERAL HOSPITAL (10)
PR: Enrolled in College of Medicine.

MEL 7565 (MED 724) NEONATOLOGY (10)
PR: Enrolled in College of Medicine.

MEL 7596 (MED 725) METABOLIC DISEASE RESEARCH (10)
PR: Enrolled in College of Medicine.

MEL 7591 (MED 787) RESEARCH IN PEDIATRIC MEDICINE AND GENETICS (20)
PR: Enrolled in College of Medicine.

MEL 8555 (MED 831) ALL CHILDREN'S HOSPITAL (10)

MEL 8590 (MED 832) NEONATAL RESEARCH (10)

MEL 8566 (MED 833) PEDIATRIC ENDOCRINOLOGY CLINICAL (10)

MEL 8567 (MED 834) PEDIATRIC PRACTICE (10)

MEL 8568 (MED 835) PEDIATRIC HEMATOLOGY-ONCOLOGY (10)

MEL 8595 (MED 836) PEDIATRIC ENDOCRINE RESEARCH (20)

Pharmacology

Chairman: A. Szentivanyi; *Professors:* D. L. Smith, A. Szentivanyi, D. B. Tyler (Emeritus); *Associate Professors* J. J. Krzanowski, Jr., J. B. Polson; *Assistant Professors:* D. F. Fitzpatrick, J. F. Hackney, J. R. Wiggins, J. F. Williams.

BMS 6400 (MED 609) PHARMACOLOGY (9)
PR: Admission to College of Medicine.

BMS 6420 (MED 610) PHARMACOLOGY SEMINAR (0)
PR: Consent of Chairman, Department of Pharmacology.

BMS 7460 (MED 733) CLINICAL PHARMACOLOGY (5)
PR: Enrolled in College of Medicine.

BMS 7461 (MED 734) IMMUNOPHARMACOLOGY (1½)
PR: Enrolled in College of Medicine.

BMS 7462 (MED 735) PULMONARY PHARMACOLOGY (5)
PR: Enrolled in College of Medicine.

BMS 7463 (MED 736) DRUG METABOLISM AND PHARMACOGENETICS (5)
PR: Enrolled in College of Medicine.

GMS 6500 (MSG 605) CORE COURSE IN PHARMACOLOGY (7)
PR: Admission to Ph.D. program in Medical Sciences.

GMS 6501 (MSG 635.) THEORETICAL PHARMACOLOGY (5-10)
PR: MSG 601-MSG 606 or consent of the Chairman.

GMS 6502 (MSG 636) CLINICAL PHARMACOLOGY (5-10)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6503 (MSG 637) PHARMACOLOGY LABORATORY (2-4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6504 (MSG 638) IMMUNOPHARMACOLOGY (3-6)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6505 (MSG 639) PHARMACOLOGY OF BACTERIAL PRODUCTS (4-8)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6506 (MSG 640) THE PHARMACOLOGY OF BIOLOGICAL MEMBRANES (4-8)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6507 (MSG 641) DRUG METABOLISM (3-6)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6508 (MSG 642) DRUG ADDICTION, TOLERANCE AND PHYSICAL DEPENDENCE (2-4)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6509 (MSG 643) THE HISTORY OF PHARMACOLOGICAL THOUGHT (1-2)
PR: MSG 601-MSG 606 or consent of Chairman.

Physiology

Chairperson: C. H. Baker; *Professors:* C. H. Baker, D. L. Davis; *Associate Professor:* R. P. Menninger; *Assistant Professors:* D. K. Anderson, J. A. Boulant, G. R. Nicolosi, R. Shannon; *Instructor:* J. M. Price.

BMS 6500 (MED 611) MEDICAL PHYSIOLOGY (9)
PR: Admission to College of Medicine.

BMS 6530 (MED 612) PHYSIOLOGY SEMINAR (0)
PR: Consent of Chairman, Department of Physiology.

BMS 7560 (MED 737) RESEARCH IN PHYSIOLOGY (var.)
PR: Enrolled in College of Medicine.

BMS 7561 (MED 738) CARDIO-PULMONARY-RENAL PHYSIOLOGY (5)
PR: Enrolled in College of Medicine.

GMS 6400 (MSG 602) CORE COURSE IN PHYSIOLOGY (7)
PR: Admission to Ph.D. Program in Medical Sciences.

GMS 6401 (MSG 644) KIDNEY, FLUIDS AND ELECTROLYTES (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6402 (MSG 645) RESPIRATION (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6403 (MSG 646) ENDOCRINE MECHANISMS (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6404 (MSG 647) NEUROPHYSIOLOGY (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6405 (MSG 648) NERVE, MUSCLE AND SYNAPSE (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6406 (MSG 649) CARDIAC MUSCLE (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6407 (MSG 650) SMOOTH MUSCLE (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6408 (MSG 651) SKELETAL MUSCLE (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6409 (MSG 652) PERIPHERAL CIRCULATION (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6410 (MSG 653) CARDIOVASCULAR REGULATION (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6411 (MSG 654) CARDIOPULMONARY CIRCULATION (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6412 (MSG 655) HEMODYNAMICS (3)
PR: MSG 601-MSG 606 or consent of Chairman.

GMS 6413 (MSG 656) PHYSIOLOGICAL BASIS OF CARDIOLOGY (3)
PR: MSG 601-MSG 606 or consent of Chairman.

Psychiatry

Chairperson: A. Reading; *Professors:* T. H. Blau, A. Reading; *Associate Professors:* M. W. Denker, K. El-Yousef, S. A. Mourer, E. Rockwell, J. F. Ross, A. Saenz, A. R. Walker; *Assistant Professors:* M. Ables, G. K. Arthur, M. C. Berg, E. Bueno, L. Byrne, G. Cadena, W. N. Chambers, J. J. Colberg, Jr., A. J. Forman, G. G. Golloway, R. Golub, L. Greenwood, J. L. Grundvig, C. Luney, E. Meares, A. L. Muniz, P. S. Powers, A. L. Saunders, J. A. Schinka, K. Shaw, D. J. Sprehe, E. M. Whalen, L. Young; *Instructors:* S. A. Gridley, E. Halpert, C. Holliman, Jr., R. A. Josephson, G. K. Kinsolving, N. C. McGown, A. B. Moore, I. Moscowitz, M. Rodriguez, A. R. Siefert, A. Sommer, G. Williams.

BMS 6880 (MED 614) BIOSTATISTICS (1)
PR: Admission to College of Medicine.

BMS 6840 (MED 615) INTRODUCTION TO PSYCHIATRY (3)
PR: Admission to College of Medicine.

BMS 6850 (MED 616) PSYCHIATRY SEMINAR (0)
PR: Consent of Chairman, Department of Psychiatry.

BCC 6150 (MED 627) PSYCHIATRY CLERKSHIP (13)
PR: Admission to College of Medicine.

MEL 7602 (MED 773) ELECTIVE IN CHILD PSYCHIATRY (10)
PR: Enrolled in College of Medicine.

MEL 7607 (MED 776) INTRODUCTION TO PSYCHOSOMATIC MEDICINE (10)
PR: Enrolled in College of Medicine.

MEL 7611 (MED 792) ADVANCED CLERKSHIP IN PSYCHIATRY (var.)
PR: Enrolled in College of Medicine.

MEL 8664 (MED 860) PSYCHIATRIC RESEARCH (var.)

Radiology

Chairperson: A. D. Graham; *Professors:* J. A. del Regato, A. D. Graham; *Associate Professors:* J. R. Gutierrez, R. G. Isbell, M. L. Silibiger; *Assistant Professors:* S. M. Braunstein, E. V. Grayson, S. H. Greenberg, T. A. Okulski, N. S. Rosenthal.

MEL 7700 (MED 767) GENERAL RADIOLOGY (var.)
PR: Enrolled in College of Medicine.

MEL 7701 (MED 768) GENERAL AND SPECIALTY RADIOLOGY (var.)
PR: Enrolled in College of Medicine.

Surgery

Chairperson: R. T. Sherman; *Professors:* J. C. Bolivar, I. M. Essrig, R. P. Finney, R. J. Noer, D. H. Reynolds, R. T. Sherman; *Associate Professors:* R. E. Benway, A. A. Daouk, J. N. Endicott, W. W. Fieber, J. E. Molina, G. M. Watkins, W. N. York; *Assistant Professors:* M. G. Andersen, P. H. Andersen, G. A. Balis, J. A. Christensen, W. B. Elstun, J. George, C. M. Hakanson, J. A. Holliday, Jr., G. H. Matsumoto, R. J. Miller, R. W. Sadlowski, L. H. Schlicke, J. R. Sharpe, G. E. Vega, A. K. Waltzer, J. W. Williams.

BCC 6160 (MED 625) SURGERY CLERKSHIP (20)
PR: Admission to College of Medicine.

MEL 7800 (MED 751) GENERAL SURGERY ELECTIVE (var.)
PR: Enrolled in College of Medicine.

MEL 7801 (MED 752) GENERAL SURGERY PRECEPTORSHIP (11)
PR: Enrolled in College of Medicine.

MEL 7760 (MED 754) ANESTHESIOLOGY ELECTIVE (11)
PR: Enrolled in College of Medicine.

MEL 7813 (MED 757) OTOLARYNGOLOGY ELECTIVE (var.)
PR: Enrolled in College of Medicine.

MEL 7816 (MED 758) OTOLARYNGOLOGY PRECEPTORSHIP (var.)
PR: Enrolled in College of Medicine.

MEL 7806 (MED 759) PLASTIC SURGERY PRECEPTORSHIP (11)
PR: Enrolled in College of Medicine.

MEL 7807 (MED 760) THORACIC SURGERY ELECTIVE (20)
PR: Enrolled in College of Medicine.

MEL 7822 (MED 761) CLINICAL UROLOGY ELECTIVE (20)
PR: Enrolled in College of Medicine.

MEL 7817 (MED 786) ORTHOPEDIC ELECTIVE (var.)
PR: Third year student enrolled in College of Medicine.

MEL 7812 (MED 790) NEUROSURGERY ELECTIVE (10)
PR: Admission to College of Medicine.

MEL 8893 (MED 840) ORTHOPEDIC RESEARCH ELECTIVE (12)

MEL 8809 (MED 841) PEDIATRIC ORTHOPEDIC ELECTIVE (12)

MILITARY SCIENCE (MIS)

MIS 1010 (MIS 102) INTRODUCTION TO MILITARY SCIENCE (4)
History and organization of R.O.T.C., U.S. Army, and their role in support of U.S. national defense policies. Emphasis on relation between U.S. Defense Establishment and federal government, with discussion of contemporary military/political issues. Discussion of motivation, human behavior, and concept of military leadership.

MIS 3410 (MIS 301) FUNDAMENTALS OF LEADERSHIP (4)
PR: MIS 102; HTY 313, or CI. The dual role of the military officer as leader and manager; problems of military leadership in the volunteer army; examination of classical leadership traits and principles, and the role of officers in the various branches of the Army.

MIS 4421 (MIS 401) SEMINAR IN LEADERSHIP AND MANAGEMENT (4)
PR: MIS 301, CI. Obligations and responsibilities of a commissioned officer, with emphasis on application of sound leadership to all situations. Uniform Code of Military Justice and its relation to civilian law; Fundamentals of both offensive and defensive tactics and role of various branches of the Army in tactical operations. Role of the U.S. in world affairs in the 1970's.

MUSIC (MUS)

Chairperson: V. S. Jennings; *Professors:* J. Abram, E.S. Anderson, L. D. Austin, G. A. Johnson, W. D. Owen, E. Preodor, A. J. Watkins; *Associate Professors:* R. O. Froelich, L. A. Golding. V. S. Jennings, D. W. Kneeburg, M. N.Rearick, J. M. Reynolds, A. N. Woodbury; *Assistant Professors:* J. A. Cooke, A. Dickey, A. L. Hawkins, H. K. Jones, J. K. Khorsandian, J. E. Lewis, M. S. Marzuki, R. M. McCormick, J. L. Smith, N. S. Stevens, R. J. Summer; *Visiting Assistant Professor:* D. B. Walker; *Visiting Lecturer:* B. Bullock; *Instructors:* A. Hopper, A. Y. Monroe, J. M. Ryon, A. V. Summer; *Visiting Instructors:* J. Eberle, C. D. Moses.

MUT 1001 (MUS 101) RUDIMENTS OF MUSIC (3)
Open only to non-music majors; development of skills in hearing and performing music and in basic notation.

MUT 2111,2112,2113 (MUS 201,202,203) MUSIC THEORY (3,3,3)
PR: CI. Required of music majors; development of skills in perceiving and writing music through the use of aural and visual analysis of examples from all historical periods of music literature.

Applied Music Courses (below)
PR: CI. Required of all applied music majors; open to a limited number of non-music majors by audition only. Private and class instruction in string, woodwind, brass, and percussion instruments, voice and piano. May be repeated for credit.

MVW 2414 (MUS 204) APPLIED BASSOON (3)

MVW 2413 (MUS 204) APPLIED CLARINET (3)

MVS 2414 (MUS 204) APPLIED DOUBLE BASS (3)
MVW 2411 (MUS 204) APPLIED FLUTE (3)
MVB 2412 (MUS 204) APPLIED FRENCH HORN (3)
MVS 2415 (MUS 204) APPLIED HARP (3)
MVW 2412 (MUS 204) APPLIED OBOE (3)
MVP 2411 (MUS 204) APPLIED PERCUSSION (3)
MVK 2411 (MUS 204) APPLIED PIANO (3)
MVW 2415 (MUS 204) APPLIED SAXOPHONE (3)
MVB 2413 (MUS 204) APPLIED TROMBONE/BARITONE (3)
MVB 2411 (MUS 204) APPLIED TRUMPET (3)
MVB 2415 (MUS 204) APPLIED TUBA (3)
MVS 2412 (MUS 204) APPLIED VIOLA (3)
MVS 2411 (MUS 204) APPLIED VIOLIN (3)
MVS 2413 (MUS 204) APPLIED VIOLONCELLO (3)
MVW 2411 (MUS 204) APPLIED VOICE (3)

MUC 2301 (MUS 205) INTRODUCTION TO ELECTRONIC MUSIC (3)
History and repertory of electronic music; standard sound studio techniques; basic electronics as applied in electronic sound synthesis; mathematics for music composition and electronic music.

Class Piano Courses (below)
PR: CI Class is elementary piano and music fundamentals designed for students with limited keyboard experience. Primary emphasis is placed on sight-reading, accompanying, transposition, harmonization, basic technique, and appropriate literature..

MVK 2111 (MUS 206) MUSIC MAJORS, LEVEL I (2)
MVK 2111 (MUS 206) NON-MUSIC MAJORS, LEVEL I (2)
MVK 2121 (MUS 206) MUSIC MAJORS, LEVEL II (2)
MVK 2121 (MUS 206) NON-MUSIC MAJORS, LEVEL II (2)
MVK 2131 (MUS 206) MUSIC MAJORS, LEVEL III (2)
MVK 2131 (MUS 206) NON-MUSIC MAJORS, LEVEL III (2)
MVK 2141 (MUS 206) MUSIC MAJORS, LEVEL IV (2)
——— (MUS 206) NON-MUSIC MAJORS, LEVEL IV (2)
——— (MUS 206) MUSIC MAJORS, LEVEL V (2)

Secondary Applied Music Courses (below)
PR: CI. One half-hour private lesson or one hour class per week for music students wishing to gain proficiency in an area other than their applied performance major and for a limited number of non-music majors who have had prior musical training. Course is open by audition only.

MVW 2214 (MUS 207) APPLIED BASSOON (1)
MVW 2213 (MUS 207) APPLIED CLARINET (1)
MVS 2214 (MUS 207) APPLIED DOUBLE BASS (1)
MVW 2211 (MUS 207) APPLIED FLUTE (1)
MVB 2212 (MUS 207) APPLIED FRENCH HORN (1)
MVS 2215 (MUS 207) APPLIED HARP (1)
MVW 2212 (MUS 207) APPLIED OBOE (1)
MVP 2211 (MUS 207) APPLIED PERCUSSION (1)
MVK 2211 (MUS 207) APPLIED PIANO (1)
MVW 2215 (MUS 207) APPLIED SAXOPHONE (1)
MVB 2213 (MUS 207) APPLIED TROMBONE/BARITONE (1)
MVB 2211 (MUS 207) APPLIED TRUMPET (1)
MVB 2215 (MUS 207) APPLIED TUBA (1)
MVS 2212 (MUS 207) APPLIED VIOLA (1)
MVS 2211 (MUS 207) APPLIED VIOLIN (1)
MVS 2213 (MUS 207) APPLIED VIOLONCELLO (1)
MVV 2211 (MUS 207) APPLIED VOICE (1)

MUT 2241,2242,2243 (MUS 221,222,223) AURAL THEORY (2,2,2)
PR: CI. Course designed to begin training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing. To be taken concurrently with MUS 201, 202, 203.

MUL 2111,2112,2113 (MUS 231,232,233) INTRODUCTION TO MUSIC LITERATURE (2,2,2)
PR: MUS 201 or concurrent enrollment. A survey of representative music examplars of the past and present with emphasis on upon the study of styles and form. Required for music majors.

MUT 3116,3117,3118 (MUS 301,302,303) MUSIC THEORY (3,3,3)
PR: MUS 203. Required of music majors; continuation of MUS 201-203.

Applied Music Courses (below)
PR: Necessary competency at MUS 204 level determined by faculty jury examination. Required of all applied music majors. Private and class instruction in string, woodwind, brass, and percussion instruments, voice and piano. May be repeated for credit four quarters only.

MVW 3434 (MUS 304) APPLIED BASSOON (3)
MVW 3433 (MUS 304) APPLIED CLARINET (3)
MVS 3434 (MUS 304) APPLIED DOUBLE BASS (3)
MVW 3431 (MUS 304) APPLIED FLUTE (3)
MVB 3432 (MUS 304) APPLIED FRENCH HORN (3)
MVS 3435 (MUS 304) APPLIED HARP (3)
MVW 3432 (MUS 304) APPLIED OBOE (3)
MVP 3431 (MUS 304) APPLIED PERCUSSION (3)
MVK 3431 (MUS 304) APPLIED PIANO (3)
MVW 3435 (MUS 304) APPLIED SAXOPHONE (3)
MVB 3433 (MUS 304) APPLIED TROMBONE/BARITONE (3)
MVB 3431 (MUS 304) APPLIED TRUMPET (3)
MVB 3435 (MUS 304) APPLIED TUBA (3)
MVS 3432 (MUS 304) APPLIED VIOLA (3)
MVS 3431 (MUS 304) APPLIED VIOLIN (3)
MVS 3433 (MUS 304) APPLIED VIOLONCELLO (3)
MVV 3431 (MUS 304) APPLIED VOICE (3)

MUC 3401,3402,3403 (MUS 305,306,307) ELECTONIC MUSIC—ANALOG SYNTHESIS (3,3,3)
PR: MUS 205 and CI. Composition for tape medium with analog synthesizers; use of sound recording studio; repertory of analog music synthesis; technical basis of analog systems design and construction.

MUC 3202 (MUS 308) COMPOSITION (3)
PR: MUS 203 and CI. Private instruction in original composition with composition lab meeting 5 times each quarter. Required of composition majors. May be repeated for four quarters.

MUC 3601,3602,——— (MUS 309,310,311) CONTEMPORARY TECHNIQUES OF COMPOSITION (3,3,3)
PR: CI. Instruction in the use of major Twentieth-Century compositional techniques; tonal, unordered set, and serial composition and the use of indeterminancy in composition and performance.

Improvisation Courses (below)
PR: MUS 203 and CI. A studio course of study designed to acquaint the student with basic improvisational techniques; emphasis on individual performance. May be repeated for credit.

MUT 3631 (MUS 312) IMPROVISATION: FUNDAMENTAL TECHNIQUES (3)

MUT 3642 (MUS 312) IMPROVISATION: JAZZ TECHNIQUES (3)

MUT 3246,3247,3248 (MUS 321,322,323) ADVANCED AURAL THEORY (2,2,2)
PR: CI. Course designed to continue training in aural recognition and vocal realization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sightsinging. To be taken concurrently with MUS 301, 302, 303.

MUE 3101 (MUS 326) BASIC CONDUCTING (2)
PR: CI. The study and practical application of basic conducting techniques. Development of skills related to the conducting of musical scores.

MUL 3002 (MUS 371) ISSUES IN MUSIC (2)
Open only to non-music majors; lectures and live performances by artist faculty of significant works from the literature for the piano; analysis and illustration in performance of the abstract and aesthetic elements in music which vitally concern the artist-performer. (S/U only)

MUL 3011,3012 (MUS 372-373) THE ENJOYMENT OF MUSIC (3,3)
Open only to non-music majors; a study in the art of music and its materials, designed to develop an understanding of basic principles of music and a technique for listening to music.

Major Performing Organizations Courses (below)
PR: CI. Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments; may be repeated for credit.

MUN 3310 (MUS 374) CHORAL UNION (1)

MUO 3501 (MUS 374) OPERA WORKSHOP (1)

——— (MUS 374) UNIVERSITY BAND (1)

MUN 3380 (MUS 374) UNIVERSITY COMMUNITY CHORUS (1)

MUN 3210 (MUS 374) UNIVERSITY ORCHESTRA (1)

MUN 3310 (MUS 374) UNIVERSITY SINGERS (1)

MUN 3140 (MUS 374) WIND ENSEMBLE (1)

Chamber Music Ensembles Courses (below)
PR: CI. Open to all university students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano; may be repeated for credit.

MUN 3430 (MUS 375) BRASS CHOIR (1)

MUN 3430 (MUS 375) BRASS QUINTET (1)

MUN 3340 (MUS 375) CHAMBER SINGERS (1)

MUN 3420 (MUS 375) CLARINET CHOIR (1)

MUN 3420 (MUS 375) FLUTE CHOIR (1)

MUN 3430 (MUS 375) HORN QUARTET (1)

MUN 3710 (MUS 375) JAZZ LABORATORY BAND (1)

MUN 3440 (MUS 375) MARIMBA ENSEMBLE (1)

MUN 3490 (MUS 375) NEW MUSIC ENSEMBLE (1)

MUN 3440 (MUS 375) PERCUSSION ENSEMBLE (1)

MUN 3450 (MUS 375) PIANO ENSEMBLE (1)

MUN 3410 (MUS 375) STRING QUARTET (1)

MUN 3420 (MUS 375) WOODWIND QUINTET (1)

MUH 3016 (MUS 376) HISTORY OF POPULAR MUSIC (2)
Popular music in the U.S. from 1820 to the present. Units on the big band era, country and western, jazz, black music, and the rock scene beginning in 1955. May be used for University General Distribution Requirement by the non-major, and may be used to satisfy part of the 9 hours in-College Requirement for Fine Arts majors in Art, Dance, and Theatre.

MUH 3211,3212,3213 (MUS 401,402,403) MUSIC HISTORY (3,3,3)
PR: CI. Required of music majors; a survey of the historical development of musical styles and of the music representative of those styles.

Applied Music Courses (below)
PR: Necessary competency at MUS 304 level determined by faculty jury examination. Required of all applied music majors. Private and class instruction in string, woodwind, bass, and percussion instruments, voice, and piano. May be repeated for credit four quarters only.

MVW 4444 (MUS 404) APPLIED BASSOON (3)

MVW 4443 (MUS 404) APPLIED CLARINET (3)

MVS 4444 (MUS 404) APPLIED DOUBLE BASS (3)

MVW 4441 (MUS 404) APPLIED FLUTE (3)

MVB 4442 (MUS 404) APPLIED FRENCH HORN (3)

MVS 4445 (MUS 404) APPLIED HARP (3)

MVW 4442 (MUS 404) APPLIED OBOE (3)

——— (MUS 404) APPLIED PERCUSSION (3)

MVK 4441 (MUS 404) APPLIED PIANO (3)

MVW 4445 (MUS 404) APPLIED SAXOPHONE (3)

MVB 4443 (MUS 404) APPLIED TROMBONE/BARITONE (3)

MVB 4441 (MUS 404) APPLIED TRUMPET (3)

MVB 4445 (MUS 404) APPLIED TUBA (3)

MVS 4442 (MUS 404) APPLIED VIOLA (3)

MVS 4441 (MUS 404) APPLIED VIOLIN (3)

MVS 4443 (MUS 404) APPLIED VIOLONCELLO (3)

MVV 4441 (MUS 404) APPLIED VOICE (3)

MUC 4441,4442,4443 (MUS 405,406,407) ELECTRONIC MUSIC—DIGITAL SYNTHESIS (3,3,3)
PR: MUS 205 and CI. Computer assisted composition for conventional instruments; composition for tape medium with computer controlled analog synthesizers; direct digital synthesis; digital systems design and construction.

MUC 4203 (MUS 408) COMPOSITION (3)
PR: Necessary competency at MUS 308 level determined by faculty jury. Private instruction in original composition with composition lab meeting 5 times each quarter. Required of composition majors. May be repeated for four quarters.

MUT 4311,4312 (MUS 410,411) ORCHESTRATION (3,3)
PR: CI. Intensive study and practice in scoring music for various combinations of instruments including symphony orchestra, band, and smaller ensembles of string, woodwind, brass, and percussion instruments. (Formerly MUS 510, MUS 511.)

Music Studio Pedagogy Courses (below)
PR: CI. May be elected by undergraduate music majors; emphasis on the business management of the music studio, the musical responsibilities of the studio teacher, the techniques of private instruction. May be repeated for credit for a maximum of 6 hours for the same section. (Formerly MUS 512.)

——— (MUS 412) CLASS PIANO (3)

MVK 4641 (MUS 412) PIANO (3)

MVS 4640 (MUS 412) STRINGS (3)

MVV 4641 (MUS 412) VOICE (3)

MVW 4640 (MUS 412) WINDS & PERCUSSION (3)

MUT 4411 (MUS 421) SIXTEENTH CENTURY PRACTICE (3)
PR: MUS 303. A study of the music of the 16th century from a theoretical standpoint; development of skills in perceiving and writing music in the style of the period through the use of aural and visual analysis.

MUG 4201 (MUS 426) CHORAL CONDUCTING (2)
PR: MUS 326 or its equivalent and CI. Practical application of conducting techniques to choral works, score study, performance practices, and rehearsal techniques. Class serves as performing group.

MUG 4301 (MUS 427) INSTRUMENTAL CONDUCTING (2)
PR: MUS 326 & CI. A study of those techniques of conducting unique to instrumental music ensembles: Baton technique, score reading, terminology, rehearsal management.

MUT 4421 (MUS 431) EIGHTEENTH CENTURY PRACTICE (3)
PR: MUS 303. An intensive study of the contrapuntal practice of the 18th century; development of skills in perceiving and writing music in the style of the period through the use of aural and visual analysis.

MUT 4431 (MUS 441) TWENTIETH CENTURY PRACTICE (3)
PR: MUS 303. A study of 20th century theoretical concepts; development of skills in perceiving and writing music in contemporary styles through the use of aural and visual analysis.

MUS 4935 (MUS 453) MUSIC SENIOR SEMINAR (3)
PR: CI. To aid majors to understand, appraise and perfect their own art through critical and aesthetic judgments of their colleagues. (S/U only.)

Applied Music Courses (below)
PR: Necessary competency at MUS 404 level determined by faculty jury examination. Required of all applied music majors. Private and class instruction in string, woodwind, brass, and percussion instruments, voice and piano. Must be repeated for credit for a minimum of 9 hours for majors. (Formerly MUS 504.)

——— (MUS 454) APPLIED BASSOON (3)
——— (MUS 454) APPLIED CLARINET (3)
——— (MUS 454) APPLIED DOUBLE BASS (3)
——— (MUS 454) APPLIED FLUTE (3)
——— (MUS 454) APPLIED FRENCH HORN (3)
——— (MUS 454) APPLIED HARP (3)
——— (MUS 454) APPLIED OBOE (3)
——— (MUS 454) APPLIED PERCUSSION (3)
——— (MUS 454) APPLIED PIANO (3)
——— (MUS 454) APPLIED SAXOPHONE (3)
——— (MUS 454) APPLIED TROMBONE/BARITONE (3)
——— (MUS 454) APPLIED TRUMPET (3)
——— (MUS 454) APPLIED TUBA (3)
——— (MUS 454) APPLIED VIOLA (3)
——— (MUS 454) APPLIED VIOLIN (3)
——— (MUS 454) APPLIED VIOLONCELLO (3)
——— (MUS 454) APPLIED VOICE (3)

——— (MUS 455,456,457) ELECTRONIC MUSIC —REAL-TIME PERFORMANCE (3,3,3)
PR: MUS 307 and 407 or equivalent. Composition for analog and digital equipment for real-time performance applications; sound synthesis, interfacing electronics with conventional instruments, in-performance-directed composition, and design and construction of electronic composing/performing machines; use of scores, system flexibility and event-detail prediction. (Formerly MUS 505, 506, 507.)

——— (MUS 458) COMPOSITION (3)
PR: Necessary competency at 408 level determined by faculty jury. Private instruction in original composition with composition lab meeting 5 times each quarter. Required of composition majors. Must be repeated for credit for a minimum of 9 hours for majors. (Formerly MUS 508.)

——— (MUS 459) SEMINAR IN NEW MUSICAL SYSTEMS (3)
PR: CI. Experimental sound sources and ensemble groupings; creation of new instruments; unfamiliar sonic materials and unique social contexts for music. May be repeated for credit. (Formerly MUS 509.)

MUS 4905 (MUS 481) DIRECTED STUDY (1-6)
PR: CC. Independent studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUS 4930 (MUS 483) SELECTED TOPICS IN MUSIC (1-6)
PR: CI and CC. The content of the course will be governed by student demand and instructor interest. May be repeated for credit for different topics only.

——— (MUS 484) SELECTED STUDIO TOPICS IN MUSIC (1-6)
PR: CI. The content of the study will be governed by individual student demand and instructor interest with an emphasis on individual instruction.

MUS 4900 (MUS 485) DIRECTED READING (1-4)
PR: CI and CC. Readings in a topic of special interest to the student. Selection of topic and materials must be agreed upon and appropriate credit must be assigned prior to registration. A contract with all necessary signatures is required for registration. May be repeated for credit for different topics only.

MUT 5051 (MUS 500) GRADUATE REVIEW OF MUSIC THEORY (3)
This course is a prerequisite to Critical Analysis (MUS 601-602-603) and involves a study of basic theoretical concepts from all periods in music history. The practical application of these concepts includes composition, aural and visual analysis. The course will not serve as a requirement toward the degree.

Master Class Courses (below)
PR: CI. Study and performance of selected literature with special emphasis on style, form and techniques; especially designed for teachers, piano majors, and talented secondary school students.

MVK 5751 (MUS 561) PIANO, MASTER CLASS (2)
MVS 5750 (MUS 561) STRINGS, MASTER CLASS (2)
MVV 5751 (MUS 561) VOICE, MASTER CLASS (2)

Music Workshop Courses (below)
PR: CI. Intensive study in the specialized areas indicated below; open to teachers, University students, and secondary students; credit available to qualified students.

MUS 5924 (MUS 562) BAND WORKSHOP (2)
MUS 5925 (MUS 562) CHAMBER MUSIC WORKSHOP (2)
MUS 5926 (MUS 562) CHORUS WORKSHOP (2)
MUS 5927 (MUS 562) ORCHESTRA WORKSHOP (2)
MUS 5929 (MUS 562) STRING WORKSHOP (2)

MUS 5905 (MUS 581) DIRECTED STUDY (1-6)
PR: CC. Independent studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUT 6535,6547,6558 (MUS 601,602,603) CRITICAL ANALYSIS OF MUSIC REPERTORY (4,4,4)
PR: CI. Required of music theory majors; study of the development of musical styles in western civilization from Antiqui-

ty to the present; includes analysis and performance of representative works.

Applied Music Courses (below)
PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Private and class instruction.

——— (MUS 604) APPLIED BRASS (2-4)

——— (MUS 604) APPLIED BRASS, SECONDARY (2-4)

MVP 6250 (MUS 604) APPLIED PERCUSSION (2-4)

——— (MUS 604) APPLIED PERCUSSION, SECONDARY (2-4)

MVK 6251 (MUS 604) APPLIED PIANO (2-4)

——— (MUS 604) APPLIED PIANO, SECONDARY (2-4)

——— (MUS 604) APPLIED STRINGS (2-4)

MVS 6254 (MUS 604) APPLIED STRINGS, SECONDARY (2-4)

MVV 6250 (MUS 604) APPLIED VOICE (2-4)

——— (MUS 604) APPLIED VOICE, SECONDARY (2-4)

——— (MUS 604) APPLIED WOODWINDS (2-4)

——— (MUS 604) APPLIED WOODWINDS, SECONDARY (2-4)

MUC 6444,6445,6446 (MUS 605,606,607) ELECTRONIC MUSIC—ANALOG/DIGITAL SYSTEMS RESEARCH (4,4,4)
PR: CI. State-of-the-art compositional and performance applications; new concepts of electronic music synthesis; documentation and critical analysis of new repertory.

MUC 6251 (MUS 608) SEMINAR IN COMPOSITION (4)
PR: CI. Composition of music for any media; discussion of problems presented by the most current ideas in composition; evaluation of new music in seminar context. May be repeated for credit.

MUL 6410,6411,6412 (MUS 611,612,613) KEYBOARD REPERTORY (3,3,3)
PR: CI. A study of style, history and performance practice in keyboard repertory including masterworks of all periods.

MUL 6624,6625,6626 (MUS 614,615,616) SONG LITERATURE (3,3,3)
PR: CI. Solo song literature from the 17th century through the contemporary with emphasis on German lieder, French songs, and contemporary English and American songs; special emphasis on performance.

MUL 6687 (MUS 617) SOLO VOCAL LITERATURE IN ORATORIO (4)
PR: CI. A survey of literature for the solo voice in oratorio from the 17th century to the present, Includes allied forms such as solo voice in cantatas and orchestra music.

MUL 6505 (MUS 618) SYMPHONIC LITERATURE (5)
PR: CI. A chronological study of the development of orchestral music; analysis and study of major works from a stylistic and biographical perspective.

MUL 6663,6664 (MUS 619,620) OPERA LITERATURE (4,4)
PR: CI. A chronological study of the development of opera from 1600 to the present; emphasis on the technical, stylistic, and performance aspects of opera.

MUL 6375 (MUS 621) TWENTIETH CENTURY MUSIC LITERATURE (5)
PR: CI. A study of the compositional techniques of composers from Debussy to the present; emphasis on counterpoint, harmonic structure, tonality, atonality, polytonality, texture, and serial technique.

MUG 6256,———,——— (MUS 622,623,624) CHORAL LITERATURE AND CONDUCTING (6,6,6)
PR: CI. Combination of seuinar, classroom and laboratory types of experiences designed to provide depth in stylistic study of choral music literature and performance.

MUG 6930 (MUS 625) SEMINAR IN CONDUCTING (3)
PR: CI. Intensive study of conducting techniques with emphasis on interpretation of music scores and application in laboratory sessions.
Sec. 001 Choral 002 Instrumental

MUT 6751,6752,6753 (MUS 626,627,628) TEACHING OF MUSIC THEORY (4,4,4)
PR: CI. Comparative study of teaching techniques, procedures, and materials used in teaching the individual student in performance.

——— (MUS 629) STUDIO TEACHING SEMINAR (3)
PR: Graduate standing in performance and CI; emphasis on techniques used in teaching the individual student in performance.

MUL 6565 (MUS 630) CHAMBER MUSIC LITERATURE (5)
PR: CI. A survey and stylistic analysis of chamber music repertory from 1750 through the present day; emphasis on aural recognition of representative works.

Major Ensemble Performance Courses (below)
PR: CI. Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments; may be repeated for credit.

MUN 6315 (MUS 674) CHORAL UNION (1)

MUO 6505 (MUS 674) OPERA WORKSHOP (1)

MUN 6105 (MUS 674) UNIVERSITY BAND (1)

MUN 6315 (MUS 674) UNIVERSITY COMMUNITY CHORUS (1)

MUN 6215 (MUS 674) UNIVERSITY ORCHESTRA (1)

——— (MUS 674) UNIVERSITY SINGERS (1)

——— (MUS 674) WIND ENSEMBLE (1)

——— (MUS 675) CHAMBER ENSEMBLE PERFORMANCE (1)
PR: CI. Open to all university graduate students with the necessary proficiency in their performance media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano; may be repeated for credit.

MUS 6910 (MUS 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

MUS 6793 (MUS 691) GRADUATE SEMINAR (2)
PR: CC May be repeated to a maximum of six credits.

MUS 6994 (MUS 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

MUS 6995 (MUS 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (MUS 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

MUS 6976 (MUS 698) GRADUATE RECITAL (3)
PR: CC.

MUS 6971 (MUS 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

NURSING (NUR)

Dean: G. R. MacDonald *Professor:* G. R. MacDonald; *Associate Professors:* F. Carbonell, M. Hayes; *Assistant Professors:* M. Applegate, N. Entrekin, J. Fanning, S. Fletcher, B. Germino, C. Klopfenstein, L. Lloyd, L. Midyette, J. Rackow, B. Redding, M. Taylor; *Instructors:* P. Adams, K. Brykczynski, A. Grillot.

NUR 3410 (NUR 300) COMMUNITY HEALTH RESOURCES (3)
PR: Admission to nursing major or permission of faculty. Study of health resources in the community including voluntary and official health agencies. Consideration will be given to preventive and maintenance services as well as to hospitals and other institutional components of medical care. Also, will consider the roles, responsibilities, and relationships of personnel in the various health occupations with whom nurses work. Instruction will be multidisciplinary with seminars and selected field work experience.

NUS 3210 (NUR 301) HUMAN ANATOMY (4)
PR: BIO 201-202-203 (or equivalents). A course in basic human anatomy including cellular and organ system relationships as a foundation for normal and abnormal function. Lec.-lab.

HUN 3201 (NUR 302) NUTRITION (4)
PR: BIO 201-202-203 and CHM 211-212-213 (or equivalents). The study of normal and therapeutic nutrition for all age groups from infancy through senescence. Considers the effects of cultural, religious and socioeconomic factors in defining and modifying food patterns of individuals and groups.

NUU 3210 (NUR 303) NURSING PROCESS I (4)
PR: Admission to nursing major. An overview of the development of nursing and trends which will influence future practice. Attention will be directed to emerging roles and responsibilities of professional nurses in providing health services to individuals and families and relationships of nurses to clients and other health care personnel. Lec.-discussion sessions and related extra-class activities.

NUS 3211 (NUR 304) HUMAN PHYSIOLOGY (5)
PR: BIO 201, 202, 203 and CHM 211, 212, 213 (or equivalents). Basic functional features of the normal human body considered on a systematic basis. General content includes the cell and functional organization of the body, the function of the body systems, and limited attention to deviations from normal and application to nursing practice. Lec.-lab.

NUU 3320 (NUR 305) NURSING PROCESS II (3)
PR: NUR 303. Restricted to nursing majors. An introduction to the nursing process with emphasis on the initial phase of assessment of the health status of individuals seeking care in ambulatory settings. Opportunities are provided for continuing development of group process and interviewing skills as tools in the assessment process in nursing. Learning experiences include the application of biopsychosocial concepts and the utilization of selected psychomotor skills in nursing intervention with non-hospitalized individuals.

NUR 3935 (NUR 306) SEMINAR IN NURSING I (2)
PR: Preceding courses required for the nursing major or permission of faculty. This seminar provides opportunities for students to correlate various learning experiences, to exchange experiences and raise questions for group and faculty exploration. It serves as a vehicle for introducing nursing audit and peer review of nursing practice and as a means of dealing with the human problems characteristic of nursing practice. Issues, trends, legal aspects, management, and leadership principles will be considered within the framework of internal and external forces which structure nursing and determine its role in society. (S/U only.)

NUU 3211 (NUR 307) NURSING CORE I (5)
PR: Preceding courses required for the nursing major or permission of faculty. Nursing core courses are designed to enable progressive acquisition of concepts, knowledge, and skills essential to clinical nursing practice by building on previous general education, supporting and nursing courses. This sequence will be developed within the framework of the concepts of health to illness within the family. Content will include the family as a system, crises within the system, and developmental tasks throughout the life span.

The student will continue development of the nursing process with particular emphasis on the intervention and planning phases based on theory in pathophysiology, pharmacology, and epidemiology.

NUU 3211 (NUR 308) NURSING INTERVENTION I (5)
PR: Preceding courses required for the nursing major or permission of faculty. This course involves the application of theoretical material in a clinical setting that will include care of hospitalized and non-hospitalized individuals of all ages who represent various levels of wellness and illness. Opportunities are provided for continuing development of the skills in the nursing process.

NUR 3935 (NUR 309) SEMINAR IN NURSING II (2)
PR: Preceding courses required for the nursing major or permission of faculty. Description same as NUR 306 Seminar in Nursing I. (S/U only.)

NUU 3121 (NUR 310) NURSING PROCESS LABORATORY (5)
PR or concurrent: NUR 305. Junior standing in nursing of permission of faculty. A student self-paced learning laboratory course directed toward development of competence in selected psychomotor and biopsychosocial assessment skills. Also, selected experiences in ambulatory care settings to facilitate application of assessment skills. (S/U only.)

NUS 3220 (NUR 340) BIOPSYCHOSOCIAL PATHOLOGY (4)
PR: NUR 302, 304, or equivalent. Interferences in biopsychosocial organization and function and the ways in which disruptions manifest themselves in signs, symptoms, physical and laboratory findings.

NUU 3240 (NUR 350) CONCEPTUAL FRAMEWORK FOR PROFESSIONAL NURSING PRACTICE (4)
PR: RN students only or permission of the faculty. Exploration of the major concepts underlying professional nursing practice, the trends and issues relating to the role and responsibility of nursing in the health care system, and introduction to the nursing process.

NUU 3340 (NUR 351) CLIENT ASSESSMENT (5)
PR: NUR 340 or concurrent registration. RN students only. Expands knowledge and skills essential for biopsychosocial assessment of needs of clients and families in primary, secondary, or tertiary care settings.

NUU 3241 (NUR 352) PLANNING, IMPLEMENTING, AND EVALUATING NURSING INTERVENTION (4)
PR: NUR 305, 351 or concurrent registration. RN students only. Focuses on using assessment skills as basis for planning. implementing, and evaluating nursing intervention for multiproblem clients in both distributive and episodic settings.

NUU 3229 (NUR 353) NURSING PRACTICUM I (5)
PR: NUR 352 or concurrent registration. RN students only. Clinical practice providing experience in application of the nursing process with selected multi-problem clients in selected distributive and/or episodic care settings. (S/U only.)

NUU 4220 (NUR 400) NURSING CORE II (5)
PR: Preceding courses for the nursing major or permission of faculty. Continuing development of the nursing process with particular emphasis on the evaluation phase. Concepts of leadership and the role of the professional nurse as a change agent are emphasized.

NUU 4220 (NUR 401) NURSING INTERVENTION II (5)
PR: Preceding courses for the nursing major or permission of

faculty. Application of theory in a clinical setting with clients of all ages who represent various levels of wellness and illness.

NUR 4935 (NUR 402) SEMINAR IN NURSING III (2)
PR: Preceding courses required for the nursing major or permission of faculty. Description same as NUR 306 Seminar in Nursing I. (S/U only.)

NUU 4630 (NUR 403) NURSING INQUIRY I (3)
PR: A course in elementary statistics. For Nursing majors only. This course will emphasize the relationship between research and the improvement of nursing practice and health care; attention will be directed toward the need for research in nursing, areas currently being investigated, ethical issues, the research process and the implementation of the results of nursing research.

NUU 4221 (NUR 404) NURSING CORE III (5)
PR: Senior standing in nursing or permission of faculty. Students continue development of the nursing process with emphasis on synthesis of the four phases based on theory in pathophysiology, pharmacology and epidemiology. Leadership concepts in the total nursing process introduced.

NUU 4221 (NUR 405) NURSING INTERVENTION III (5)
PR: Senior standing in nursing or permission of faculty. Application of theoretical knowledges in a clinical setting that will include care of hospitalized and non-hospitalized individuals of all ages who represent various levels of wellness and illness. Provision made for the development of skills in the synthesis of all phases of nursing process as well as utilizing leadership concepts.

NUR 4935 (NUR 406) SEMINAR IN NURSING IV (2)
PR: Preceding courses required for the nursing major or permission of faculty. Description same as NUR 306 Seminar in Nursing I. (S/U only.)

NUU 4432 (NUR 407) NURSING CORE IV (3)
PR: Senior standing in nursing or permission of faculty. Students continue development of the nursing process with emphasis on management of nursing assistance to clients.

NUR 4943 (NUR 408) NURSING INTERVENTION IV (7)
PR: Senior standing or permission of faculty. This final course, in a Nursing Intervention sequence of four, will provide opportunity for concentrated clinical nursing experience under faculty guidance. The nature and goals of the experience will be determined collaboratively by students, faculty, and personnel from the clinical settings where students elect to have this experience. (S/U only.)

NUR 4935 (NUR 409) SEMINAR IN NURSING V (2)
PR: Preceding courses required for the nursing major or permission of faculty. Description same as NUR 306 Seminar in Nursing I. (S/U only.)

NUR 4910 (NUR 412) INDEPENDENT STUDY (1-5)
PR: Open to major and non-majors with faculty permission. Individual or group investigation of special problems relevant to the health of individuals or groups. Direct service to individuals or groups may be involved. Project requirements (e.g., oral and written reports, conferences, etc.) will be determined on an individual basis by faculty preceptors. May be repeated up to a total of 5 quarter credit hours.

NUU 4422 (NUR 450) NURSING PROCESS SYNTHESIS (5)
PR: NUR 352. RN students only. Continuation of NUR 351 and 352 with emphasis on the leadership, teaching and management responsibilities in professional nursing practice.

NUU 4422 (NUR 451) NURSING PRACTICUM II (3-5)
PR: NUR 450 or concurrent registration. RN students only. Application of theories developed in NUR 450 to nursing practice in selected settings. Contract learning experiences of individual students (S/U only.)

NUR 4943 (NUR 458) NURSING PRACTICUM III (5-7)
PR: All previous courses except NUR 412 and 483. Individually planned experience in a clinical and/or functional area of professional nursing which is related to student's professional goals. Associated seminars and/or institutes. (S/U only.)

NUR 4930 (NUR 483) SELECTED TOPICS IN NURSING (2-4)
PR: Junior or senior standing or permission of faculty. Content will depend upon student demand and faculty interest and may focus on any area relevant to nursing practice. May involve class, seminar and/or clinical laboratory and may be repeated for different topics. (S/U only.)

OFF-CAMPUS TERM (OCT)

Director D. K. Lupton.

The following courses are provided for students admitted in the Off-Campus Term Program to work on one of the types of projects indicated.

IDS 4910 (OCT 401) COMMUNITY INTERACTION (3-5)
A field course for students in the OCT Program utilizing the community as a learning laboratory to develop sensitivity to the problems of our society.

IDS 4942 (OCT 410) OFFICE CAMPUS TERM SOCIAL ACTION PROJECT (1-2)
(S/U only.)

IDS 4905 (OCT 411) OFF CAMPUS TERM INDEPENDENT STUDY (1-2)
(S/U only.)

IDS 4955 (OCT 412) OFF CAMPUS TERM INTERNATIONAL PROGRAM (1-2)
(S/U only.)

IDS 4943 (OCT 414) OFF CAMPUS TERM SPECIAL PROJECT (1 or 2)
(S/U only.)

PHILOSOPHY (PHI)

Acting Chairperson: R.C. Weatherford; *Professors:* J. A. Gould, W. H. Truitt; *Associate Professor:* B. Silver; *Assistant Professors:* J. A. Bell, R. Taylor, R. Weatherford

PHI 1000 (PHI 111) GREAT PHILOSOPHERS OF THE WESTERN WORLD (2)
Lectures and discussions of the great philosophers since Plato, focusing on particular problems.

PHI 1010 (PHI 112) PHILOSOPHIC CONTROVERSIES (2)
A discussion of central controversies in philosophy such as the nature of love, violence, freedom, truth, morality, etc.

PHI 1103 (PHI 113) PRACTICAL LOGIC (2)
Elementary theory and application of logical fallacies, deductive and inductive logic. Not for majors.

PHI 3500 (PHI 301) BASIC PHILOSOPHY I: GOD AND REALITY (4)
An introduction to the major philosophical problems in religion, metaphysics, and the philosophy of mind.

PHI 3100 (PHI 303) LOGIC (5)
Language analysis and classical and modern formal logic, including the logic of classes and propositions, and discussion of philosophical issues.

PHI 3404 (PHI 304) SCIENTIFIC METHOD (4)
Probability, inductive inference, the hypothetico-deductive method, experimentation, and selected topics in the philosophy of science.

PHI 3050 (PHI 311) BASIC PHILOSOPHY II: VALUE AND SOCIETY (4)
An introduction to the major philosophical problems in ethics, aesthetics, and social political philosophy.

PHI 3300 (PHI 317) BASIC PHILOSOPHY III: KNOWLEDGE AND SCIENCE (4)
An introduction to the major philosophical problems in methodology, epistemology, and the philosophy of science.

PHI 3600 (PHI 321) ETHICS (4)
An examination of the writing of the philosophers: Plato Aristotle, Kant, Sartre, etc., about moral problems and principles.

PHH 3060 (PHI 333) ANCIENT AND MEDIEVAL PHILOSOPHY (4)
A survey of Philosophy from Thales through the medieval writers.

PHH 3063 (PHI 334) RENAISSANCE AND MODERN PHILOSOPHY (4)
A survey of philosophy from the Renaissance through Kant.

PHH 3070 (PHI 335) RECENT PHILOSOPHY (4)
A survey of philosophy from Kant through nineteenth century philosophy.

PHI 3700 (PHI 341) PHILOSOPHY OF RELIGION (4)
Analysis of religious experience and activity and examination of principal religious ideas in light of modern philosophy. (Formerly PHI 411.)

PHP 3786 (PHI 351) EXISTENTIALISM (4)
A study of the religious and atheistic existentialists and the bearing of their views on religion, ethics, metaphysics, and theory of knowledge. (Formerly PHI 407.)

PHM 3100 (PHI 377) SOCIAL PHILOSOPHY (4)
An analysis of rival theories of social order and their philosophical foundations.

PHM 3222 (PHI 378) PHILOSOPHIES OF THE CITY (3)
A study of the current issues in the philosophy of the city including the nature of community, alienation and the city, art and the city, political philosophy of the city, the city and business, nature versus the city, the city and beauty, etc . . . For majors and non-majors.

PHI 3905 (PHI 381) DIRECTED STUDY (1-5)
PR: CI. Individual study directed by a faculty member. Approval slip from instructor required.

PHI 3930 (PHI 383) SELECTED TOPICS (1-5)
PR: CI. Selected topics according to the needs of the student. Approval slip from instructor required.

——— (PHI 395) INTRODUCTION TO PHILOSOPHY OF LAW (4)
A study of the fundamental concepts of law from a philosophic standpoint including crime, justice, punishment, free speech, insanity, etc.

PHH 4600 (PHI 405) CONTEMPORARY PHILOSOPHY (4)
PR: 8 hours or CI. Selected schools of twentieth century thought such as idealism, positivism, pragmatism, realism, and existentialism.

PHP 4784 (PHI 406) ANALYTICAL PHILOSOPHY (4)
PR: 8 hours, PHI 303. A study of the method devoted to clarifying philosophical problems through analysis of the language in which these problems are stated.

PHP 4788 (PHI 408) PHILOSOPHY OF MARXISM (4)
PR: CI. A critical survey of Marxist philosophy from Marx and Engels to Mao Tse-Tung and Herbert Marcuse. Hegelian foundations of Marxist philosophy analyzed in detail.

PHH 4821 (PHI 409) CLASSICAL CHINESE PHILOSOPHY (4)
PR: PHI 301 or 311 or 317 or CI. Examination of the major classical Chinese philosophers from the sixth century through the third century B.C.

PHH 4824 (PHI 410) CONTEMPORARY CHINESE PHILOSOPHY (4)
PR: PHI 301 or 311 or 317 or CI. A critical examination of the ideas of Lin Piao, Hu-Shih, Mao Tse-Tung, Sun Yat-Sen, Chiang Kai-Shek, Lin Yu-Tang and other selected materials.

PHH 4700 (PHI 413) AMERICAN PHILOSOPHY (4)
Major traditions in American thought—Puritanism, the Enlightenment, Transcendentalism, Idealism, Pragmatism, and Analytic Philosophy—in relation to American culture.

PHP 4000 (PHI 415) PLATO (4)
PR: 8 hours of Philosophy or CI. The examination of Plato will include the dialogues *Protagoras, Gorgias, Meno, Republic,* etc.

PHP 4010 (PHI 416) ARISTOTLE (4)
PR: 8 hours of Philosophy or CI. Study of Aristotle's philosophy.

PHI 4320 (PHI 421) PHILOSOPHY OF MIND (4)
PR: 8 hours of Philosophy or CI. A study of historical and current issues in philosophy of mind, including the nature and status of mind, mind/body dualism, the relationship of mind and body, the problem of other minds, the physical basis for intelligence, etc.

PHI 4805 (PHI 422) AESTHETICS (4)
A study of traditional and contemporary aesthetic theories with emphasis on creative process, the nature of the art work, the aesthetic response, expressiveness, form and content as well as art and morality.

PHP 4410 (PHI 425) KANT (4)
PR: 8 hours of Philosophy or CI. Lecture and discussions of Kant's philosophy, especially *The Critique of Pure Reason.*

PHI 4360 (PHI 453) THEORY OF KNOWLEDGE (4)
PR: 8 hours of Philosophy, PHI 317, or CI. An examination of human knowledge, its scope and limits, and an evaluation of evidence, criteria of truth, the nature of belief, conditions for meaningfulness, theories of perception, and a study of memory and sense perception in the four major fields of nature, history, personal experience, and the *a priori.*

PHM4322 (PHI 461) ANCIENT AND MEDIEVAL POLITICAL PHILOSOPHY (3)
A survey of political philosophy from 6 B.C. until 1600 A.D., including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

PHM 4331 (PHI 463) MODERN POLITICAL PHILOSOPHY (3)
A survey of political philosophy from 1600 A.D. until 1900 A.D., including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

PHM 4340 (PHI 465) CONTEMPORARY POLITICAL PHILOSOPHY (3)
A survey of political philosophy in the twentieth century, including an examination of the ethical, metaphysical, and epistemological bases of these philosophies.

PHI 4905 (PHI 481) DIRECTED STUDY (1-5)
PR: CI. Individual study directed by a faculty member. Approval slip from instructor required.

PHI 4930 (PHI 483) SELECTED TOPICS (1-5)
PR: CI. Selected topics according to the needs of the senior students. Approval slip from instructor required.

PHI 5455 (PHI 507) PHILOSOPHY OF NATURAL SCIENCE (4)
PR: 8 hours or CI. The function of the course is to investigate

(1) problems in the methodology of natural science such as the constructing and testing of hypotheses, confirmation and falsification of theories, explanations and the role of laws and models, (2) philosophical implications of the theories of natural science, especially in the areas of space, time, and matter.

PHI 5425 (PHI 508) PHILOSOPHY OF THE SOCIAL SCIENCES (4)
PR: 8 hours or CI. Philosophic issues arising in the social sciences: value assumptions, laws and theories, models, etc.

PHI 5135 (PHI 509) SYMBOLIC LOGIC (4)
PR: PHI 303 or CI. Mathematical treatment of formal logic, including methods of proof, quantification, the logic of relations and an introduction to properties of deductive systems.

PHI 5705 (PHI 521) CONTEMPORARY CONTROVERSIES IN PHILOSOPHY OF RELIGION (4)
PR: PHI 411 or CI. A survey of contemporary philosophical problems in religion such as demythologizing, falsification, and the meaning and justification of key concepts. e.g. God, immortality, faith, etc.

PHI 5225 (PHI 531) PHILOSOPHY OF LANGUAGE (4)
PR: 8 hours of Philosophy, major in linguistics, or CI. An examination of semantical, syntactical, and functional theories of language with special attention given to the problems of meaning, linguistic reference, syntactical form, and the relations between scientific languages and ordinary linguistic usage.

PHM 5505 (PHI 543) PHILOSOPHY OF HISTORY (4)
PR: 8 hours of philosophy, major in history, or CI. A systematic study of historical theories and of the methods of historical explanation. An examination of classical theories from Vico through Herder, Hegel, Marx down to Spengler and Toynbee, etc.

PHP 5787 (PHI 551) PHENOMENOLOGY AND EXISTENTIALISM (4)
PR: 8 hours of philosophy or CI. A study of the methodology, epistemology and metaphysics of phenomenology and existentialism, with particular reference to the works of Husserl, Heidegger, Merleau-Ponty, and Sartre.

PHI 5325 (PHI 571) SEMINAR IN EPISTEMOLOGY I (3)
PR: Major in philosophy or psychology and CI. This course may be taken more than once for credit with CI and departmental approval.

PHI 5365 (PHI 572) SEMINAR IN EPISTEMOLOGY II (3)
PR: Major in philosophy or social science and CI. This course may be taken more than once for credit with CI and departmental approval.

PHI 5585 (PHI 573) SEMINAR IN METAPHYSICS I (3)
PR: Major in philosophy or CI. Cosmology. This course may be taken more than once for credit with CI and departmental approval.

PHI 5505 (PHI 574) SEMINAR IN METAPHYSICS II (3)
PR: Major in philosophy or CI. A consideration of the theory of reality. This course may be taken more than once for credit with CI and departmental approval.

PHI 5606 (PHI 575) SEMINAR IN CONTEMPORARY ETHICS (3)
PR: CI. A study of the central figures and doctrines in Contemporary Ethics. This course may be taken more than once for credit with CI and departmental approval.

PHI 5934 (PHI 583) SELECTED TOPICS (1-5)
PR: CI. Selected topics according to the needs of the student. Approval slip from instructor required.

PHI 5913 (PHI 585) RESEARCH (1-5)
PR: CI. Individual research supervised by a faculty member. Approval slip from instructor required.

PHH 5005 (PHI 591) SEMINAR IN THE HISTORY OF PHILOSOPHY (3)
PR: CI. A study of one or more of the central figures or movements in the history of philosophy. This course may be taken more than once for credit with CI and departmental approval.

PHI 6405 (PHI 607) STUDIES IN THE PHILOSOPHY OF SCIENCE (4)
PR: Graduate standing or CI. A study of the nature and status of physical theories, some basic problems associated with scientific methodology, and the philosophical implications of modern science. This course may be taken more than once for credit with CI and departmental approval.

PHI 6105 (PHI 609) STUDIES IN LOGIC (4)
PR: Graduate standing or CI. Foundations and basic problems of logic. This course may be taken more than once for credit with CI and departmental approval.

PHM 6406 (PHI 611) STUDIES IN THE PHILOSOPHY OF LAW (4)
PR: Graduate standing or CI. A study of the metaphysical, ethical, and epistemological bases of law. This course may be taken more than once for credit with CI and departmental approval.

PHI 6055 (PHI 615) STUDIES IN MAJOR PHILOSOPHICAL SYSTEMS (4)
PR: Graduate Standing or CI. A detailed study of a metaphysical movement. This course may be taken more than once for credit with CI and departmental approval.

PHI 6706 (PHI 621) STUDIES IN PHILOSOPHY OF RELIGION (4)
PR: Graduate standing or CI. An analysis of fundamental religious concepts in terms of contemporary philosophy. This course may be taken more than once for credit with CI and departmental approval.

PHI 6808 (PHI 622) STUDIES IN AESTHETICS (4)
PR: Graduate standing or CI. An analysis of fundamental special problems of aesthetics; value, perception, communication, technique, context, This course may be taken more than once for credit with CI and departmental approval.

PHI 6366 (PHI 631) STUDIES IN THE THEORY OF MEANING (4)
PR: Graduate standing or CI. Theory of meaning in relation to theory of truth, reference, modality, and analyticity; with bearings on problems in epistemology, metaphysics, and value. This course may be taken more than once for credit with CI and departmental approval.

PHM 6506 (PHI 643) STUDIES IN PHILOSOPHY OF HISTORY (4)
PR: Graduate standing or CI. The analysis of language and logic of historical explanation, historical idealism, historical materialism, positivism, and historical sociology. This course may be taken more than once for credit with CI and departmental approval.

PHI 6686 (PHI 677) STUDIES IN THE THEORY OF VALUE (4)
PR: Graduate standing or CI. An analysis and critique of traditional and contemporary theories of value, emphasizing those systems which deal with aesthetic, moral, social, economic, and political values. This course may be taken more than once for credit with CI and departmental approval.

PHM 6305 (PHI 679) STUDIES IN POLITICAL PHILOSOPHY (4)
PR: Graduate standing or CI. An examination of the main political philosophies. This course may be taken more than once for credit with CI and departmental approval.

PHM 6105 (PHI 680) STUDIES IN SOCIAL PHILOSOPHY (4)
PR: Graduate standing or CI. A detailed study of the philosophical theories of society, class societies (Capitalism), advanced technocracy (all types). This course may be taken more than once for credit with CI and departmental approval.

PHI 6908 (PHI 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

PHI 6934 (PHI 683) SELECTED TOPICS (1-5)
PR: Graduate standing and CI. Selected topics according to the needs of the student. Approval slip from instructor required.

PHI 6938 (PHI 691) GRADUATE SEMINAR (4)
PR: Graduate standing. A seminar in the history of philosophy. The instructor will determine the subject matter.

PHI 6945 (PHI 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

PHI 6971 (PHI 699) THESIS:MASTER'S (var.)
Repeatable. (S/U only.)

PHYSICAL EDUCATION-ELECTIVE (PEB)

Director: R. T. Bowers; *Professors:* R. T. Bowers, R. E. Heeschen, G. W. Hertz; *Associate Professors:* D. L. Holcomb A. J. Jonaitis, S. W. Prather, Jr., S. C. Taylor, J. E. Young; *Assistant Professors:* H. A. Honker, I. Trice; *Lecurers:* M. J. Cheatham

PEN 1121 (PEB 132) SWIMMING I (2)
Development and refinement of the essential skills and information necessary for enjoying swimming. Emphasis on personal safety. (S/U only.)

PEN 1141 (PEB 151) ARCHERY (2)
Development and refinement of the essential skills and information necessary for enjoying the sport of Archery. (S/U only.)

PEL 1346 (PEB 153) BADMINTON (2)
Progressive experiences in Badminton, fundamental skills, strategy, information, and participation. (S/U only.)

DAA 1310 (PEB 161) FOLK & SQUARE DANCE (2)
An opportunity for the development of fundamental skills and knowledges necessary for enjoyment of Folk and Square Dancing. (S/U only.)

PEM 1461 (PEB 171) FOIL FENCING (2)
Progressive experiences in the sport of Foil Fencing, fundamental skills, strategy, information, and participation. (S/U only.)

PEL 1121 (PEB 173) GOLF I (2)
Introductory experience in the sport of golf. Fundamental skills, information, strategy, and participation. (S/U only.)

PEM 1201 (PEB 175) GYMNASTICS I (2)
Introductory experiences in the various gymnastics events. Opportunities to specialize in areas of personal interests. (S/U only.)

PEB 1341 (PEB 179) TENNIS I (2)
Introductory experiences in the sport of tennis. Basic skills; playing strategies, lecture, demonstration; and participation. (S/U only.)

PEM 2102 (PEB 200) SPECIAL CONDITIONING (2)
Varied activities designed to increase the functional ability of the different aspects of physical fitness. (S/U only.)

PEM 2104 (PEB 202) INDIVIDUAL PROGRAMMING (2)
Individually prescribed and performed conditioning activities. (S/U only.)

PEL 2320 (PEB 210) BASKETBALL-VOLLEYBALL (2)
Review and refinement of fundamental skills, presentation and practice of the various offensive and defensive strategies. (S/U only.)

PEL 1511 (PEB 212) SOCCER (2)
A course designed to present essential knowledge of the game of soccer. Instruction and practice of basic skills, rules, team play, and conditioning. (S/U only.)

PEN 2251 (PEB 220) CANOEING (2)
PR: PEB 132 or equivalent. Development and refinement of the skills necessary for enjoying canoeing. Skills, safety techniques and trips. (S/U only.)

PEM 2375 (PEB 222) BACKPACKING (2)
Introductory experiences designed to develop the physical skills and the mental attitude necessary to travel safely, efficiently, and considerately in the wilderness setting. (S/U only.)

PEM 2321 (PEB 226) ROCK CLIMBING (2)
Introductory experiences in basic rock climbing techniques and related skills. (S/U only.)

PEN 2122 (PEB 232) SWIMMING II (2)
PR: PEB 132 or equivalent. Continuation of PEB 132. Special emphasis on development of endurance and efficient stroking. (S/U only.)

PEN 2113 (PEB 236) LIFE SAVING (2)
PR: PEB 232 or equivalent. Knowledges and skills necessary for saving one's self or others in the event of aquatic emergency. (S/U only.)

PEN 2135 (PEB 238) SKIN & SCUBA DIVING (2)
PR: PEB 232 or equivalent. Development of the essential skills and knowledges necessary for enjoying the sport of Skin & Scuba Diving. Correct utilization and care of equipment; emphasis on personal safety. (S/U only.)

PEN 2141 (PEB 240) SYNCHRONIZED SWIMMING (2)
Introductory experiences in synchronized swimming. Emphasis on essential skills; music interpretation; and choreography. (S/U only.)

PEL 2430 (PEB 250) HANDBALL-PADDLEBALL (2)
Development and refinement of the skills and strategies of Handball and Paddleball with opportunity for competition and tournament play. (S/U only.)

PEM 2131 (PEB 252) WEIGHT TRAINING (2)
Knowledges and techniques necessary for increasing muscle function. Assessment of status and development of a personal program. (S/U only.)

PEM 2421 (PEB 254) WRESTLING (2)
Progressive experiences in the sport of Wrestling. Fundamental skills, strategy, information, and participation. (S/U only.)

PEM 2441 (PEB 256) KARATE (2)
Introductory experiences in the sport of Karate. Fundamental skills, strategy, information, and participation. (S/U only.)

PEM 2107 (PEB 260) FIGURE DEVELOPMENT (2)
Varied activities designed to effect changes in body configuration and functional ability. (S/U only.)

PEM 2141 (PEB 270) AEROBICS (2)
Introduction o the knowledges and techniques necessary for increasing cardiorespiratory efficiency. Assessment of status and development of a personal program. (S/U only.)

PEL 2122 (PEB 273) GOLF II (2)
Continuation of PEB 173. Emphasis on course play and refinement of strokes. (S/U only.)

PEM 2202 (PEB 275) GYMNASTICS II (2)
Continuation of PEB 175. Extended opportunities to master the various gymnastics events. Competition and individual routines. (S/U only.)

PEM 2160 (PEB 276) WEIGHT CONTROL (2)
Introduction to the knowledges and techniques necessary for effecting a change in a body composition. Assessment of status and development of a personal program. (S/U only.)

PEL 2342 (PEB 279) TENNIS II (2)
Continuation of PEB 179. Refinement of basic skills, supplementary strokes; greater emphasis on tactics and playing strategies. (S/U only.)

PET 2330 (PEB 290) HUMAN KINESIOLOGY I (2)
An introduction to the structure and function of the skeletal

and neuromuscular systems in reference to their support of vigorous human movement. (S/U only.)

PET 2340 (PEB 291) HUMAN KINESIOLOGY II (2)
PR: PEB 290. An introduction to the mechanical principles which govern human movement. (S/U only.)

PEQ 3115 (PEB 364) WATER SAFETY INSTRUCTION (2)
PR: PEB 236. Examination of the various swimming strokes leading to identification of appropriate methods and techniques for instructing others. ARC certification offered. (S/U only.)

PHYSICS (PHY)

Chairperson: N. L. Oleson; *Professors:* S. C. Bloch, R. Gilmore, N. C. Halder, W. D. Jones, H. W. Kendall, N. L. Oleson, S. J. Webb; *Associate Professors:* J. L. Aubel, H. R. Brooker, R. W. Clapp, Jr., S. R. Deans, R. W. Flynn, W. H. Kruschwitz, R. W. Mitchell; *Assistant Professor:* R. J. Berkley; *Visiting Professor:* W. L. Gottschalk; *Visiting Assistant Professor:* D. A. Vincent *Lecturer:* J. E. Turbeville.

PHY 2050 (PHY 201-202) GENERAL PHYSICS AND LABORATORY (4:1)
First quarter of 3-quarter sequence of general physics (mechanics , heat, electricity, wave motion, optics, atomic and nuclear physics) and laboratory for science students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 2051 (PHY 203-204) GENERAL PHYSICS AND LABORATORY (4:1)
PR: PHY 201-202. Second quarter of general physics and lab for science students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III,IV.

PHY 2052 (PHY 205-206) GENERAL PHYSICS AND LABORATORY (4:1)
PR: PHY 201-202. Third quarter of general physics and lab for science students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 2038 (PHY 271) ENERGY AND HUMANITY (4)
This course, which is primarily qualitative and discussion oriented, and designed for students of all disciplines and backgrounds, looks at the social, economic, and political aspects of the U.S. and world energy situations. This down-to-earth course, which tells it like it is, seeks to get students involved, teach them how to conserve energy for profit, and show them how they can personally use solar energy as a complementary energy source for both residential and commercial purposes. Field trips, movies, and current energy-related news articles play important roles in this course. *(For non-majors.)* Qtr. I, II, III, IV.

PHY 3040 (PHY 301-302) GENERAL PHYSICS AND LABORATORY (3:1)
CR: MTH 302 or MTH 351. First quarter of 3-quarter sequence of general physics (mechanics , wave motion, sound, thermodynamics, geometrical and physical optics, electricity and magnetism) and laboratory for physics majors and engineering students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 3041 (PHY 303-304) GENERAL PHYSICS AND LABORATORY (3:1)
PR: PHY 301-302: CR: MTH 303 or MTH 352. Second quarter of general physics and laboratory for physics majors and engineering students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 3042 (PHY 305-306) GENERAL PHYSICS AND LABORATORY (3:1)
PR: PHY 301-302; CR: MTH 303 or MTH 352. Third quarter of general physics for physics majors and engineering students. Must be taken concurrently and, if dropped, then dropped simultaneously. Qtr. I, II, III, IV.

PHY 3223 (PHY 307) MECHANICS I (3)
CR: MTH 305 or MTH 354 and either PR: PHY 301 or CR: PHY 315. First quarter of 3 quarter sequence. Review of vector algebra and vector calculus. Single particle dynamics, rotating coordinate systems, planetary motion, linear and nonlinear oscillators. Qtr. I.

PHY 3323 (PHY 309) ELECTRICITY AND MAGNETISM I (4)
PR: MTH 305 or MTH 354. Electromagnetic circuits; resistance, capacitance, inductance, direct- and alternating-current circuits, thermoelectricity and instrumentation. Laboratory. First quarter of sequence PHY 309-409-419. Qtr. II.

PHS 3102 (PHY 311) PROBLEMS IN GENERAL PHYSICS I (1)
CR: PHY 301. First quarter of three quarter sequence of general physics problems. A course designed to allow those interested students to investigate problems not covered in the general physics course. Lec. Qtr. I, II, III, IV.

PHS 3103 (PHY 312) PROBLEMS IN GENERAL PHYSICS II (1)
CR: PHY 303. Second Quarter of sequence PHY 311-312-323. Qtr. I, II, III, IV.

PHS 3104 (PHY 313) PROBLEMS IN GENERAL PHYSCS III (1)
CR: PHY 305. Third quarter of sequence PHY 311-312-313, Qtr. I, II, III, IV.

PHS 3101 (PHY 315) MATHEMATICAL ANALYSIS OF PROBLEMS IN MECHANICS AND ELECTRICITY (3)
PR: One year of non-calculus general physics. CR: MTH 305 or MTH 354. Designed for students who have not had the general physics sequence using calculus. Review of mechanics and electricity emphasizing problems which involve the use of calculus. Qtr. I, III.

PHY 3123 (PHY 323) MODERN PHYSICS I (3)
PR: PHY 305 or CR: PHY 315; PR: MTH 305 or MTH 354. Interaction and duality of particles and radiation. Atomic and x-ray spectra and Bohr model of atom. Schroedinger wave equation. Introduction to solid state physics. Qtr. I, II, III, IV.

PHY 3423 (PHY 331) OPTICS (4)
PR: PHY 305 or PHY 315. CR: MTH 304 or MTH 353. Reflection, refraction, dispersion, interference, diffraction, polarization and laboratory. Qtr. I.

PHY 3822 (PHY 341) INTERMEDIATE LABORATORY (2)
CR: PHY 205 or 305 or equivalent. Experiments in modern physics, including the area of atomic, nuclear, solid state and wave phenomena. Qtr. I, III.

PHY 3020 (PHY 371) CONTEMPORARY PHYSICS (5)
PR: Junior standing. A qualitative, non-mathematical investigation of physics, emphasizing its influence on life today. *(No credit for physics or mathematics majors.)* Qtr. I, II, III.

PHY 4523 (PHY 405) STATISTICAL PHYSICS (4)
CR: PHY 323 or PHY 423. Statistical approach to thermodynamics and kinetic theory and introduction to statistical approach to thermodynamics and kinetic theory and introduction to statistical mechanics. Qtr. I.

PHY 4224 (PHY 407) MECHANICS II (3)
PR: PHY 307 and MTH 401. Continuation of PHY 307. Motion of a group of particles, coupled oscillators, normal modes, dynamics of rigid bodies. Lagrange's and Hamilton's equations, principle of least action. Qtr. II.

PHY 4324 (PHY 409) ELECTRICITY AND MAGNETISM II (3)
PR: PHY 307. PHY 309 or CI. CR: Math 401. Electro-static

fields, magnetic fields of steady currents, dielectrics and magnetic materials, Maxwell's equations. Second quarter of sequence PHY 309, 409, 419. Qtr. III.

PHS 4814 (PHY 415) FUNDAMENTAL ACOUSTICS (4)
PR: PHY 307 or CI. Vibrations of elastic media, sound generation and propagation. Acoustical, electrical and mechanical energy conversion. Underwater acoustics. Qtr. IV.

PHY 4225 (PHY 417) MECHANICS III (3)
PR: PHY 407. Continuation of PHY 407. Elastic media, the wave equation, transverse and longitudinal wave motion, the diffusion equation, boundary value problems and Fourier series. Fourier integral, fluid dynamics. Qtr. III.

PHY 4325 (PHY 419) ELECTRICITY AND MAGNETISM III (3)
PR: PHY 409. Method of images, Laplace's equation, radiation, transmission, reflection and refraction of electromagnetic waves, guided waves. Third quarter of sequence PHY 309, 409, 419. Qtr. I.

PHS 4404 (PHY 421) SOLID STATE PHYSICS I (4)
PR: PHY 323 or PHY 423; MTH 401. Crystal structure, x-ray and electron diffraction, mechanical and thermal properties of solids, electrical and magnetic properties of metals, band theory of metals insulators and semiconductors. First quarter of sequence PHY 421-521. Qtr. II.

PHY 4744 (PHY 422) ELECTRONICS FOR RESEARCH (4)
PR: General Physics or CI. Direct and alternating current circuits, transients, rectification, amplification; feedback, pulse circuits, and integrated circuits, laboratory. (No credit for physics or mathematics majors.) Qtr. I, III.

PHY 4124 (PHY 423) MODERN PHYSICS II (3)
PR: PHY 323 or CI, MTH 401. Special theory of relativity, statistical distribution functions, angular momentum, system of identical particles, and properties of matter. Qtr. I.

PHY 4604 (PHY 437) QUANTUM MECHANICS I (3)
PR: PHY 423 or CI. Wave-particle duality, uncertainty principle, Schdodinger's equation, postulates, angular momentum, and central forces. First quarter of sequence PHY 437-537. Qtr. II.

PHY 4823 (PHY 441) ADVANCED LABORATORY (2)
PR: PHY 341. Experimental work primarily related to nuclear physics. Emphasis on modern physical experimental techniques employing some of the new types of equipment. Qtr. I, III.

PHS 4806 (PHY 470) ACOUSTICS FOR COMMUNICOLOGY (4)
Non-mathematical study of general wave motion and associated phenomena. Acoustic resonance and response of the ear. Introduction to harmonic analysis of complex wave-forms with application to testing with pure tones and various types of waves. Acoustic instrumentation. *(No credit for science majors.)* Qtr. I, II.

PHY 4910 (PHY 481) UNDERGRADUATE RESEARCH (1-6)
PR: Senior or advanced junior standing and CC. Individual experimental work under supervision of instructor. (S/U only.) Qtr. I, II, III, IV.

PHY 4936 (PHY 483) SELECTED TOPICS IN PHYSICS (1-6)
PR: Senior or advanced junior standing and CC. Each topic is a course in directed study under the supervision of a faculty member.

PHY 4930 (PHY 491) PHYSICS SEMINAR (1)
PR: Senior or advanced junior standing or CC. All undergraduate physics majors must enroll in this course at least twice and are expected to attend all Physics Colloquia. (S/U only.) Qtr. I, II, III, IV

——— (PHY 497) INDEPENDENT STUDY (1-4)
PR: CI. Specialized, independent study determined by the student's need and interest. The written contract required by the College of Natural Sciences specifies the regulations governing independent study. May be repeated. (S/U only.) Qtrs. I, II, III, IV.

PHS 5303 (PHY 501) NUCLEAR PHYSICS (4)
PR: PHY 437 or CI. Nuclear forces, nuclear models, nuclear structure, decay, nuclear reactions, and high energy physics. Qtr. I.

PHS 5505 (PHY 517) PLASMA PHYSICS I (4)
PR: PHY 419 or CI. Introduction to Boltzmann, magneto-hydrodynamic and orbit approaches to plasmas. Longitudinal and electromagnetic waves in plasmas. Collisions and radiation. Instabilities. Qtr. IV.

PHS 5405 (PHY 521) SOLID STATE PHYSICS II (3)
PR: PHY 421. Optical, electrical and magnetic properties of insulators, superconductivity, imperfections in solids. Second quarter of sequence PHY 421-521. Qtr. III.

PHY 5722 (PHY 523) ELECTRONICS (4)
PR: PHY 409 and PHY 341. Vacuum and gas-discharge tubes, semiconductors, transistors, electronic circuit analysis and laboratory. Qtr. II.

PHY 5624 (PHY 537) QUANTUM MECHANICS II (3)
PR: PHY 437 or CI. Matrix mechanics, approximation methods, transformations, scattering and identical particles. Qtr. III.

PHS 5113 (PHY 541) METHODS OF THEORETICAL PHYSICS I (3)
PR: MTH 401 or CI. Applications of mathematical techniques to classical and modern physics. Vector spaces including Hilbert space and Dirac notation, elements of vector and tensor analysis, matrices, group representations, eigenvalue problems, and variational calculus. Qtr. I.

PHS 5114 (PHY 542) METHODS OF THEORETICAL PHYSICS II (3)
PR: MTH 401 or CI. Applications of mathematical techniques to classical and modern physics. Elements of complex analysis including conformal mapping and calculus of residues, Fourier analysis, and transform calculus. Qtr. II.

PHS 5115 (PHY 543) METHODS OF THEORETICAL PHYSICS III (3)
PR: MTH 401 or CI. Applications of mathematical techniques to classical and modern physics. Orthogonal and special functions, integral equations, Green's functions, methods of data analysis, and approximation techniques. Qtr. III.

PHY 5937 (PHY 583) SELECTED TOPICS IN PHYSICS (1-6)
PR: Senior or advanced standing and CC. Each topic is a course in directed study under the supervision of a faculty member.

PHS 6204 (PHY 601) ATOMIC AND MOLECULAR SPECTRA (4)
PR: PHY 437 or CI. Quantitative study of atomic and molecular structure and spectra. Qtr. IV.

PHY 6536 (PHY 605) STATISTICAL MECHANICS (4)
PR: PHY 405 or CI. Kinetic theory, configuration and phase space. Boltzmann theorem, Liouville theorem, ensemble theory, quantum statistics. Qtr. III.

PHY 6246 (PHY 607) CLASSICAL MECHANICS I (3)
PR: PHY 541 or CI. Dynamics of particles and systems of particles, Lagrange's equations, central forces, rigid body dynamics. First quarter of sequence PHY 607-608. Qtr. II.

PHY 6247 (PHY 608) CLASSICAL MECHANICS II (3)
PR: PHY 607 or CI. Hamilton's equations, canonical transformations, Poisson brackets, small oscillations, Hamilton-Jacobi theory, continuous systems. Qtr. III.

PHS 6525 (PHY 617) PLASMA PHYSICS II (4)
PR: PHY 517, or CI. An analytical study of the various types of wave phenomena in plasmas describable by the continuum equations, the Boltzmann-Vlasov equation or the Boltzmann equation. Qtr. I.

PHS 6426 (PHY 621) SOLID STATE PHYSICS II (3)
PR: PHY 521 or CI. Advanced course on Solid State Physics covering material of current interest.

PHY 6346 (PHY 631) ELECTROMAGNETIC THEORY I (4)
PR: PHY 419 or CI. Electrostatics, magnetostatics, potential and boundary value problems. Maxwell's equations. First quarter of sequence PHY 631-632. Qtr. I.

PHY 6347 (PHY 632) ELECTROMAGNETIC THEORY II (4)
PR: PHY 631 or CI. Electromagnetic waves, wave guides and resonant cavities, diffraction, relativistic-particle kinematics and dynamics, plasmas and magnetohydrodynamics. Qtr. II.

PHY 6625 (PHY 637) QUANTUM MECHANICS III (3)
PR: PHY 537 or CI. Dirac equation, quantized fields, collision theory, symmetry and invariance. Qtr. I.

PHY 6846 (PHY 641) EXPERIMENTAL PHYSICS (2)
PR: Graduate standing. Laboratory techniques frequently required in experimental research. Includes manipulation of glass, production and measurement of vacua, production and measurement of thin films, and use of various machine tools. Qtr. I.

PHS 6136 (PHY 651) PHYSICAL APPLICATIONS OF GROUP THEORY (4)
PR: PHY 542 or CI. Introduction to the theory of Lie Groups and Lie Algebras; applications to atomic and molecular physics, solid state physics, nuclear physics, classical physics and elementary particle physics. (Offered alternate years.)

PHS 6607 (PHY 657) THEORY OF RELATIVITY (4)
PR: PHY 541 or CI. The special and general theory of relativity, including the gravitational field equations, applications of the special theory, experimental tests of the general theory and various topics of current research interest. (Offered alternate years.)

PHY 6911 (PHY 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

PHY 6938 (PHY 683) SELECTED TOPICS IN PHYSICS (1-5)
PR: CC. Each topic is a course in directed study under the supervision of a faculty member.

PHY 6935 (PHY 691) GRADUATE SEMINAR (1)
All physics graduate students are expected to enroll in this course Qtr. I each year. (S/U only.) Qtr. I, II, III, IV.

PHY 6940 (PHY 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

PHY 6909 (PHY 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

PHY 6971 (PHY 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

POLITICAL SCIENCE (POL)

Chairperson: J. E. Jreisat; *Professor:* L. Bowman; *Associate Professors:* S. A. Barber, F. J. Horrigan, W. E. Hulbary, J. E. Jreisat, A. E. Kelley, M. E. O'Donnell, S. Stoudinger; *Assistant Professors:* R. A. Factor, K. Glover, A. B. Levy, D. Paulson, P. N. Rigos, J. B. Snook, H. E. Vanden; *Instructor:* J. S. Prochera; *Visiting Instructor:* V. Lauber.

POS 2041 (POL 200) AMERICAN NATIONAL GOVERNMENT (4)
Analysis of basic principles and procedures of the American governmental system with emphasis on current issues and trends. (Formerly POL 201.)

POL 2112 (POL 201) STATE AND LOCAL GOVERNMENT AND POLITICS (4)
Analysis of the structure and function of state and local governments, of the social and political influences that shape them, and of the dynamics of their administrative processes. (Formerly POL 203.)

POT 3003 (POL 310) INTRODUCTION TO POLITICAL THEORY (4)
Survey of the various kinds of theory used by political scientists for understanding political phenomena. Examination of the principal distinctions, contributions and problems in such theories as normative theory, empirical theory, historicist theory and analytic theory. Open to majors and non-majors.

POT 3034 (POL 311) CLASSICAL POLITICAL THEORY (4)
Analysis of basic political ideas from the works of Plato, Aristotle, Cicero, and other leading Greek and Roman political philosophers. (Formerly POL 461.)

POS 3713 (POL 315) EMPIRICAL POLITICAL ANALYSIS (4)
An introduction to the conduct of empirical political inquiry and to research methods. Techniques of data generation, collection, and analysis will be emphasized. Laboratory exercises required. (Formerly POL 343.)

CPO 3002 (POL 320) INTRODUCTION TO COMPARATIVE GOVERNMENT AND POLITICS (4)
Analysis of political systems using the concepts and methods of comparative politics. (Formerly POL 311.)

INR 3002 (POL 330) INTRODUCTION TO INTERNATIONAL RELATIONS (4)
Study of contemporary international affairs, including analysis of politics among nations; control of national foreign policies, sovereignty, nationalism and diplomacy; technology, public opinion and war in international relations. (Formerly POL 331.)

INR 3104 (POL 331) AMERICAN FOREIGN POLICY (4)
Analysis of the development and scope of United States foreign policy focusing upon our aims, decision-making, application of policies, and alternatives for specified problem areas in foreign affairs. (Formerly POL 338.)

POS 3182 (POL 341) FLORIDA POLITICS AND GOVERNMENT (4)
A study of Florida political culture, political parties and elections, the legislative, executive, and judicial systems, and policy patterns. Open to majors and non-majors.

POS 3173 (POL 342) SOUTHERN POLITICS (4)
Comparative analysis of selected political patterns and trends in the eleven southern states since 1950. (Formerly POL 347.)

POS 3273 (POL 343) PRACTICAL POLITICS (4)
PR: POL 200 or 346 or CI. Field work in local political party activities and election campaigns. Open to majors and non-majors.

POS 3453 (POL 346) POLITICAL PARTIES AND INTEREST GROUPS (4)
Analysis and understanding of the role, functions and processes of political parties and interest groups in American government. (Formerly POL 341.)

POS 3142 (POL 350) INTRODUCTION TO URBAN POLITICS AND GOVERNMENT (4)
An introductory analysis of governmental structures, political process and problems in metropolitan areas. Open to majors and non-majors.

POS 3145 (POL 352) GOVERNING METROPOLITAN AREAS (4)
Examines current governmental institutions and their operating characteristics in light of the formation and growth of met-

ropolitan areas and the need for regional governance, and identifies and analyzes current governance problems and potential institutions for effective governance. Open to majors and non-majors.

PAD 3003 (POL 360) INTRODUCTION TO PUBLIC ADMINISTRATION (4)
A comprehensive examination of the field of public administration, with emphasis on the development of important theories and practices within the context of the American political system. (Formerly POL 351.)

POS 3692 (POL 370) INTRODUCTION TO LAW AND POLITICS (4)
Survey of important aspects of the study of law in political science. Among topics considered are the nature of law and the legal process and the relationship to political life of constitutional law, administrative law, the judicial process and private law. Understanding is sought in the related dimensions of legal theory, behavior, and impact on public policy.

INR 3403 (POL 371) INTERNATIONAL LAW AND DIPLOMACY (4)
Contemporary international norms, agreements and negotiations. Their influence on, and response to, a changing international system. (Formerly POL 436.)

POS 3493 (POL 373) JUDICIAL PROCESS (4)
Studies in the organization, development and function of American court systems. and the roles they play in the process of government. Open to majors and non-majors.

POS 3283 (POL 374) JUDICIAL POLITICS (4)
Consideration of selected theories of judicial decision-making. Examination and application of social science methodology to the study of court systems. (Formerly POL 434.)

POT 4204 (POL 411) AMERICAN POLITICAL THOUGHT (4)
Analysis of American political thought from the colonial period to the present with emphasis on recent contributions. (Formerly POL 463.)

POT 4054 (POL 412) MODERN POLITICAL THOUGHT (4)
Analysis of basic political ideas from the works of Machiavelli, Hobbs, Locke, Rousseau, Burke, Benthem, and Mill. (Formerly POL 462.)

POT 4064 (POL 413) CONTEMPORARY POLITICAL THOUGHT (4)
Analysis of themes and personalities from 19th and 20th century political thought. (Formerly POL 464.)

POS 4204 (POL 414) POLITICAL BEHAVIOR (4)
Analysis of economic, psychological and social dimensions of political behavior; political participation; leadership and elites; political attitudes; voting behavior and decision-making processes. (Formerly POL 443.)

CPO 4930 (POL 426) COMPARATIVE GOVERNMENT AND POLITICS OF SELECTED COUNTRIES OR AREAS (4)
Studies a single political system or several political systems with common elements. Structure, process, domestic and foreign policies and regional roles are considered. May be repeated for credit as topics vary. Open to majors and non-majors.

CPO 4034 (POL 427) POLITICS OF THE DEVELOPING AREAS (4)
An analysis of the ideologies, governmental structures, and political processes of selected nations of the non-Western world. (Formerly POL 561.)

INR 4502 (POL 432) INTERNATIONAL ORGANIZATION (4)
The problems of achieving peace through existing international structures, both within and outside the United Nations. The background, achievement and organizational problems of these agencies. (Formerly POL 333.)

INR 4334 (POL 433) DEFENSE POLICY (4)
Analytic study of contemporary American defense policy. It includes institutional factors contributing to formulation of defense policy and the impact of such policy on international relations. (Formerly POL 415.)

POS 4413 (POL 447) THE AMERICAN PRESIDENCY (4)
Examination of the presidency as a political institution. Analysis of constitutional, statutory and informal powers; legislative and political leadership; presidential decision-making processes; administrative responsibilities; White House staffing; limits on power. (Formerly POL 441.)

POS 4424 (POL 448) THE AMERICAN CONGRESS (4)
Analysis of the American Congress; organization, procedure, committee system, party leadership, relations with governmental and non-governmental organizations and agencies, oversight and decision-making process. (Formerly POL 455.)

POS 4233 (POL 449) VOTING BEHAVIOR, PUBLIC OPINION, AND ELECTIONS (4)
Critical analysis of mass voting behavior and the role of elections in formally democratic political systems. Special emphasis on American patterns, with secondary attention to cross-national research. Open to majors and non-majors.

URP 4050 (POL 451) CITY PLANNING AND COMMUNITY DEVELOPMENT (4)
An introduction to the development, role and components of city planning in local government and to the potential and actual policies of state and local government in attempting to regulate or control urbanization. Open to majors and non-majors.

PUP 4534 (POL 452) HOUSING AND GOVERNMENT (4)
Examines the role of federal, state, and local government in the formulation and implementation of housing policy. Analyzes the political aspects of housing policy formation and the administrative aspects of the housing delivery system. Open to majors and non-majors.

POS 4165 (POL 453) CITY POLITICS (4)
Analysis of the politics of cities and suburbs: citizen attitudes, voting, participation; ethnic politics; the political machine; community power structures; interest groups. Open to majors and non-majors.

PAD 4204 (POL 466) PUBLIC FINANCIAL ADMINISTRATION (4)
Analysis of problems in the growth and development of public budgets, with emphasis on principal techniques and theories of fiscal administration. (Formerly POL 457.)

POS 4614 (POL 471) CONSTITUTIONAL LAW I (4)
Examination of the underlying philosophy of the American Constitution, its principal institutions, their legal relationships to each other and the scope of their powers. Analysis of cases and commentaries from the founding period to the present. (Formerly POL 431.)

POS 4624 (POL 472) CONSTITUTIONAL LAW II (4)
Analysis of the evolution of individual rights in such areas as property rights, rights of the accused, minority rights, and freedom of expression. Examination of Supreme Court cases and scholarly commentaries. (Formerly POL 432.)

POS 4693 (POL 473) WOMEN AND LAW (4)
Issues concerning the legal aspects of sex and sex-based discrimination as embodied in statutory and case law. Open to majors and non-majors. (Also offered as WSP 473.)

POS 4910 (POL 481) INDIVIDUAL RESEARCH (1-8)
PR: 3.0 average in Political Science and CI. Investigation of some aspect of political science culminating in the preparation of an original research paper.

POS 4941 (POL 482) FIELD WORK (4)
PR: 3.0 average in Political Science and CI. Opportunity for students to obtain practical experience, knowledge and understanding of local government, politics and administration by becoming involved as research and administrative aides to agencies and institutions of local government.

POS 4936 (POL 491) SENIOR SEMINAR (4)
PR: Senior standing. Designed to give the student an opportunity to examine and apply various concepts and methods in the field of political science to some integrated problem area.

POS 4970 (POL 492) HONOR THESIS (4)
PR: Admission to Honor Plan and CI. Writing of honor thesis under direction of faculty members.

POT 5626 (POL 510) ISSUES IN POLITICAL PHILOSOPHY AND LAW (4)
Selected topics in political philosophy and law. May be repeated for credit as topics vary.

POS 5734 (POL 515) POLITICAL RESEARCH METHODS (4)
An examination of problems and issues of political research methods, including the formulation of research problems, research design, acquisition of data and analysis.

POS 5764 (POL 516) COMPUTER APPLICATIONS IN POLITICAL SCIENCE (4)
An introduction to the applications of computers to the study of politics. Topics include: unit-record equipment, electronic computer, coding of data, statistical packages, data analysis, alternative applications.

CPO 5934 (POL 520) ISSUES IN COMPARATIVE GOVERNMENT AND INTERNATIONAL RELATIONS (4)
Selected issues and topics in Comparative Government and International Relations. May be repeated for credit as topics vary.

POS 5094 (POL 540) ISSUES IN AMERICAN NATIONAL AND STATE GOVERNMENT (4)
Selected issues and topics in American National and State Governments. May be repeated for credit as topics vary.

POS 5155 (POL 550) ISSUES IN URBAN GOVERNMENT AND POLITICS (4)
Selected issues and topics in Urban Government and politics. May be repeated for credit as topics vary.

PAD 5807 (POL 551) ADMINISTRATION OF URBAN AFFAIRS (4)
An analysis of the role of the administrator at the municipal level stressing the division of functions, policy formation, alternative governmental structures and their effect on administrative processes. (Formerly POL 520.)

PAD 5035 (POL 560) ISSUES IN PUBLIC ADMINISTRATION AND PUBLIC POLICY (4)
Selected issues and topics in Public Administration and Public Policy. May be repeated for credit as topics vary.

PAD 5333 (POL 561) CONCEPTS AND ISSUES IN PUBLIC PLANNING (4)
Analysis of planning in the public sector and the various important processes involved, such as policy determination, collection of information, decision-making, and other organizational and political processes.

PAD 5417 (POL 562) PUBLIC PERSONNEL ADMINISTRATION (4)
An analysis of recruitment, testing, training,employee and human relations in the public service. (Formerly POL 525.)

PAD 5836 (POL 563) COMPARATIVE PUBLIC ADMINISTRATION (4)
Analysis of Public Administrative systems or institutions cross-nationally with special emphasis on conceptual developments and empirical knowledge from Western and non-Western types of governments. (Formerly POL 527.)

PAD 5612 (POL 564) ADMINISTRATIVE REGULATION (4)
An analysis of the regulatory functions and processes in the American political system. The regulatory commissions, their functions, powers, management, and relations with other branches of government are covered.

PAD 5605 (POL 571) ADMINISTRATIVE LAW (4)
An examination of the constitutional bases and limitations of the administrative process, administrative adjudication, rule making and the judicial review of such actions.

POS 5699 (POL 574) RESEARCH IN LAW AND POLITICS (4)
Application of basic research tools to problems of case law and legislative history. Actual research experiences are employed to develop skills in such tasks as analyzing judicial opinions, finding points of law and researching legislative intent. The use of these skills is illustrated in a variety of settings, including public, governmental and academic research.

POS 6706 (POL 610) SCOPE AND METHODS OF POLITICAL SCIENCE (4)
Advanced study of the scope and methodologies of political science, including their applications to different research areas. (Formerly POL 600.)

POS 6207 (POL 614) POLITICAL BEHAVIOR (4)
Advanced study of determinants and dimensions of political behavior; political participation, voting, attitudes, public opinion, leadership, and elite behavior.

POT 6007 (POL 615) SEMINAR IN POLITICAL THEORY (4)
This course will deal with the major contributions to political theory through the ages. An analysis, both critical and analytical, of the major works will be attempted.

POL 6246 (POL 616) POLITICAL SOCIALIZATION (4)
Seminar in selected phases of the political socialization process. (Formerly POL 640.)

CPO 6007 (POL 620) SEMINAR IN COMPARATIVE GOVERNMENT AND POLITICS (4)
Comparative analysis of political systems in terms of processes, institutions and behavior. (Formerly POL 662.)

CPO 6008 (POL 626) GOVERNMENT AND POLITICS OF SELECTED COUNTRIES OR AREAS (4)
Examination of the government and politics of one country or a group of countries constituting an area. The specific country or area to be determined by the instructor. May be repeated for credit as topics vary.

CPO 6036 (POL 627) POLITICS OF DEVELOPING AREAS (4)
Advanced study of ideologies, governmental structures and political processes of selected nations of the non-Western world.

INR 6007 (POL 630) SEMINAR IN INTERNATIONAL RELATIONS (4)
Investigation of selected phases of international relations in world politics. (Formerly POL 667.)

INR 6107 (POL 631) AMERICAN FOREIGN POLICY (4)
A study of U.S. foreign policies with emphasis on decision-making processes, structures; policy outcome; and the evaluation of related political and economic issues.

POS 6045 (POL 640) SEMINAR IN AMERICAN NATIONAL GOVERNMENT AND POLITICS (4)
Advanced study of the institutions and processes of American national government. (Formerly POL 670.)

POS 6127 (POL 641) SEMINAR IN STATE GOVERNMENT AND POLITICS (4)
Advanced study of the institutions and processes of American state government. (Formerly POL 645.)

POS 6455 (POL 646) POLITICAL PARTIES AND INTEREST GROUPS (4)
Analysis of role, functions and various special characteristics of political parties and interest groups as well as their interactions with other political institutions in the political process.

POS 6415 (POL 647) THE AMERICAN PRESIDENCY (4)
Analysis of problems of modern presidency, with emphasis on staffing and decision-making.

POS 6427 (POL 648) THE LEGISLATIVE PROCESS (4)
Analysis of formal and informal decision-making processes in-House and Senate; executive-legislative conflict and cooperation; input/output analysis.

POS 6157 (POL 650) SEMINAR IN URBAN GOVERNMENT AND POLITICS (4)
Analysis of the literature in urban government and politics, with special emphasis on urban political behavior and the development of various theories and propositions regarding governmental structure and the formation and implementation of public policy. (Formerly POL 675.)

URP 6056 (POL 651) CITY AND REGIONAL PLANNING (4)
An investigation of regional planning and a review of goals, objectives, and interrelationships between regional and city planning; and intergovernmental and policy issues in the regional planning process.

PUP 6538 (POL 652) GOVERNMENTAL HOUSING POLICY (4)
This course examines government involvement in housing, with special emphasis on the development and analysis of certain housing programs.

PAD 6306 (POL 653) URBAN POLICY ANALYSIS (4)
Systematic examination of the organizational and administrative characteristics of planning, program development and reporting activities conducted at local levels by various state, regional and federal agencies. (Formerly POL 620.)

PAD 6060 (POL 660) SEMINAR IN PUBLIC ADMINISTRATION (4)
Examination of major conceptual developments, current research interests, issues, and problems in the theory and process of public administration.

PUP 6007 (POL 661) SEMINAR IN PUBLIC POLICY (4)
An analysis of the background and interpretation of various approaches which influence the formulation and execution of public policy.

PAD 6207 (POL 666) PUBLIC FINANCIAL ADMINISTRATION (4)
An examination of the fiscal organization of federal, state and local governments. Current problems in budgeting, revenue and indebtedness are considered.

PAD 6037 (POL 667) BUREAUCRACY AND PUBLIC POLICY (4)
Analysis of the formal, informal and societal characteristics of public bureaucracies and their impact on public policy. (Formerly POL 627.)

PAD 6228 (POL 668) STATE AND LOCAL BUDGETING (4)
An examination of the budgetary systems and practices of state and local governments with emphasis on preparation, authorization, execution and control.

POS 6698 (POL 670) SEMINAR IN LAW AND POLITICS (4)
Advanced study of institutions and processes in the field of law and politics.

POS 6607 (POL 671) CONSTITUTIONAL LAW (4)
Advanced study of legal, political and methodological problems related to constitutional law.

POS 6919 (POL 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

POS 6934 (POL 683) SELECTED TOPICS IN POLITICAL SCIENCE (4)
Selected topics, issues and problems in political science for advanced graduate students. May be repeated for credit as topics vary.

POS 6942 (POL 685) FIELD WORK IN POLITICAL SCIENCE (4)
PR: 3.0 average in Political Science and CI. Application of research models now employed in governmental agencies; including developing a structured research proposal. Designed to give the student practical experience in the administrative and political processes: (Formerly POL 571.)

POS 6909 (POL 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

POS 6971 (POL 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

PSYCHOLOGY (PSY)

Chairperson: J. M. Anker; *Professors:* J. M. Anker, D. E. Clement, M. W. Hardy, H. L. Hawkins, H. D. Kimmel, R. C. LaBarba, H. H. Meyer, D. L. Nelson, R. W. Powell, J. Sandler, J. B. Sidowski, F. Sistrunk, C. D. Spielberger, P. N. Strong; *Associate Professors:* A. J. Blomquist, J. M. Clingman, S. L. Cohen, R. L. Fowler, C. E. Nelson, L. A. Penner; *Assistant Professors:* S. B. Filskov, S. J. Garcia, B. Kinder, D. J. Rundus, D. H. VanDercar, W. Wheeler.

PSY 2012 (PSY 200) AN INTRODUCTION TO CONTEMPORARY PSYCHOLOGY (4)
Designed as an introductory course in psychology for both majors and non-major. A broad survey of contemporary psychology with special emphasis on the more applied areas of psychology (e.g., social psychology, clinical psychology, industrial psychology.)

PSY 3013 (PSY 300) GENERAL PSYCHOLOGY (4)
PR: PSY 200 or CI. Designed as an in-depth examination of the basic principles and concepts of psychology. It is intended to provide the student with the necessary knowledge for the more specialized courses that follow. Students will be introduced to the basics of experimental investigation and be given extensive coverage of the basic areas of psychology (e.g., learning, perception, neuropsychology.) 3 lecture, 1 discussion/lab.

PSY 3213 (PSY 311-312) RESEARCH METHODS IN PSYCHOLOGY (4,1)
PR: PSY 200, 300; SSI 301. Scientific research methods and their applications for psychology. Topics include experimental planning, control procedures and interpretive principles. Lecture plus two-hour lab. Must be taken concurrently.

INP 3102 (PSY 313) APPLIED PSYCHOLOGY (4)
The application of psychological principles and the functions of psychologists in education, government, industry, and clinical practice. *Not for major credit.*

CLP 3003 (PSY 335) PSYCHOLOGY OF ADJUSTMENT (4)
Genetic, organic and learned factors involved in the processes of personal adjustment: applications for mental health principles to everyday living. *Not for major credit.*

DEP 3103 (PSY 341) CHILD PSYCHOLOGY (4)
Developmental and psychosocial aspects of childhood, including hereditary, maturational, psychological, and social determinants of child behavior. *Not for major credit.*

PSY 3693 (PSY 371) CONTEMPORARY PROBLEMS IN PSYCHOLOGY (4)
Selected topics from all areas of psychology designed to give the undergraduate nonmajor an opportunity to become acquainted with psychological concepts relevant to contempo-

rary problems in our society. *Not for major credit.* (Formerly PSY 401.)

EXP 4404 (PSY 402) PSYCHOLOGY OF LEARNING (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. Survey of methods, empirical findings and theoretical interpretations in conditioning and instrumental learning. Lec.-lab.

DEP 4003 (PSY 403) DEVELOPMENTAL PSYCHOLOGY (4)
PR: PSY 200, 300; SSI 301; PSY 331-312. Survey of methods, empirical findings and theoretical interpretations in the study of human and animal development.

SOP 4004 (PSY 404) SOCIAL PSYCHOLOGY (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. Survey of methods, empirical findings and theoretical interpretations in the study of an individual's behavior as it is affected by others.

PSB 4013 (PSY 405) NEUROPSYCHOLOGY (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. Gross neural and physiological components of behavior. Structure and function of the central nervous system as related to emotion, motivation, learning, and theory of brain functions. Lec.-lab.

PSY 4205 (PSY 411) EXPERIMENTAL DESIGN AND ANALYSIS (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. Detailed coverage of those research designs and statistical techniques having the greatest utility for research problems in psychology. Emphasis on topics from analysis of variance.

PSY 4604 (PSY 415) SYSTEMATIC PSYCHOLOGY (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. The historical roots of modern psychological theories, investigation of the various schools of psychology such as behaviorism, Gestalt psychology, psychoanalysis, and phenomenological psychology.

EXP 4304 (PSY 421) MOTIVATION (4)
PR: PSY 200, 300; SSI 301; PSY 311-312, 402. An examination of human and animal motivations from both physiological and psychological viewpoints.

CBH 4003 (PSY 425) COMPARATIVE PSYCHOLOGY (4)
PR: PSY 200, 300; SSI 301; PSY 311-312, 402, 405. The study of the evolution of behavior, similarities and differences in capacities for environmental adjustment and for behavioral organization among the important types of living beings from plants and unicellular organisms to the primates including man.

INP 4002 (PSY 432) INDUSTRIAL PSYCHOLOGY (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. Application of psychological principles to industry. Topics include: selection and placement, testing, criterion development, performance appraisal, training, motivation, job attitudes and satisfaction, supervision, decision-making, organizational structure and theory, accidents and safety, human engineering.

CLP 4433 (PSY 436) PSYCHOLOGICAL ASSESSMENT (4)
PR: PSY 200, 300; SSI 301; 311-312. A consideration of the instruments for intellectual achievement, and personality assessment including their applications, development, and potential abuses. Students may *not* receive credit for both PSY 436 and EDF 303, Introduction to Measurement and Evaluation.

EXP 4523 (PSY 441) HUMAN MEMORY (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. Survey of methods, empiricial findings, and theoretical interpretations of human learning and retention, including concept learning, information processing and verbal learning. Lec.-lab.

EXP 4204 (PSY 445) PERCEPTION (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. How man perceives his environment. Topics include sensory bases of perception, physical correlates of perceptual phenomena, and the effects of individual and social factors on perception. Primary emphasis on vision and audition. Lec.-lab.

SOP 4742 (PSY 450) PSYCHOLOGY OF WOMEN (4)
An examination of theories of female personality. Concepts of personality theory regarding sex differences, differential socialization, and sex-typed behavior. Particular attention to research on achievement motivation, cognitive, perceptual, and motor performance differences, and to developmental tasks of women in our society. (Also offered as WSP 401.)

SOP 4772 (PSY 451) HUMAN SEXUAL BEHAVIOR (4)
The dynamics of human sexuality including biological, constitutional, cultural, and psychological aspects. Exploration of the range of sexual behavior across groups. Sources of beliefs and attitudes about sex, especially female sexuality, current status. Interdisciplinary faculty. (Also offered as WSP 405.)

PPE 4004 (PSY 452) PERSONALITY (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. Methods and findings of personality theories and an evaluation of constitutional, biosocial, and psychological determinants of personality.

CLP 4143 (PSY 455) PSYCHOPATHOLOGY (4)
PR: PSY 200, 300; SSI 301; PSY 311-312. Descriptions, theoretical explanations, research evidence and treatment of maladaptive behavior.

PSY 4913 (PSY 481) DIRECTED RESEARCH (1-4)
PR: Upper division standing and CI. The student plans and conducts an individual research project under the supervision of a psychology faculty member. May be repeated with a maximum of eight hours credit.

PSY 4904 (PSY 485) DIRECTED READING (1-4)
PR: Upper division standing and CI. A reading program of topics in psychology is conducted under the supervision of a psychology faculty member. May be repeated with a maximum of eight hours credit.

PSY 4931 (PSY 491) SELECTED TOPICS: SEMINAR (4)
PR: Upper division standing and CI. Graduate-type seminar designed to provide the advanced undergraduate student with the opportunity to interact with the faculty and other students for the purpose of developing an in-depth understanding of a selected sub-area within psychology. May be repeated with a maximum of eight hours credit.

PSY 4932 (PSY 492) HONORS SEMINAR (4)
PR: Admission to honors program in psychology and CI. Graduate-type seminar designed to provide the honors student with an opportunity to present, discuss, and defend his own research and to explore in depth topics in several areas of psychology. May be repeated with a maximum of twelve hours credit.

PSY 4970 (PSY 493) HONORS THESIS (4)
PR: Admission to honors program in psychology and CI. The student under supervision of a faculty member will formalize, conduct, analyze, and report in writing a research project in psychology.

EXP 6307 (PSY 609) MOTIVATION AND EMOTION (5)
PR: CI. A detailed examination of human motivation and emotion from both the physiological and psychological viewpoints. M.A. core course.

PPE 6058 (PSY 612) PERSONALITY (5)
PR: Admission to M.A. program in psychology or CI. Analysis of traditional and current theory and research in the area of personality. M.A. core course.

CLP 6477 (PSY 613) BEHAVIORAL DISORDERS OF CHILDREN (5)
PR: CI. Causative factors in behavior deviations common to children and adolescents. Thorough study of selected childhood mental disorders and a survey of ameliorative techniques for treating childhood behavior difficulties. Students may *not* receive credit for both PSY 613 and EDS 531, Behavior Disorders in the Schools.

CLP 6166 (PSY 614) PSYCHOPATHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. Exploration of current approaches to the understanding of pathological behavior and implications for theories of person-

ality. A survey of treatment methods is included. M.A. core course.

CLP 6438 (PSY 616) PSYCHOLOGICAL ASSESSMENT (5)
PR: CI. Courses cover theory, research, and applications of psychological assessment in areas such as interviewing, intellectual and congitive functioning, neuropsycho-diagnostics, and personality testing. May be repeated for credit with different subject matter.

EAB 6717 (PSY 621) APPLICATIONS OF LEARNING PRINCIPLES & PROCEDURES (5)
PR: Prior course in learning, or CI. Application of various learning principles and procedures to problems in specialized settings. Co-listed Rehabilitation Counseling (REH 621.)

PSY 6217 (PSY 631) RESEARCH METHODS AND MEASUREMENT (5)
PR: Admission to graduate degree program in psychology or CI. Courses designed to cover research methods and strategies and their application to psychology. Topics include logic and purpose of experimentation in psychology, measurement theory, design and analysis of experiments, probability, statistical inference, analysis of variance, correlational methods, interpretation of experimental findings. M.A. core course. May be repeated for credit with different subject matter.

PSB 6056 (PSY 634) PHYSIOLOGICAL PSYCHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. Neural and physiological foundations of behavior. Structure and function of the central nervous system and autonomic nervous system. Physiological basis of learning, motivation in sub-humans and humans. M.A. core course.

DEP 6058 (PSY 635) DEVELOPMENTAL PSYCHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. Detailed study of the development of human and animal behavior aimed toward an understanding on ontogenetic contributions to later behaviors. Effects of early experience on later behavior. M.A. core course.

EXP 6406 (PSY 636) LEARNING (5)
PR: Admission to M.A. program in psychology or CI. Habituation, sensitization, classical and instrumental conditioning, generalization, discrimination, trial and error learning, problem solving. M.A. core course.

EXP 6208 (PSY 638) PERCEPTION (5)
PR: Admission to M.A. program in psychology or CI. Current data and theory of perceptual processes. Consideration of physiological and psychological variables in perception, and applications of information theory and signal detection theory. M.A. core course.

SOP 6059 (PSY 639) SOCIAL PSYCHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. Overview of theory and research in social psychology. Attitudes, values, group processes, leadership, conformity, social learning and motivation. M.A. core course.

EXP 6526 (PSY 641) HUMAN MEMORY (5)
PR: Admission to M.A. program in psychology or CI. Review of methods, findings and theoretical interpretations associated with the study of acquisition and retention of information. M.A. core course.

INP 6056 (PSY 642) INDUSTRIAL PSYCHOLOGY (5)
PR: Admission to M.A. program in psychology or CI. An introduction to the major areas of Industrial-Organizational Psychology including the topics of selection and placement, training, criterion development and performance appraisal, job satisfaction and motivation, and organizational theory and structure. M. A. core course.

CLP 6937 (PSY 665) TOPICS IN CLINICAL-COMMUNITY PSYCHOLOGY (5)
PR: CI. Courses on topics such as humanistic psychology, community psychology, and clinical neuropsychology. May be repeated for credit with different subject matter.

EXP 6930 (PSY 670) TOPICS IN EXPERIMENTAL PSYCHOLOGY (5)
PR: CI. Courses on topics such as operant behavior, electrophysiological methods, psychophysiology, and memory. May be repeated for credit with different subject matter.

SOP 6669 (PSY 675) TOPICS IN SOCIAL-ORGANIZATIONAL PSYCHOLOGY (5)
PR: CI. Courses on topics such as experimental social psychology, organizational psychology, attitudes, and group processes. May be repeated for credit with different subject matter.

INP 6935 (PSY 676) TOPICS IN INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGY (5)
PR: CI. Courses on topics such as industrial psychology, testing in industry, human factors psychology, and training in industry. May be repeated for credit with different subject matter.

PSY 6917 (PSY 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

PSY 6946 (PSY 682) PRACTICUM AND INTERNSHIP IN CLINICAL PSYCHOLOGY (1-15)
PR: CI. Supervised training in community and university settings in the application of psychology. May be repeated for credit.

PSY 6947 (PSY 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

PSY 6218 (PSY 695) GRADUATE RESEARCH METHODS (1-5)
Special course to be used primarily for the training of graduate research assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

——— (PSY 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

PSY 6971 (PSY 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

PSY 7908 (PSY 720) DIRECTED READINGS IN PSYCHOLOGY (1-15)
PR: CI. An advanced reading program of selected topics in Psychology under the supervision of a psychology faculty member. The reading program is designed to meet the individual requirements and interest of graduate students in Psychology, with selected topics chosen by the student in close collaboration with a faculty member. May be repeated for credit.

SOP 7609 (PSY 760) GRADUATE SEMINAR IN SOCIAL-ORGANIZATIONAL PSYCHOLOGY (5)
PR: CI. Seminars on topics such as social psychology, scientific communication, and decision making. May be repeated for credit with different subject matter. (Formerly PSY 780.)

INP 7097 (PSY 761) GRADUATE SEMINAR INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGY (5)
PR: CI. Seminars on topics such as industrial psychology, evaluation of performance in industry, and human factors. May be repeated for credit with different subject matter. (Formerly PSY 781.)

CLP 7188 (PSY 764) PSYCHOTHERAPY AND BEHAVIOR CHANGE (5)
PR: Admission to graduate degree program in psychology and CI. Courses to cover the theoretical, empirical, and applied foundations of various systems of psychotherapy. Traditional relationship therapy, client-centered approaches, operant technique, group psychotherapy, and other varieties of therapeutic intervention. May be repeated for credit with different subject matter.

CLP 7379 (PSY 770) GRADUATE SEMINAR IN CLINICAL-COMMUNITY PSYCHOLOGY (5)
PR: CI. Seminars on topics such as psychopathology, community psychology, clinical issues, personality, and developmental psychology. May be repeated for credit with different subject matter.

EXP 7099 (PSY 775) GRADUATE SEMINAR IN EXPERIMENTAL PSYCHOLOGY (1-5)
PR: CI. Seminars on topics such as learning, perception, physiological psychology, cognitive processes, and quantitative methods. May be repeated for credit with different subject matter.

PSY 7918 (PSY 781) DIRECTED RESEARCH (var.)
PR: GR. Ph.D. level. Repeatable. (S/U only.)

PSY 7931 (PSY 790) SEMINAR IN ETHICS AND PROFESSIONAL PROBLEMS (5)
PR: Second year in Ph.D. program in psychology or CI. Ethical issues and professional problems in the practice of psychology.

PSY 7980 (PSY 799) DISSERTATION:DOCTORAL (var.)
PR: Must be admitted to Doctoral Candidacy. Repeatable. (S/U only.)

REHABILITATION COUNSELING (REH)

Director: C. M. Pinkard, Jr.; *Associate Professors:* J. F. Dickman, P. Gross, M. J. Landsman, C. M. Pinkard, Jr.; *Adjuncts:* D. S. Celander, C. W. Hubbard, A. M. Landsman, D. E. Pope.

EGC 5065 (REH 501) REHABILITATION: CONCEPTS AND THEORETICAL ISSUES (5)
A look at the historical origin, development, and current understanding of the philosophy of rehabilitation. The rehabilitation process is viewed as an integration of concepts and procedures from the medical, social-psychological, and legal disciplines.

EGC 5725 (REH 502) INTERPERSONAL ASPECTS OF REHABILITATION COUNSELING I (5)
PR: CI. Focuses on the effective utilization of one's self in the various counseling and coordinating relationships of the rehabilitation process. An introduction to encounter, body awareness, Gestalt counseling techniques, and related approaches.

EGC 5376 (REH 503) MEDICAL ASPECTS OF DISABILITY (5)
Study of medical information needed by the counselor in integrating medical services into the total rehabilitation process from referral to placement. Examines the effect of a client's physical condition on various areas of adjustment. Includes appraisal of physical capacities in terms of functional limitations and individual differences.

EGC 5493 (REH 507) SEMINAR IN PRINCIPLES AND PRACTICES OF REHABILITATION COUNSELING I (4)
PR: CI. Procedures appropriate in meeting the needs of handicapped individuals in the rehabilitation process. Must be taken concurrently with REH 508. (S/U only)

EGC 5850 (REH 508) PRACTICUM I (2)
PR: CI. Supervised observation experience and participation in counseling services in various rehabilitation agencies. Must be taken concurrently with REH 507. (S/U only.)

EGC 5905 (REH 509) DIRECTED STUDIES (2-5)
PR: CI. Study in rehabilitation counseling area under the direct supervision of a faculty member. May be repeated for a maximum of 10 hours credit.

EGC 6727 (REH 602) INTERPERSONAL ASPECTS OF REHABILITATION COUNSELING II (5)
PR: REH 502. An extension and intensification of skills developed in REH 502.

EGC 6163 (REH 603) PSYCHO-SOCIAL DISABILITY IN REHABILITATION COUNSELING (5)
PR: REH 502. Personal, social, and vocational consequences of emotional and social disabilities.

EGC 6767 (REH 604) RESEARCH METHODOLOGY IN REHABILITATION (5)
PR: CI. The aim of this course is to help students evaluate and utilize available research studies as well as to develop their own research skills. An individual research project is required.

EGC 6318 (REH 606) VOCATIONAL EVALUATION, ADJUSTMENT SERVICES AND PLACEMENT OF THE HANDICAPPED AND DISADVANTAGED (2-5)
Methods and techniques employed to assess the mental, social, physical and vocational problems of handicapped and disadvantaged persons. Diagnosis, evaluation and placement in relation to vocational potential.

EGC 6205 (REH 608) EVALUATION IN THE REHABILITATION PROCESS (5)
PR: REH 502. Examine the evaluation procedure from the point of view of providing reliable and valid information for use in the counseling process. (Formerly REH 506.)

EGC 6934 (REH 609) SEMINAR IN REHABILITATION COUNSELING (2-5)
PR: CI. Seminar in selected issues and problems in rehabilitation counseling. Subject and scope to be determined by instructor. May be repeated for credit with different content.

EGC 6494 (REH 610) SEMINAR IN PRINCIPLES AND PRACTICES OF REHABILITATION COUNSELING II (4)
PR: REH 507 and 508. Continuation of REH 507. Must be taken concurrently with REH 611. (S/U only.)

EGC 6851 (REH 611) PRACTICUM II (2)
PR: REH 507 and 508. Continuation of REH 508. Must be taken concurrently with REH 610. (S/U only.)

EGC 6567 (REH 612) GROUP WORK IN REHABILITATION COUNSELING (5)
PR: CI. Examination of group processes as applicable to rehabilitation counseling.

EGC 6566 (REH 613) ADVANCED GROUP WORK IN REHABILITATION COUNSELING (5)
PR: CI. Extension of REH 612 with emphasis on field work.

EGC 6885 (REH 620) INTERNSHIP IN REHABILITATION (10-15)
PR: REH 610 and 611. Student placement in an approved intern setting for a minimum of 400 hours of supervised experience. (S/U only.)

EGC 6417 (REH 621) APPLICATIONS OF LEARNING PRINCIPLES AND PROCEDURES (5)
PR: Prior course in Learning or CI. Application of various learning principles and procedures to problems in specialized settings. Co-listed with Psychology (PSY 621).

——— (REH 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

——— (REH 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

RELIGIOUS STUDIES (REL/ANC)

Chairperson: W. C. Tremmel; *Coordinator of Ancient Studies:* A. M. Gessman; *Professors:* A. M. Gessman, W. C. Tremmel; *Associate Professor:* J. F. Strange; *Assistant Professors:* D. E. Bassuk, T. J. Burns; *Instructor:* E. E. Smith; *Adjuncts:* R. K. DeHainaut, J. T. Hose, W. G. Sherman, F. N. Sundheim.

REL 3000 (REL 300) INTRODUCTION TO RELIGION (4)
An examination of the phenomenon of religion, which will include (1) an examination of *why* people do religion; (2) an examination of the character of theology, with special attention to certain basic theological concepts such as God, sin, salvation, liberation, reincarnation, immortality, theism, atheism; (3) an analysis of the character of religious ritual in its metatechnological, sacramental and experiential forms; and (4) an examination of the place and character of moral systems in religion.

REL 3210 (REL 310) INTRODUCTION TO THE OLD TESTAMENT (4)
An introduction to the critical study of the Hebrew Scriptures against the background of the ancient Near East, with attention to the history and religion of the Hebrew people. REL 310 and REL 410 may not both be credited toward the major.

REL 3243 (REL 315) INTRODUCTION TO THE NEW TESTAMENT (4)
An introduction to the critical study of the New Testament in context of Christian beginnings in the first century A.D. REL 315 and 415 may not both be credited toward the major.

GRE 3040 (REL 316) NEW TESTAMENT GREEK I (4)
An introduction to an intensive study of the koine Greek of the New Testament, for beginners; New Testament readings, composition, analysis of the structure of Greek of the New Testament.

GRE 3041 (REL 317) NEW TESTAMENT GREEK II (4)
Intermediate readings and grammar of the Greek New Testament.

REL 3610 (REL 325) HISTORY OF JUDAISM (4)
The historical development of Judaism and Jewish concepts from biblical times to the modern era with emphasis on the formative years from the Prophets to the close of the Talmud.

REL 3612 (REL 326) MODERN JUDAISM (3)
A study of Jewish life in the West since 1789, emphasizing Jewish beliefs, practices and institutions.

REL 3503 (REL 327) HISTORY OF CHRISTIANITY I (4)
The historical development of Christianity, its ideas and institutions, from the first century to the sixteenth century.

REL 3540 (REL 328) HISTORY OF CHRISTIANITY II (4)
The historical development of Christianity, its ideas and institutions from the work of John Wycliff to the rise of "religious modernism" in the 19th century.

REL 3120 (REL 329) RELIGION IN AMERICA (4)
To examine the movement from state church to pluralism in American religious institutions, the religious results of non-Protestant immigration; the Jewish factor; the effect of home missions and social concern programs upon American life; political entanglements and the concept of church/state separation.

REL 3133 (REL 330) BLACK RELIGIOUS EXPERIENCE IN AMERICA (4)
A course designed to stimulate interest in the religious history, experience, and thinking of American Blacks.

REL 3132 (REL 331) THE BLACK CHURCH (4)
A critical examination of the Black Church will be made in this course. The significance of religious development and the present condition of Black religious institutions and their relationships to modern movements will be examined. Denominational, interdenominational, and international caucuses will also be examined for their particular religious, political, economic, social, and ideological significance.

REL 3131 (REL 332) NEW SECTS AND CULTS (4)
A course designed to allow the student to survey the wide spectrum of contemporary sects and cults and learn what motivates their development.

REL 3201 (REL 340) LAND OF THE BIBLE (4)
A survey of the natural features, historical forces, and cultural movements of the Holy Land that shaped its peculiar role in history with respect to the ancient Hebrews. Particular attention will be paid to the period from the Hebrew Conquest to the time of Jesus.

REL 3280 (REL 341) BIBLICAL ARCHAEOLOGY (4)
An examination in depth of the archaeological data relating to the background and content of the Bible, including ancient customs, Biblical sites and cities, Biblical history, and material culture of the Biblical period. Special attention will also be given to excavation methods and interpretation of archaeological evidence.

REL 3310 (REL 350) WORLD RELIGIONS—EASTERN (5)
An introduction to and a comparison of the ideas, the literature, the institutions of the major religions of the Eastern World, especially Buddhism (Therevada, Mahayana, Zen), Hinduism, Jainism, Taoism, Confucianism, Shinto.

REL 3320 (REL 351) WORLD RELIGIONS—WESTERN (5)
An introduction to and a comparison of the ideas, the literature, the institutions of the major religions of the Western (Near Eastern origin) World—Judaism, Zoroastrianism, Christianity, and Islam. And a general comparison of Western religious ideas with Eastern religious ideas.

REL 3332 (REL 353) BUDDHISM (5)
The study and comparison of Theravada and Mahayana Buddism in their philosophical and psychological dimensions.

REL 3342 (REL 354) THE RELIGIONS OF INDIA (4)
The sources of Hindu philosophic thought, an understanding of the psychology of the Yogas, and a study of the Hindu holy men and women are the three main concerns of this course.

REL 3335 (REL 355) RELIGIONS OF CHINA AND JAPAN (4)
This course will investigate the philosophy of ancient China and its two major interpreters, Lao Tzu and Confucious. It will also look at the native Japanese Shinto religion.

REL 3045 (REL 360) DIALOGUES IN RELIGION (4)
A course designed to place in dialogic encounter various aspects of contemporary religious beliefs and practices for the purpose of enabling students to hear and participate in discussions concerning the claims and procedures of existing religions.

REL 3420 (REL 370) CONTEMPORARY RELIGIOUS THOUGHT (4)
An examination of the central ideas of recent theological thinkers; such men as Barth, Brunner, Bultmann, Bonohoeffer, Rahner, Tillich, Cox, Altizer, Buber, Niebuhr.

REL 3936 (REL 383) SELECTED TOPICS (1-5)
PR: CI. Course contents depend on students' needs.

REL 3900 (REL 385) DIRECTED READINGS (1-5)
PR: CI. Individual guidance in concentrated reading on a selected topic.

REL 4182 (REL 400) COMPARATIVE MYSTICISM (4)
A course designed to acquaint the student with the nature of mystical experience, and some of the varieties of mystical experience recorded in the writings of the mystics.

REL 4141 (REL 401) RELIGIOUS BEHAVIOR AND INSTITUTIONS (4)
PR: One course in sociology or social psychology or CI. The sources of religious social thought, an understanding of the historical evolution of religious thought about society, and an analytical grasp of the way in which religious insights and values relate to human societal life are the three main objectives of this course.

REL 4158 (REL 402) RELIGION AND DEPTH PSYCHOLOGY (4)
PR: One psychology course or CI. This course is designed to enhance the student's understanding of human existence by investigating the interrelationships between human dynamics and religion.

REL 4250 (REL 403) JESUS' LIFE AND TEACHINGS (4)
PR: CI. An examination of the various historical studies made in the quest of identifying Jesus as an historical figure. The concern is to make a reasonable assessment of who Jesus was and what he was saying to the Jews in Palestine at the beginning of the common era.

REL 4221 (REL 410) BIBLE I: LAW (4)
An examination of the Pentateuch or Torah from the point of view of its literary development, internal traditions, historical background, Law, covenant theology, and Hebrew religion.

REL 4224 (REL 411) BIBLE II: PROPHETS (4)
PR: REL 410 or REL 310 or CI. An investigation of the Prophetic literature of the Hebrew Scriptures including the emergence of mantic prophecy in Elijah and Elishah, classical prophecy in Jeremiah, Micah, Amos, and Isaiah, the later twelve prophets, and the role of Samuel and the Book of Kings.

REL 4228 (REL 412) BIBLE III: WRITINGS (4)
PR: REL 410 or REL 310 or CI. An exploration of the poetic and historical writings in the Hebrew canon including the Psalms, Wisdom Literature, Job and the problem of evil, the Five Scrolls, Daniel and apocalypticism, and the religious views of the Chronicler.

REL 4295 (REL 413) DEAD SEA SCROLLS (4)
PR: CI. A survey and study of the literature of the Dead Sea Scrolls in English translation. Examination of the literary, historical, and archaeological evidence for the identification of the Qumran people with the Essenes. Possible connections with the New Testament and early Christian theology.

REL 4244 (REL 415) NEW TESTAMENT STUDIES (Gospels) (4)
An exploration of the background of the New Testament in Hellenistic and Hebrew Religion, the history of New Testament interpretation, literary and form criticism of the synoptic gospels, the historical Jesus, and teachings of Jesus, and of the four gospels themselves: Matthew, Mark, Luke, and John.

REL 4252 (REL 416) NEW TESTAMENT STUDIES II (Pauline Letters) (4)
An investigation of earliest Christianity in its Jewish and Gentile forms, the historical Paul, his proclamation, and his letters as preserved in the New Testament.

REL 4256 (REL 417) NEW TESTAMENT STUDIES III (Later Letters and Revelation) (4)
An examination of the emergence of institutional Christianity in the New Testament, particularly in churchly theology, the Pastoral Epistles, the catholic Epistles, the letters of James and John, and finally Christian apocalypticism in the book of Revelation (Apocalypse).

REL 4910 (REL 481) UNDERGRADUATE RESEARCH (1-5)
PR: Junior standing and CI. Individual investigations with faculty supervision.

REL 4936 (REL 483) SELECTED TOPICS (1-5)
PR: Junior standing and CI. Individual investigations with faculty supervision.

REL 4931 (REL 491) SEMINAR IN RELIGION (4)
A course designed for persons, especially Religious Studies majors, whose prior religious studies have prepared them for a cooperative creative and/or research effort in the area of religion.

REL 5937 (REL 583) SELECTED TOPICS (1-5)
PR: Senior standing and CI. Course contents depend on student's needs.

Ancient Studies Sequence (ANC)

CLA 3000 (ANC 321) ANCIENT CIVILIZATIONS (5)
Study of the character, ideas, and cultural achievements of the peoples of the Ancient Middle East and Mediterranean and their relevance for modern Western civilization.

HEB 3100,3101,3102 (ANC 341-342-343) BASIC HEBREW I,II,III (3,3,3)
Designed to give students a working knowledge of Classical (Biblical) Hebrew and to introduce them to the Biblical literature in the original language.

CLA 3851 (ANC 352) MID-EASTERN MYTHOLOGY (3)
Study of the more important myths and religious concepts of Egypt, the Fertile Crescent, Crete, Anatolia, and Persia, and of their impact on the Hebrew and Graeco-Roman mythologies as well as on later Western art, literature, and religion.

CLA 3801 (ANC 373) HISTORY OF THE ALPHABET (2)
Study, in reasonable detail, of the evolution of our 'Roman' alphabet, as well as of other ancient and modern alphabets, from the writing system of ancient Egypt.

CLA 4160 (ANC 421) EGYPTIAN CIVILIZATION (4)
Study of the Ancient Egyptian civilization, including customs, religion, art and architecture, language and literature, science and the calendar, and an introduction to hieroglyphic writing. (Alternate years.)

CLA 4171 (ANC 423) MESOPOTAMIAN CIVILIZATION (4)
Study of the Ancient Mesopotamian (Sumero-Babylonian) civilization, including customs, religion, art and architecture, languages and literatures, science and the calendar, and an introduction to cuneiform writing. (Alternate years.)

CLA 4100 (ANC 427) GREEK CIVILIZATION (4)
Detailed study of the Aegean and Greek civilizations from their beginning in Crete and Myceanae to the Roman period. Greek discoveries, exploration and colonization. (Alternate years.)

CLA 4120 (ANC 429) ROMAN CIVILIZATION (4)
Prehistoric Italy and the Etruscan civilization. History of the civilization of Rome and the Empire with emphasis on the Etruscan, Greek, Carthaginian, and Mid-Eastern influences. (Alternate years.)

HEB 4240, 4241, 4242 (ANC 441-442-443) ADVANCED HEBREW I,II,III (3,3,3)
PR: ANC 341-2-3 or equivalent. Study and analysis of selected passages from pre-Exilic, Exilic, and post-Exilic Biblical and extra-Biblical Hebrew texts to the second century B.C.E. Survey of the Hebrew literature from its beginning to the end of the Second Commonwealth.

CLA 4930 (ANC 483) SELECTED TOPICS (2-5)
Course contents depend on student demand and instructor's interest and may range over the whole field of Ancient languages, literatures, and civilizations. Offerings on a semi-regular basis include Tongues of the Bible (2), The Bible as History (4), Basic Sanskirt (3, 3, 3) and Old Church Slavonic (5).

CLA 4900 (ANC 485) DIRECTED READINGS (2-5)
PR: Consent of coordinator prior to registration. Readings in

special topics chosen by the student in cooperation with the instructor. Reading of literature also possible in English translation.

The following entries are intended as service courses for students in related graduate programs, in particular Anthropology, History, and Linguistics. In all of these, permission from the coordinator is required prior to enrollment.

CLA 5910 (ANC 581) INDIVIDUAL RESEARCH (2-5)
Specialized individual work in particular areas of student's interest.

CLA 5930 (ANC 583) SELECTED TOPICS (2-5)
Course contents depend on student demand and instructor's interest and may range over the whole field of Ancient languages (including comparative studies), literatures, civilizations, and epigraphy.

CLA 5900 (ANC 585) DIRECTED READINGS (2-5)
Readings in special topics chosen by the student in cooperation with the instructor. Reading of literature also possible in English translation.

NOTE: In any of the numbers 483, 485, 581, 583, 585, enrollment is repeatable for different subject matters.

SOCIAL SCIENCES (INTERDISCIPLINARY) (SSI)

Chairperson: M. T. Orr; *Professors:* E. E. Allen, C. W. Arnade, M. Kaplan, T. J. Northcutt, Jr., M. T. Orr, H. Winthrop; *Associate Professors:* A. S. Gilmore, A. Hechiche, F. U. Ohaegbulam; *Assistant Professors:* H. W. Nelsen, J. L. Taylor; *Instructor:* J. W. Palm; *Lecturers:* J. O. Bell, D. K. Lupton; *Professor Emeritus:* R. A. Warner.

SSI 1211 (SSI 100) WORLD PERSPECTIVE (4)
Application of the interdisciplinary approach to the study of the international system, major world regions and problems.

SSI 3221 (SSI 300) AMERICA'S ROLE IN THE WORLD (4)
Application of the interdisciplinary approach to the study of America's relations with other nations through analysis of political, socio-economic, cultural, and military problems, conflicting national interests and the formulation of foreign policy and its implementation. Upper level standing or CI.

STA 3122 (SSI 301) SOCIAL SCIENCE STATISTICS (4)
Topics selected from the following: measures of central tendency and variability probability and the normal curve, correlations, curve fitting, scale and index number theory, polling, interview and survey techniques, content analysis . Students who successfully complete this course may *not* also receive credit for either ECN 231 Business and Economic Statistics I or MTH 345 Introductory Statistics.

SSI 3152 (SSI 311) COMMUNICATION (4)
Topics selected from the following: the language of structure, general semantics, communication networks, language and social perception, diffusion of information, communication and social gamesmanship, Aesopian language and Nu-Think in politics, normative language of clinical psychology, communication and pseudo events, non-verbal communication.

——— (SSI 315) PUBLIC OPINION AND PRESSURE MECHANISM (4)
The content and formation of public opinion, properties of opinions and attitudes, and the principles and mechanisms of their formation and change.

SSI 3153 (SSI 321) HUMAN RELATIONS AND PRODUCTIVITY (4)
Topics to be selected from the following: the relation of science, technology, resources, energy, and population change to social, economic, cultural and political change; social implications of research findings from the social, behavioral and management sciences.

SSI 3151 (SSI 325) PSYCHOLOGY AND THE SOCIAL ORDER (4)
Topics to be selected from the following: the quest for personal identity in modern mass society, the problems of mass culture and mass education, the problems of alienation and anomie in the 20th century, psychological factors in political and industrial conflict, man versus the machine in modern life.

Area Studies

The following five courses (SSI 339, 341, 343, 345 and 347), dealing with one or more countries of a given region, will select and emphasize subject matter from the following topics: its history, its people and their cultures, its social psychology and national characteristics, its resources, its economic and industrial characteristics, its literature, religion and dominant values, its political framework and outlook, its social structure, and its current problems.

Each course may be repeated when countries of concentration vary, but the same country may not be repeated for credit.

EUS 3000 (SSI 339) EUROPE (4)
LAS 3001 (SSI 341) LATIN AMERICA (4)
ASN 3000 (SSI 343) ASIA (4)
AFS 3930 (SSI 345) AFRICA (4)
ASN 3030 (SSI 347) THE MIDDLE EAST (4)

SSI 3260 (SSI 361) COMMUNISM IN THE MODERN WORLD (4)
An interdisciplinary approach to the nature of Communism, its philosophic bases, its anti-religious bias, its economic, social and political theories and practices, the arts and sciences under Communist ideology, its conduct of foreign affairs and associated programs and techniques. Emphasis will be on Soviet and Chinese Communism.

SSI 3930 (SSI 383) SELECTED TOPICS IN THE SOCIAL SCIENCES (2-5)
Course content depends on student demand and instructors' interest. Topics will have clear interdisciplinary nature. Course may be repeated as topics vary, but the same topic may not be repeated.

SSI 3955 (SSI 395) OVERSEAS STUDY (1-9)
A program of individual or group research in a foreign country. Selection of the student, his preparation for the study, and subsequent evaluation to be supervised by a faculty committee. (Formerly CBS 395.)

SSI 4164 (SSI 411) SOCIAL ISSUES OF OUR TIME (4)
Topics to be selected from the following: automation and cybernation and the social problems they generate; special problems of a technological civilization; the implications of changing social patterns of Western culture and opportunities for social re-construction.

SSI 4168 (SSI 412) SOCIAL VALUES AND SOCIAL ORDER (4)
Topics to be selected from the following: the value-patterns of modern societies; social bases for a world order; the aims and functions of social planning; international transformation created by science and technology. (Formerly SSI 505.)

LEI 4163 (SSI 413) LEISURE IN SOCIETY (4)
Facts and trends of changing leisure-time patterns in the USA and other countries; various conceptualizations of leisure; relationships of non-work time to work attitudes, personality, family, community, sub-cultures, religion, value systems, social class, and the functions of government.

SSI 4162 (SSI 415) THE CITY AND MAN (4)
Topics to be selected from the following: the city and its ills;

proposed new types of community formation; planning and community; the social ecology of the city; conventional versus innovative approaches to the problems of the community.

LEI 4167 (SSI 421) SPORT IN SOCIETY (4)
An examination of the broad issues concerning sport in both a historical and contemporary perspective. Sport will be viewed in relation to social institutions, economic considerations, mass media, and the sport group as a micro-social system.

SSI 4250 (SSI 449) THE EMERGING NATIONS (4)
PR: Upper division standing or CI. This course examines the processes and problems involved when an underdeveloped country seeks to develop a modern industrial civilization.

SSI 4910 (SSI 481) DIRECTED RESEARCH (1-4)
PR: CI plus upper division standing. May be repeated. To provide advanced students with interdisciplinary research experience in areas of specific interest.

SSI 4900 (SSI 485) DIRECTED READINGS (1-4)
PR: CI plus upper division standing. May be repeated. To provide advanced students with intensive reading of interdisciplinary nature in areas of specific interest.

SSI 4936 (SSI 491) SENIOR SEMINAR (4)
PR: Senior standing and CI. To provide an integrating seminar experience for International Studies' majors.

AMS 5021 (SSI 503) CONTEMPORARY AMERICAN CULTURE (4)
A social analysis of the leading characteristics, ideals, and values of American life. An effort will be made to deal with a variety of contexts in which American cultural themes, standards and practices receive expression.

LEI 5108 (SSI 522) LEISURE THEORY (4)
PR: SSI 413 or CI. The exposition of an interdisciplinary theoretical model by which to relate specific leisure activities or experiences to broad social change; summaries of current and historical research; in the U.S.A. and other nations; term papers by students based on individual interest.

LEI 5665 (SSI 523) LEISURE PLANNING: COMMUNITY AND STATE (4)
An examination of the social, political and economic forces which relate to the policy formulation and program implementation of leisure agencies at the local and larger levels.

LEI 5185 (SSI 525) LEISURE POLICY (4)
PR: SSI 522 or CI. General issues relating to trends in leisure, and their application to such fields as management, labor, government, gerontology, education, mass media, urban planning, recreation, and counseling; students will prepare term papers to explore one area in detail.

SSI 5934 (SSI 583) SELECTED TOPICS (1-4)
PR: CI plus senior standing or graduate status. May be repeated. To provide advanced students with interdisciplinary study of selected topics.

SSI 6910 (SSI 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

SSI 6900 (SSI 685) DIRECTED READINGS (1-4)
PR: CI and graduate standing. May be repeated. To provide graduate students with an intensive reading of interdisciplinary nature in areas of specific interest.

SOCIAL WORK (SOK)

Director: P. L. Smith (Acting); *Assistant Professor:* P. A. Maass; *Instructor:* P. L. Smith; *Visiting Lecturer:* M. G. Brown; *Adjunct:* J. C. Repetosky.

SOW 3302 (SOK 300) THEORY & PRACTICE OF SOCIAL WORK I (4)
An introductory course to the profession and practice of social work, emphasizing the theoretical and value bases of social work practice. Required prerequisite for admission to the Social Work Program.

SOW 3203 (SOK 301) INTRODUCTION TO SOCIAL WELFARE (4)
PR: SOK 300. An introductory course in social welfare policy, emphasizing the conceptual basis of social policy formulation, the historical development of social welfare organizations, and various processes related to social policy implementation. Attention is given to economic, political, and social analysis of the development of American social welfare institutions. (Formerly SOC 301.)

SOW 4403 (SOK 330) RESEARCH METHODS IN SOCIAL WORK (4)
PR: SSI 301. Restricted to social work majors, others by Program permission. Methods and techniques of social research specifically for social work majors, emphasizing design of studies, collection of data, and interpretation of results. Attention is given to understanding and analyzing specific pieces of research relating to social work.

SOW 4232 (SOK 405) SOCIAL WELFARE: SYSTEMS AND POLICIES (4)
PR: SOK 301. Restricted to social work majors, others by Program permission. Advanced social welfare policy course emphasizing contemporary social welfare policies, structures, functions, and programs. (Formerly SOC 505.)

SOW 4341 (SOK 411) MULTI-METHODS OF SOCIAL WORK PRACTICE I (5)
PR: SOK 301. HUS 427 and SOK 420 may be taken as co-requisites or prerequisites. Restricted to social work majors, others by Program permission. First in a sequence of three practice courses emphasizing the beginning development of skills from practice knowledge. Interventive methods with individuals, families, and small groups are emphasized. Some agency field work required.

SOW 4343 (SOK 412) MULTI-METHODS OF SOCIAL WORK PRACTICE II (5)
PR: SOK 411. Restricted to social work majors, others by Program permission. Second practice course emphasizing interventions at the community and institutional levels. Builds upon a theoretical and practical content of SOK 411. Some agency field work required.

SOW 4102 (SOK 420) BEHAVIOR, ENVIRONMENT, AND PRACTICE (4)
PR: HUS 427. Restricted to social work majors, others by Program permission. An integrating human behavior-social environment course emphasizing dynamics of behavior and environmental factors as they relate to social work practice. Attention is given to application of knowledge of behavioral phenomena to the practice situation.

SOW 4511 (SOK 440) FIELD PLACEMENT (15)
PR: Completion of all social work core courses except SOK 450. Restricted to social work majors in Senior year. Supervised field placement in a social welfare organization consisting of 35 hours per week in the field and 3 hours per week in an integrated practice seminar which constitutes the third and final course in the practice sequence.

SOW 5361 (SOK 450) THEORY AND PRACTICE OF SOCIAL WORK II (4)
PR: Completion of all social work core courses (or concurrent with completion) except SOK 440. Restricted to social work majors in Senior year. Others by permission. A course exploring the contributions of the social/behavioral sciences to social work. Attention is given to various components of social work as objects of analysis in the context of various social science disciplines.

——— (SOK 481) DIRECTED RESEARCH (2-8)
PR: Completion of four social work courses including SOK 330, upper division standing, and Program permission. Content dependent upon student interest and ability. A contract will be jointly developed by student and instructor specifying nature of work to be completed and approved by Program Director. May be repeated up to 12 credit hours.

SOCIOLOGY (SOC)

Chairperson: R. G. Francis; *Professors:* W. B. Cameron, R. G. Francis, R. H. Wheeler; *Associate Professors:* G. A. Brandmeyer, B. G. Gunter, R. A. Hansen, E. G. Nesman; *Assistant Professors:* P. L. Fleming, J. W. Holley, D. P. Johnson, L. W. Kutcher, Jr., P. L. Maza, H. A. Moore, S. Turner; *Instructor:* R. W. Armstrong: *Lecturers:* L. K. Alexander, N. D. Taylor.

SOC 1020 (SOC 181) CONTEMPORARY SOCIAL PROBLEMS (4)
Application of sociological concepts and principles to the description and analysis of major social problems of modern societies. Does not count for sociology major credit. (Formerly SOC 261.)

SOC 2000 (SOC 201) INTRODUCTION TO SOCIOLOGY (4)
Nature and application of sociological concepts, theories, and methods; analysis of societies, associations and groups; social processes and social change.

MAF 2200 (SOC 251) MARRIAGE (4)
Study of pre-marital and marital relations. Social, cultural and personal factors related to success and failure in mate selection and marriage. Does not count for sociology major credit.

SOC 2484 (SOC 299) CAREERS IN SOCIOLOGY (2)
PR: One course in sociology. An examination of sociology as a career base and as a basis for general education. Employment opportunities, occupational skills taught in the several courses, and other useful aspects of sociology will be discussed. Description of the several subfields of specialization and a brief introduction to the courses taught in the department will lead to the student's making a tentative program schedule for his major. The value of sociology to the individual as a self-actualizing person of unique worth will be stressed. (S/U only.)

SOC 3612 (SOC 315) FOUNDATIONS OF THEORY (4)
PR: SOC 201 or CI. Consideration of selected theories in sociology and procedures of systematic theory construction.

SOC 3500 (SOC 321) SOCIAL INVESTIGATION (4)
PR: SOC 201, SSI 301. Methods and techniques of social research. Design of sociological studies, collection of data, and interpretation of results.

SOC 3695 (SOC 325) COMMENTARY FILM MAKING IN THE SOCIAL SCIENCES (4)
PR: Major in the College of Social and Behavioral Sciences and concurrent registration in an upper division course. For students majoring in some other college, approval by major professor and instructor of course are both required, but concurrent registration in one of the social and behavioral science courses is maintained. The consideration of the theoretical and technical requirements for expressing social science concepts and propositions on film. Film planning, camera techniques, editing silent film, and the utilization of the independent sound (tape cassettes) in the commentary film. Ethics of film making.

SOC 3696 (SOC 326) LABORATORY WORK IN COMMENTARY FILM MAKING IN THE SOCIAL SCIENCES (2)
PR: SOC 325, concurrent registration in a course in the social and behavioral sciences with instructor's approval to enable student to make a film in lieu of some other course requirement. A continuation of lab and field work in the making of commentary films. Camera, editorial and problems of independent sound solved in the context of making a film in one of the social sciences. Does not count for sociology major credit. May be repeated for a maximum of six credits (S/U only.)

SOC 3800 (SOC 331) SOCIAL PSYCHOLOGY (4)
PR: PSY 200 or SOC 201. Behavior of the individual human being as affected by social and cultural influences of modern society.

SOC 3422 (SOC 341) SOCIAL ORGANIZATION (4)
PR: SOC 201 or CI. Social organization in the broadest sense, including institutions and associations, as well as variations in role and status.

SOC 3410 (SOC 345) SOCIAL STRATIFICATION (4)
PR: SOC 201 or CI. Social status and social stratification, social class as a factor in behavior, social mobility.

MAF 3501 (SOC 351) THE FAMILY (4)
PR: SOC 201 or CI. Principles of family organization, social adjustment and control. Maturation, socialization and stability of the family.

SOC 3745 (SOC 371) RACIAL AND ETHNIC RELATIONS (4)
PR: SOC 201 or CI. Comparative study of interracial relations, social tensions, attitudes, and modes of adjustment in various areas of the world.

SOC 3211 (SOC 373) SOCIOLOGY OF RELIGION (4)
PR: SOC 201 or CI. Types, sources, and functions of religious behavior. Religious behavior in relation to other aspects of personality and culture.

SOC 4402 (SOC 401) SOCIETY IN TRANSITION (4)
PR: Upper level standing. An analysis of the forces for change in contemporary society, utilizing a sociological perspective. Does not count for sociology major credit.

SOC 4531 (SOC 421) COMPUTERS IN SOCIOLOGICAL RESEARCH (3)
PR: SSI 301 and ESC 301, or equivalent. Introduction to the uses of computers in sociological research. Major emphasis is upon the use of statistical packages (principally SPSS) in data analysis.

SOC 4850 (SOC 433) COLLECTIVE BEHAVIOR (4)
PR: SOC 201 or CI; upper division standing. Study of the development of group and mass behavior—crowds, social movements. (Formerly SOC 533.)

SOC 4316 (SOC 443) URBAN SOCIOLOGY (4)
PR: SOC 201 or CI; upper division standing. The social structure of the community in modern industrial societies. Analysis of community change. (Formerly SOC 543.)

SOC 4261 (SOC 447) SOCIOLOGICAL IMPLICATIONS OF INDUSTRIALIZATION (4)
PR: SOC 201 or CI. Socio-cultural elements which define and accompany the process of industrialization as observed in mature industrial nations.

SOC 4221 (SOC 449) POLITICAL SOCIOLOGY (4)
PR: SOC 201 or CI. An examination of the social factors that affect government, politics, and political behavior.

SOC 4651 (SOC 453) SOCIOLOGY OF THE ARTS (4)
PR: SOC 201 or CI; upper division standing. The creation, distribution and use of arts from a sociological perspective; the social roles involved. (Formerly SOC 553.)

SOC 4150 (SOC 461) CRIMINOLOGY (4)
PR: SOC 201 or CI; upper division standing. Etiology of criminal behavior; law enforcement, crime in the United States; penology and prevention. (Formerly SOC 561.)

SOC 4130 (SOC 463) JUVENILE DELINQUENCY (4)
PR: SOC 201 or CI; upper division standing. Theories of delinquency, patterns of delinquent behavior, methods of control and treatment. (Formerly SOC 563.)

DHE 4101 (SOC 471) POPULATION (4)
PR: SOC 201 or CI; upper division standing. Sociological determinants of fertility, morality, and migration; theories of population change. (Formerly SOC 571.)

SOC 4910 (SOC 481) INDIVIDUAL RESEARCH (1-4)
PR: Four courses in sociology, including SOC 321, upper division standing or CI. Content dependent upon interest and competence of student. A contract specifying the work to be done must be completed and signed by both the student and the faculty member and filed with the chairperson of the department before registration for this course will be permitted. Repeatable. Does not count for sociology major credit.

SOC 4930 (SOC 483) TOPICS IN SOCIOLOGY (4)
PR: 16 quarter hours in Sociology *and* prior consent of instructor. May be repeated for credit. See class schedule for content. (Formerly SOC 583.)

SOC 4935 (SOC 491) SENIOR SEMINAR (4)
For seniors majoring in sociology or other social sciences. Major issues in sociology, stressing theory and research.

SOC 5804 (SOC 531) SOCIAL INTERACTION (4)
PR: SOC 331, or CI; upper division standing. Interpersonal influence, complex behavior, role, conflict, and social situational factors.

SOC 5825 (SOC 535) SOCIOLOGY OF SMALL GROUPS (4)
PR: SOC 201 or CI; upper division standing. Theory of small group structure, mechanics of interaction, observation of small groups.

SOC 5405 (SOC 541) SOCIAL CHANGE (4)
PR: SOC 201 or CI; upper division standing. Major theories of social and cultural change, and mechanisms of change in various societies.

SOC 5265 (SOC 575) INDUSTRIAL SOCIOLOGY (4)
PR: SOC 201 or CI; upper division standing. Interaction, communication and authority in economic organizations; the factory as a social system.

SOC 6606 (SOC 611) CONTEMPORARY SOCIOLOGICAL THEORY (4)
PR: Undergraduate course in sociological theory or CI. Emphasizes logical and conceptual dimensions of theory and theory construction.

SOC 6502 (SOC 621) METHODS OF RESEARCH (4)
PR: Course in Social Investigation or CI. Logic and practice of research; problems of observation and data collection, data processing, and evaluation.

SOC 6526 (SOC 623) SOCIOLOGICAL STATISTICS (5)
PR: SSI 301 or CI. Logic and application of parametric and nonparametic statistical analysis for sociological data.

SOC 6805 (SOC 631) SOCIAL PSYCHOLOGY SEMINAR (4)
PR: Course in Social Psychology or CI. Stresses contemporary developments in social psychological theory and empirical research.

SOC 6302 (SOC 641) COMMUNITY ANALYSIS (4)
PR: Course in Urban Sociology or CI. Theories of community and community organization. Methods of community study; problems of urban areas.

SOC 6426 (SOC 643) COMPLEX ORGANIZATIONS (4)
PR: Course in Social Organization or CI. Organizational theory, bureaucratic models, authority, power legitimation, and types of formal organization.

MAF 6621 (SOC 651) FAMILY ANALYSIS (4)
PR: Course in Family or CI. Theory of interpersonal relations and interaction in the modern family. Analysis of functions and roles.

SOC 6106 (SOC 661) DEVIANCE & CONTROL (4)
PR: Course in criminology or juvenile delinquency or CI. Theories of control and deviance with research application in problem areas.

SOC 6912 (SOC 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

SOC 6933 (SOC 683) SPECIAL TOPICS-SOCIOLOGY (4)
PR: CI. Content varies according to interests of students and instructor. May be repeated for credit.

SOC 6699 (SOC 690) THE COMMUNICATION OF SOCIOLOGY (2)
PR: SOC 611, 621, 623 or CI. Designed to help students define and formalize more effective efforts at communicating sociology. Majors only.

——— (SOC 697) INDEPENDENT STUDY (var.)
Independent study in which student must have a contract with an instructor. Repeatable. (S/U only.)

SOC 6971 (SOC 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

SPEECH COMMUNICATION (SPE)

Chairperson: R. D. Brooks; *Professors:* R. D. Brooks, P. J. Newcombe, J. I. Sisco; *Associate Professors:* J. W. Koehler, R. J. Schneider; *Assistant Professors:* D. A. Carter, B. F. Downs, J. K. Jensen; *Adjunct Lecturers:* G. N. Davis, T. Dupper, M. L. Long, J. A. Nader

ESL 1243 (SPE 103) SPEECH COMMUNICATION FOR FOREIGN STUDENTS I (5)
A special course for students learning English as a second language. Intensive study and drill in American English pronunciation and listening comprehension. May be taken in conjunction with ENG 100 — English for Foreign Students.

ESL 1244 (SPE 104) SPEECH COMMUNICATION FOR FOREIGN STUDENTS II (5)
PR: SPE 103 or CI. Intensive study and drill in American English pronunciation and listening comprehension. Emphasis on diction and speaking skills.

SPC 2023 (SPE 201) FUNDAMENTALS OF SPEECH COMMUNICATION (5)
The nature and basic principles of speech; emphasis on improving speaking and listening skills common to all forms or oral communications through a variety of experiences in public discourse.

LIN 2200 (SPE 203) SPEECH IMPROVEMENT AND PHONETICS (5)
Designed to improve vocal quality and expressiveness, articulation, and pronunciation, and to give instruction and practice in using the International Phonetic Alphabet for speech improvement.

SPC 3140 (SPE 311) INTRODUCTION TO SPEECH SCIENCE (5)
PR: SPE 203 or CI. Communication models are analyzed. Emphasis on quantifiable parameters of effective speaking.

ORI 3920 (SPE 320) ISSUES AND INTERPRETATION (2)
The study of literature through analysis of printed textual materials and of the visual-aural textual performance of them. May be repeated.

ORI 3000 (SPE 321) FUNDAMENTALS OF ORAL READING (5)
PR: SPE 201 or 203. Designed to develop proficiency in the understanding and oral communication of literary and other written materials.

ORI 3950 (SPE 322) ORAL INTERPRETATION PERFORMANCE (2)
PR: SPE 321 or CI. The study, rehearsal, and performance of

literature for Readers Theatre and Chamber Theatre productions. May be repeated (maximum total 6 hours).

SPC 3651 (SPE 360) CURRENT ISSUES AND RHETORIC (2)
Analysis of significant current speakers and issues. May be repeated.

SPC 3441 (SPE 361) GROUP COMMUNICATION (5)
PR: SPE 201 or CI. A survey of theory and experimental research in group communication. Group discussions and communication exercises to increase awareness of the dynamics of human communication in small group settings.

COM 3131 (SPE 362) TECHNICAL COMMUNICATION (5)
Investigation and application of methodology and effective technical communication for effective oral presentation of technical reports.

SPC 3601 (SPE 363) PUBLIC SPEAKING (5)
PR: SPE 201 or CI. Study of selected public addresses as aids in speaking extemporaneously and from manuscript. The relationship between public speaking and public policy formulation.

SPC 3513 (SPE 365) ARGUMENTATION AND DEBATE (5)
PR: SPE 201. Study of principles of argumentation as applied in oral discourse, analysis of evidence and modes of reasoning. Practice in debate preparation and delivery

SPC 3594 (SPE 366) FORENSICS (2)
PR: SPE 365 or CI. Study, library research, practice in forensics. Application of the principles of rhetoric to the current debate and discussion topics. May be repeated (maximum of 6 hours.)

SPC 3653 (SPE 367) FORMS OF PUBLIC ADDRESS (5)
PR: SPE 363 or 365. An advanced course emphasizing arrangement and style in informative, persuasive and ceremonial public address.

SPC 3633 (SPE 368) RHETORIC OF CONFRONTATION (4)
PR: Sophomore standing. The study of rhetorical strategies and tactics of agitation and control in confrontation situations.

SPC 3410 (SPE 369) PARLIAMENTARY SPEAKING (3)
Principles of parliamentary procedure and practice in conducting and participating in meetings governed by parliamentary rules.

SPC 3210 (SPE 370) SPEECH COMMUNICATION THEORY (5)
PR: SPE 201 or CI. The study of source, message, and receiver variables in human communications; communication settings; descriptive and predictive models of communication; speech communication as a process.

SPC 3301 (SPE 371) INTERPERSONAL COMMUNICATION (4)
PR: SPE 201 or CI. A study of interpersonal communication in informally structured settings with emphasis on the understanding, description, and analysis of human communication.

SPC 3641 (SPE 372) NAZI PROPAGANDA (4)
Study of communication behavior in the Nazi movement in Germany and America: Emphasis on communication concepts, principal communicators (Hitler, Goebbels, Streicher, and Rockwell) and use of media.

SPC 3905 (SPE 381) UNDERGRADUATE RESEARCH (1-5)
PR: Junior standing and CI. Individual investigations and faculty supervision.

SPC 3930 (SPE 383) SELECTED TOPICS (1-5)
PR: Junior standing and CI.

SPC 3900 (SPE 385) DIRECTED READINGS (1-5)
PR: Junior standing and CI.

ORI 4310 (SPE 421) INTRODUCTION TO READERS' THEATRE (4)
PR: SPE 321 or CI. Designed to introduce the student to and give him experience in various forms of groups approaches to oral interpretation.

COM 4110 (SPE 452) SPEECH COMMUNICATION FOR BUSINESS AND THE PROFESSIONS (4)
Identification of Speech Communication situations specific to business and the professions. Analysis of variables related to communication objectives and preparation of oral presentations in form of informational reports, conference management, persuasive communications, interviews, and public hearings.

SPC 4640 (SPE 472) THE RHETORIC OF AMERICAN DEMAGOGUES (4)
An analysis of the communication of such 20th Century American political leaders as: Bilbo, Agnew, McCarthy, Wallace, Nixon, and Malcolm X.

SPC 4905 (SPE 481) UNDERGRADUATE RESEARCH (1-5)
PR: Senior standing and CI. Individual investigations with faculty supervision.

SPC 4932 (SPE 483) SELECTED TOPICS (1-5)
PR: Senior standing and CI.

SPC 4900 (SPE 485) DIRECTED READINGS (1-5)
PR: Senior standing and CI.

SPC 4932 (SPE 491) SENIOR SEMINAR IN SPEECH COMMUNICATION (5)
PR: Senior standing, Speech Communication major. Exploration of selected topics of current significance to the several areas of speech communication through group discussion and research.

——— (SPE 497) INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated for credit. (S/U only.)

SPC 5151 (SPE 501) SPEECH BEHAVIOR AND PROCESS (5)
PR: Upperclass standing. Study of the theories of the simple and complex acoustical phenomenon of speech; intensive analysis of the stimulus-feedback variables of speech.

LIN 5231 (SPE 503) APPLIED PHONETIC TRANSCRIPTION (5)
PR: SPE 203 or CI. Intensified training in auditory discrimination of the sounds of American English. Detailed use of the International Phonetic Alphabet in rapid transcription of normal and disordered speech.

LIN 5245 (SPE 511) EXPERIMENTAL PHONETICS (5)
PR: SPE 203 or CI. Intensified training in auditory discrimination of the sounds of American English. Detailed use research findings, instruments and methodologies in the laboratory study of normal speech. Development of phonetic skills of discrimination and reproduction of speech sounds.

ORI 5140 (SPE 521) ORAL INTERPRETATION OF DRAMATIC LITERATURE (5)
PR: SP 321 or CI. Critical appreciation and Oral Interpretation of special textual materials which are inherently dramatic in nature and poetry, narrative prose, drama, biography, and history.

ORI 5120 (SPE 522) ORAL INTERPRETATION OF POETRY (5)
PR: SPE 321 or CI. Critical appreciation of lyric and narrative poetry and communication of that appreciation to audience. Study of poetic theory and prosodic techniques.

ORI 5350 (SPE 523) LITERARY ADAPTATION AND ORAL INTERPRETATION (5)
PR: SPE 521. Practice in composition and adaptation of literary materials for oral presentation; an investigation of the more advanced problems in oral interpretation as in Choral Speaking and Chamber Theatre.

ORI 5145 (SPE 524) ORAL INTERPRETATION OF DRAMATIC LITERATURE II (5)
PR: SPE 521. A study of selected pre-modern dramas with

special emphasis on problems of interpretation for oral performance.

ORI 5210 (SPE 525) ORAL INTERPRETATION OF CHILDREN'S LITERATURE (5)
PR: SPE 321 or CI. A study of the theories and practice in the oral interpretation of poetry and narrative fiction for children with special emphasis on classical and modern literature.

ORI 5230 (SPE 526) ORAL INTERPRETATION OF BIBLICAL LITERATURE (5)
PR: SPE 321 or CI. A critical interpretation and oral presentation of selected Books of the Old and New Testaments.

SPC 5442 (SPE 561) THEORY AND RESEARCH IN SMALL-GROUP COMMUNICATION (5)
PR: SPE 361. Advanced study of theories and research in communicative interaction in group discussion and conference.

SPC 5681 (SPE 565) HISTORY AND CRITICISM OF PUBLIC ADDRESS (5)
PR: SPE 363 or CI. The principles of rhetorical criticism applied to selected great speeches of Western Civilization.

SPC 5545 (SPE 567) PERSUASION (5)
PR: SPE 365. Advanced study in theories and practice in persuasive speaking and of the extra-logical factors involved in changing beliefs and behavior of audiences. Emphasis on experimental literature in persuasive discourse.

SPC 5912 (SPE 581) RESEARCH (1-5)
PR: Senior or graduate standing and CI.

SPC 5933 (SPE 583) SELECTED TOPICS (1-5)
PR: Senior or graduate standing and CI.

SPC 5903 (SPE 585) DIRECTED READINGS (1-5)
PR: Senior or graduate standing and CI.

LIN 5715 (SPE 593) LANGUAGE AND SPEECH FOR CHILDREN (5)
PR: SPE 203 or CI. A diagnostic study of language development; the analysis of speech behavior and oral language needs of children; techniques of speech improvement for children.

LIN 6233 (SPE 603) ADVANCED PHONETICS (5)
PR: SPE 503 or equivalent. Intensified training in close phonetic transcription. Work on dialects, intonation, distinctive feature theory and acoustic phonetics.

SPC 6149 (SPE 611) COMMUNICATION: ANALYSIS AND MEASUREMENT (5)
A study of selected modes of communication. Includes analysis of communication symbology, and presents the theory and application of selected instruments for measuring and producing speech.

SPC 6190 (SPE 612) SEMINAR IN SPEECH SCIENCE (5)
PR: SE 511. To provide graduate students with an opportunity to interact with faculty and other students for the purpose of developing an in-depth understanding of a selected sub-area of Speech Science.

ORI 6410 (SPE 621) HISTORY AND THEORIES OF ORAL INTERPRETATION (5)
A study of the history, critical writings, uses, and developments of the art of oral interpretation, with analysis of the principles and practices.

ORI 6146 (SPE 624) ORAL INTERPRETATION OF THE PLAYS OF SHAKESPEARE (4)
PR: SPE 321 or CI. A study of selected plays of Shakespeare from the point of view of the oral interpreter.

SPC 6230 (SPE 660) RHETORICAL THEORY (5)
Historical development of rhetorical theory from Plato to contemporary theorists with emphasis upon the evolution of trends and concepts in rhetorical theory.

SPC 6682 (SPE 664) THEORIES OF RHETORICAL CRITICISM (5)
The study of theoretical perspectives in rhetorical criticism. The application of criticism to selected rhetorical situations.

SPC 6610 (SPE 665) HISTORY AND CRITICISM OF AMERICAN PUBLIC ADDRESS (5)
Criticism of selected speeches and speakers of American public address, studied against a background of political, social, and intellectual issues.

SPC 6515 (SPE 666) THEORIES OF ARGUMENT (5)
An examination of argumentative theory through the medium of selected reading in the works of major theorists past and present. In addition, selected examples from the argumentative persuasion of each historical period will be examined and analyzed for the purpose of correlating theory with practice.

COM 6312 (SPE 668) EXPERIMENTAL RESEARCH IN ORAL COMMUNICATION (5)
Critical examination of research design, procedures, and reporting of experimental studies in small group communication and persuasive discourse.

SPC 6913 (SPE 681) DIRECTED RESEARCH (var.)
PR: GR. Master's level. Repeatable. (S/U only.)

SPC 6934 (SPE 683) SELECTED TOPICS IN SPEECH (1-5)

SPC 6903 (SPE 685) DIRECTED READINGS (1-5)

SPC 6936 (SPE 691) GRADUATE SEMINAR IN ORAL COMMUNICATION (5)

SED 6943 (SPE 694) GRADUATE INSTRUCTION METHODS (1-5)
Special course to be used primarily for the training of graduate teaching assistants. Variable credit, repeatable. Limited to a cumulative total of 5 credits per student. (S/U only.)

SPC 6971 (SPE 699) THESIS: MASTER'S (var.)
Repeatable. (S/U only.)

THEATRE (TAR)

Chairperson: N. Cole; *Associate Professors:* J. W. Belt, N. B. Cole, W. A. Lorenzen, P. Massie, P. B. O'Sullivan; *Assistant Professor:* B. Stoll; *Lecturer:* M. A. Bentley; *Visiting Associate Professor:* A. Lithgow; *Teaching affiliates from the Florida Center for the Arts — Lecturers:* L. Bray, E. Mecham, C. Schmitt, D. K. Williams; *Affiliate Lecturer:* G. Leahy.

THE 2020 (TAR 201) THEATRE FUNDAMENTALS (2)
An introduction to the means and materials of theatre, the nature of theatre forms, the concepts of Total Theatre, and the basic issues in American theatre today. This course is open to non-majors and theatre majors should take this course concurrently with their first registration in the group of courses TAR 211, 212, 213. Required of all theatre majors.

THE 2021 (TAR 211) STAGECRAFT (3)
The scenic materials and skills basic to theatrical production. An introductory course. Has a production commitment. Required of all theatre majors. Open to non-majors.

THE 2022 (TAR 212) VOICE IMPROVISATION (3)
Exploring the elements basic to acting skills — a participation course. May be used as a theatre lab requirement for majors. Open to non-majors.

THE 2023 (TAR 213) STAGE LIGHTING AND COSTUME (3)
The fundamental materials and skills used in lighting and costuming stage productions. May be used as a theatre lab requirement for majors. Open to non-majors.

——— (TAR 214) BODY DISCIPLINES (3)
A laboratory course in various disciplines or systems in controlling and understanding the body's motive powers. Mime, pantomime, combat forms, meditational exercises useful for

the stage performer will be studied. May be used as a theatre lab requirement for theatre majors. Open to non-majors.

TPA 2400 (TAR 215) THE ART OF MANAGING THE ARTS (3)
An overview of the administrative role required in the arts — examining all media in their historic and topical references. The course will survey the basic areas of administrative, production and stage management. May be used as a theatre lab requirement for theatre majors. Open to non-majors.

TPA 2250 (TAR 225) WORKSHOP IN STAGE MAKEUP (1)
Beginning theory and practice in makeup for the stage. Theatre majors given preference. A studio course. Required for theatre majors.

THE 3080 (TAR 303) MODERN THEATRE PRACTICE (5)
Initial readings and exercises in theatre; play analysis, performance, and technical theatre for non-theatre majors.

TPP 3110 (TAR 311) WORKSHOP FOR TEXT ANALYSIS (4)
PR: Completion of the four 200-level courses. The techniques of textual and script analysis related to the composition of performance. Required of all theatre majors. May be taken by non-majors with CI.

TPP 3500 (TAR 312) SPECIAL SKILLS IN MOVEMENT (3)
PR: Completion of the four 200-level courses. Stage violence, circus and acrobatic techniques and other special techniques of movement. Repeatable for credit. Required for majors in the performance track.

TPP 3790 (TAR 314) VOICE PREPARATION FOR THE ACTOR (3)
PR: Completion of the four 200-level courses. A laboratory in corrective speech and voice production for the actor. Repeatable for credit. Required for majors in the performance track.

TPA 3086 (TAR 321) MEANS OF VISUAL EXPRESSION (4)
PR: Completion of the four 200-level courses. The study of presentation techniques for visual design and technology as applied to the development of visual dynamics. Required of all theatre majors. Open to non-majors with CI.

THE 3100 (TAR 339) THEATRE HISTORY I (3)
A survey of significant periods in world theatre from the beginning up to 1700. Six selected representative plays will be read. Required of all theatre majors. Open to non-majors.

THE 3111 (TAR 340) THEATRE HISTORY II (3)
PR: TAR 339 or equivalent or CI. A survey of significant periods in world theatre from 1700 to the present. Six selected representative plays will be read as well. Required of all theatre majors. Open to non-majors.

THE 3091 (TAR 352) PERFORMANCE (1)
The study, rehearsal and performance of major theatrical works. Open to all University students by audition on a credit or non-credit basis. May be repeated. Additional appropriate credit may be earned with TAR 481 or TAR 581.

TPA 3810 (TAR 361) INTRODUCTION TO PUPPETRY (4)
PR: Completion of all four 200-level courses. Open to non-majors with CI. Principles and methods of puppetry with an historical survey of major forms and practical problems with laboratory production.

TPA 3820 (TAR 362) PUPPETRY PRODUCTION (4)
PR: TAR 361. Open to non-majors with CI. The creation, building and rehearsal of plays for puppet theatre in preparation for performance. It is strongly urged that members of this class enroll in puppetry performance in the quarter immediately following. May be repeated one time for additional elective credit, with CI, to a total of 8 hours.

TPA 3840 (TAR 363) PUPPETRY PERFORMANCE (4)
PR: TAR 362. Open to non-majors with CI. Experience in the production and presentation of a play for the puppet theatre. Follows directly from the course in puppetry production and must be taken the quarter immediately following that course. May be repeated one time for additional elective credit, with CI, to a total of 8 hours.

TPA 3950 (TAR 365) THEATRE FOR SPECIAL AUDIENCES (4)
PR: Completion of all four 200-level courses and/or CI. Open to non-majors. The preparation of a production for a special audience (ethnic, children, aged, institutionalized, etc.) Those enrolled would be expected to continue with TAR 366. With CI, may be repeated one time as additional elective credit, (total of 8 hours.)

TPA 3951 (TAR 366) PERFORMING THEATRE FOR SPECIAL AUDIENCES (4)
PR: TAR 365 (preceding Quarter) and/or CI. The presentation of a production for a special audience (ethnic, children, aged, institutionalized, etc.) Follows directly from TAR 365 and must be taken in the quarter immediately following that course. With CI, may be repeated one time as elective credit (total of eight hours.)

TPA 3601 (TAR 375) STAGE MANAGEMENT (4)
PR: Completion of an upper level concentration in theatre. A practical course in the working organizational function of the stage manager in theatre, dance, opera, and other live performance situations. Required of all theatre majors. (Formerly TAR 472.)

TPP 3110 (TAR 391) IMPROVISATION I (4)
PR: Completion of all four 200-level courses and/or CI; audition required. Open to non-majors. An intensive study in Improvisation as an enhancement of the actor's skills. Exercises and theatre games as flexible forms which accommodate improvisation and physical invention are examined and used to develop group creativity.

TPP 3111 (TAR 392) IMPROVISATION II (4)
PR: TAR 391 and/or CI: audition required. Open to non-majors. A concentrated study of advanced techniques in improvisational skills as applied to the use of scenario. Depending on ensemble capabilities, the course will culminate in a classroom improvisational presentation.

THE 4180 (TAR 403) THEATRE ORIGINS (5)
PR: Completion of first three years as a theatre major and one from the following: Tar 430, 431, 432, 433, 434, 437 or CI. An analysis of the development of theatre out of myth, ritual and liturgy. Emphasis will be placed on what subsequent attempts to understand the resulting phenomena can teach us about the nature of our art. Required of all theatre majors.

TPP 4150 (TAR 410) ACTING I (4)
PR: TAR 311 and audition. Basic scene study. Special problems in movement and speech to be integrated with character development, rehearsal techniques, and performance composition. Required of all theatre majors with a performance concentration.

TPP 4151 (TAR 411) ACTING II (4)
PR: TAR 410 and audition or TAR 412 or 414. Intermediate scene study. Special attention given to dialects and period movement. Required of all theatre majors with a performance concentration.

TPP 4140 (TAR 412) ACTING III (4)
PR: TAR 410 and audition or TAR 411 or 414, Methodology and styles. Examination of the actor's craft and skills needed to fulfill the demands of various theatre forms. Special attention will be paid to the history of acting styles. Required of all theatre majors with a performance concentration.

TPP 4152 (TAR 414) ACTING IV (4)
PR: TAR 410 and audition or TAR 411 or 412. A workshop in the classic repertory. Advanced scene study. Required of all theatre majors with a performance concentration. (Formerly TAR 511.)

TPP 4180 (TAR 415) ACTING V (4)
PR: TAR 414. Honors section in acting; admittance by competitive audition. The aesthetics of acting. The various theories of the art. A studio course.

TPA 4284 (TAR 417) SCENE PAINTING (2)
PR: TAR 421, 423, plus any three of TAR 420, 424, 425, 427, 428. A practical course in the painting of stage scenery—media and application. (Formerly TAR 527).

TPA 4244 (TAR 419) STAGE PROPERTIES: TECHNIQUES AND MATERIALS STUDIO (2)
Demonstration and experience with comparatively newer materials used in construction of stage properties. Modeling of prototypes and basic casting techniques. Organization of shop.

TPA 4052 (TAR 420) DRAWING—FIGURE (2)
PR: Completion of second year requirements for the theatre major and portfolio or CI. Drawing the human form and fabrics with an emphasis for the costume designer.

——— (TAR 421) HISTORY OF ARCHITECTURE AND DECOR (3)
PR: Completion of 200-level theatre laboratory requirements for theatre majors or CI. The survey of architectural and decorative motifs and decor and their stylistic concepts. Required for majors in Design-Tech track.

THE 4261 (TAR 423) HISTORY OF CLOTHING (2)
PR: Completion of 200-level theatre laboratory requirements for theatre majors or CI. Required of all theatre majors with a design and technology concentration. A survey of clothing and dress from Ancient Egypt to the 20th Century with an emphasis on cultural and social influences.

TPA 4230 (TAR 424) COSTUME CONSTRUCTION I (2)
PR: Completion of 200-level theatre laboratory requirements for theatre majors or CI. A practical course in costume drafting of workable patterns for costuming the actor.

TPA 4220 (TAR 425) AUDIO-VISUAL APPLICATONS FOR THE STAGE (4)
PR: Completion of 200-level theatre laboratory requirements for theatre majors, including TAR 213. A study of basic electrical and electronic systems of sound and light control. Optical principles of projection and light transmission will be included to establish skills in the use of projected scenery. Analysis of amplification and recording techniques and technology, and the study of acoustical characteristics will prepare the student for a design of production sound systems. Open to non-majors.

TPA 4211 (TAR 427) STAGECRAFT II (4)
PR: For theatre majors, completion of 200-level theatre laboratory requirements, including TAR 211. A practical course in drafting for the stage and scene construction and applicaton. A requirement in the Tech Design track/Scenic. Open to non-majors.

TPA 4071 (TAR 428) DRAWING— ARCHITECTURAL (2)
PR: Completion of 200-level theatre laboratory requirements for theatre majors and portfolio or CI. A course in rendering the inanimate form.

THE 4480 (TAR 430) DRAMA—SPECIAL TOPICS (4)
PR: TAR 339, TAR 340 or CI. A course in the function of the script for the active theatre artist treating materials of a single playwright. Repeatable with consent of adviser and change in topic. Only 4 hours will be counted toward major requirements, but other hours may be counted toward elective.

THE 4450 (TAR 431) THE COMEDY OF THE CLASSIC AND NEO-CLASSIC STAGE (4)
PR: TAR 339, TAR 340 or CI. A course in the function of the script for the active theatre artist, treating materials from the Ancient Greeks through the Restoration, giving some attention to later reflections.

——— (TAR 432) THE THEATRE OF MYTH AND RITUAL/NORTHERN EUROPEAN (950-1600) AND ORIENTAL (400-1800) (4)
PR: TAR 339 or TAR 340. An investigation into the interrelationship of myth, ritual and theatre event. Enables the student to analyze these scripts in light of their present producibility and past cultural energy. Open to non-majors.

——— (TAR 433) SHAKESPEARE FOR THE THEATRE (4)
PR: TAR 339 or 340 (for theatre majors). Study of several of Shakespeare's plays from the histrionic point of view. "No sort of study of a [Shakespearean] play can better the preparation of its performance if this is rightly done."—Harley Granville-Barker. Open to non-majors.

THE 4400 (TAR 434) O'NEILL AND AFTER (4)
PR: TAR 339, TAR 340, or CI. Survey of materials in the American Theatre from the writings of Eugene O'Neill to the present.

THE 4370 (TAR 437) THE 19TH CENTURY THEATRE REVOLUTION (4)
Survey of materials in the Continental, English, & American Stage dating from 1870. Deals with the extraordinary playwrights and new theatre movements.

TPP 4220 (TAR 438) AUDITION WORKSHOP FOR THE ACTOR (4)
PR: TAR 411 and TAR 412. Preparation for professional audition; discussion of professional objectives.

TPP 4281 (TAR 439) SENIOR WORKSHOP FOR ACTORS (1-4)
PR: TAR 411, 412 and audition. A coaching workshop in individual problems. Enrollment requires contracted study.

TPP 4610, 4611 (TAR 443, 444) WRITING FOR THE THEATRE I, II (4,4)
PR: Completion of the first two years as a theatre major and CI. An elective sequence in writing for the theatre, starting with explorations of theatre as a medium, exercises in theatre form and techniques and progressing to an advanced workshop in plays and other styles of theatre pieces.

THE 5099 (TAR 452) ADVANCED PERFORMANCE (1)
PR: TAR 352 or CI. The study, rehearsal, and performance of major theatrical works. Admission by audition. May be repeated. Additional appropriate credit may be earned with TAR 481 or TAR 581. (Formerly TAR 552.)

THE 4562 (TAR 453) SENIOR COLLOQUIUM IN THEATRICAL CREATIVITY (3)
PR: TAR 403. A colloquium in the nature of the synthesized theatre object. Required of all theatre majors. Open to non-majors with CI.

TPP 4230 (TAR 454) LABORATORY WORKSHOP IN PERFORMANCE (4)
PR: TAR 311 and/or CI. Special workshop in advanced techniques based upon individual problems and needs. May be repeated twice (to a total of 12 hours credit).

TPP 4250 (TAR 455) MUSIC THEATRE WORKSHOP (4)
PR: TAR 311. Special problems in acting as applied to the musical theatre.

TPA 4010, 4011 (TAR 461,462) DESIGN I AND II (COSTUME, SCENERY AND LIGHTING) (4,4)
PR: TAR 421 and TAR 423 plus TAR 424, or TAR 425, or TAR 427, depending on tech-design emphasis. The aesthetic and practical application of the elements of design in lighting, scenery and costume for theatre presentation

TPA 4012 (TAR 463) PROJECT DESIGN: HONORS (4)
PR: At least two sections of TAR 461 and one section of TAR 462. A workshop for students in scenery, lighting and costume design admitted only by recommendation of instructor and review of portfolio. Consideration will be given to the requirements of integrating the design for setting, costumes and

lights; under special circumstances may be credit for actualized production design. (Formerly Design III).

TPA 4083 (TAR 465) SPECIAL PROJECTS FOR PRODUCTION (2)
PR: TAR 421, 423, plus any three of TAR 420, 424, 425, 427, 428. An individually designed course of study tailored for the student's advanced work in technology and design.

TPA 4231 (TAR 466) COSTUME CONSTRUCTION II (2)
PR: TAR 213 or CI. Materials, skills and techniques for construction of costume accessories for stage. Included topics are millinery, footwear, jewelry, masks, armor, corsetry; both period and modern.

TPA 4401 (TAR 473) THEATRE MANAGEMENT WORKSHOP (2)
PR: Completion of an upper level concentration in theatre. The study of management relations for the theatre, including all fields of management from box office to publicity.

TPA 4281 (TAR 474) PRACTICUM IN TECHNICAL SUPERVISION (2)
PR: TAR 421, 423, plus any three of TAR 420, 424, 425, 427, 428. A study of the technical operation and organization for the theatre technologist in costume or in scenery-lighting. Advanced problems in technology and organization.

THE 4905 (TAR 481) DIRECTED STUDIES (1-6)
PR: CC. Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.

THE 4930 (TAR 483) SELECTED TOPICS IN THEATRE (1-12)
PR: CI. The content of the course will be governed by student demand and instructor interest. May be lecture or class discussion or studio format. May be repeated for credit for different topics only.

THE 4900 (TAR 485) DIRECTED READING (1-6)
PR: CI and CC. Readings in a topic of special interest to the student. Selection of topic and materials must be agreed upon and appropriate credit must be assigned prior to registration. A contract with all necessary signatures is required for registration. May be repeated for credit for different topics only.

TPP 4313,4314 (TAR 491,492) DIRECTING I, II (4,4)
PR: Completion of the first two years as a theatre major and CI. An elective sequence in directing. A workshop course in which the student first encounters the basic tasks of the director by preparing and directing one or two scenes and then progresses to more complex scene work in a variety of styles and finally proceeds to the short play or theatre pieces.

THE 5909 (TAR 581) DIRECTED STUDIES (1-9)
PR: CC. Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.

THE 5931 (TAR 583) SELECTED TOPICS IN THEATRE (1-12)
PR: CI. The content of the course will be governed by student demand and instructor interest. May be lecture or class discussion or studio format. May be repeated for credit for different topics only.

THE 5902 (TAR 585) DIRECTED READING (1-6)
PR: CI and CC. Readings in topics of special interest to the student. Contract defining scope of project, materials used, expected results and credit hours assigned must be completed prior to registration. May be repeated for different topics.

WOMEN'S STUDIES PROGRAM (WSP)

Director, J. H. Williams; *Associate Professor:* J. H. Williams; *Assistant Professors:* M. M. Ferrandino, J. O. Ochshorn, J. B. Snook

WST 2010 (WSP 201) INTRODUCTION TO WOMEN'S STUDIES I (4)
A survey of major issues relevant to the female experience: the women's movement; social, historical and psychological implications.

WST 2011 (WSP 202) INTRODUCTION TO WOMEN'S STUDIES II (4)
PR: WSP 201 or CI. A survey of major issues relevant to the female experience, marriage and the family, sexuality, the economy and professions, art and creativity.

WST 3210,3220,3240 (WSP 309,310,311) WOMEN IN WESTERN CIVILIZATION (4,4,4)
PR: WSP 201 or CI. Interdisciplinary and comparative study of women in Western civilization, with particular emphasis on the historical cources and evolution of anti-feminist attitudes in selected societies. WSP 309: Pre-Biblical period through the Middle Ages. WSP 310: Renaissance through the eighteenth century. WSP 311: Nineteenth and twentieth centuries.

WST 3270 (WSP 315) CONTEMPORARY WOMAN IN THE UNITED STATES (4)
PR: WSP 201 or CI. Economics, political, and social considerations of woman's role in modern society. Changing lifestyles and family patterns. Generational differences among today's women. Effects of the media in shaping attitudes, self-concept, and expectations of men and women in our society.

ANT 3302 (WSP 321) WOMEN IN CROSS-CULTURAL PERSPECTIVE (4)
PR: WSP 201, ANT 201, or CI. Roles of women in selected cultures, with emphasis on Third World and primitive societies. Examples from least to most differentiated cultures. Influence of family models, kinship systems, economic patterns, political structure, and belief systems. (Also offered as ANT 431.)

WST 3310 (WSP 329) HISTORY OF FEMINISM (4)
PR: WSP 201 or CI. The history of the feminist movement in the U.S. and Britain. Women in the rank-and-file of reform in America, including abolitionism, the settlement house movement, labor unions, political revolution in Western society, and Third World liberation. Sources and issues of the women's liberation movement.

LIT 3414 (WSP 378) THE IMAGE OF WOMEN IN LITERATURE, I (5)
A study of feminism, antifeminism, sexual identity, the feminine mystique, stereotyped and liberated female images from Sappho through Shakespeare, with special emphasis on how this early literature has perpetuated cultural myths, rituals, supersititions, and misconceptions about women. (Also offered as ENG 378.)

LIT 3415 (WSP 379) THE IMAGE OF WOMEN IN LITERATURE, II (5)
A study of feminism, antifeminism, sexual identity, the feminine mistique, stereotyped and liberated female images from the 17th century to the present, with special emphasis on women writers and on the emergence of the women's movement. (Also offered as ENG 379).

SOP 4742 (WSP 401) PSYCHOLOGY OF WOMEN (4)
An examination of theories of female personality. Concepts of personality theory regarding sex differences, differential socialization, and sex-typed behavior. Particular attention to research on achievement motivation, cognitive, perceptual, and motor performance differences, and to developmental tasks of women in our society. (Also offered as PSY 450.)

SOP 4772 (WSP 405) HUMAN SEXUAL BEHAVIOR (4)
The dynamics of human sexuality including biological, constitutional, cultural, and psychological aspects. Exploration of

the range of sexual behavior across groups. Sources of beliefs and attitudes about sex, especially female sexuality, current status. Interdisciplinary faculty. (Also offered as PSY 451.)

——— **(WSP 444) WOMEN AND THE EDUCATIONAL PROCESS** **(4)**
PR: Junior standing recommended. Covers both the role women played in education in the U.S. and way schools have helped to shape the role women play in American society. Topics include development of sex-role stereotypes through classroom interactions and curriculum materials, the status of women in public and higher education and laws affecting it, and the role of the schools in forming educational and career aspirations of girls and women. Emphasis will be placed on ways parents and teachers may counteract the sex-typing which schools, as they are currently structured, perpetuate. (Also offered as EDF 444.)

——— **(WSP 473) WOMEN AND LAW** **(4)**
Issues concering the legal aspects of sex and sex-based discrimination as embodied in statutory and case law. Open to majors and non-majors. (Also offered as POL 473.)

WST 4910 (WSP 481) DIRECTED RESEARCH **(1-4)**
PR: CI plus upper division standing. To provide advanced students with interdisciplinary research experience in areas of specific interest. May be repeated up to 8 credit hours.

WST 4930 (WSP 483) SELECTED TOPICS **(1-5)**
PR: WSP 201 or CI. Study in special areas such as Women and Health, The Aging Woman, and the Professions, Women in the Arts.

WST 4900 (WSP 485) DIRECTED READINGS **(1-4)**
PR: CI plus upper division standing. To provide advanced students with intensive reading of interdisciplinary nature in areas of specific interest. May be repeated up to 8 credit hours.

WST 4935 (WSP 491) SEMINAR IN WOMEN'S STUDIES **(4)**
PR: WSP 201, or CI. In-depth study of research in one or more areas of topical interest to students and staff. Research involvement by students required.

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State University System

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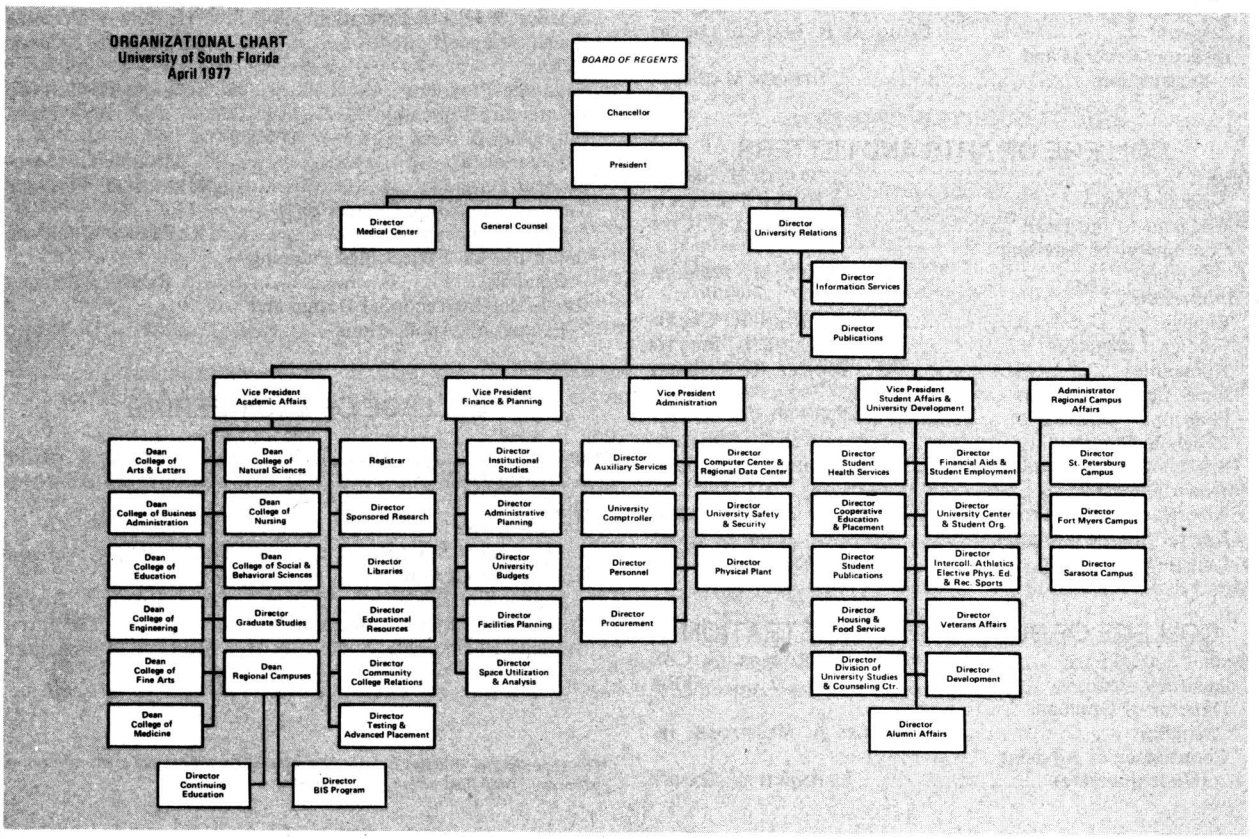

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Associate Dean ..... Helen Popovich
Assistant to the Dean ..... Barbara C. Cox
Coordinator of Advising
(Acting) ..... Rosemary M. Morley
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English ..... John R. Clark
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Religious Studies ..... William C. Tremmel
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Program Directors
American Studies Program ..... Henry M. Robertson
Liberal Studies Program ..... John B. Camp
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Assistant Dean ..... TBA
Director of Graduate
Studies ..... Charles A. McIntosh, Jr.
Coordinator of Advising
(Undergraduate) ..... Kenneth W. Davey
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Accounting (and Business Law) ..... Robert J. West
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Center for Economic Education ..... G. Hartley Mellish
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Services ..... Richard H. Higbee
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Education ..... James A. Chambers
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Exceptional Child Education ..... G. Orville Johnson
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Elementary Education ..... Jo Ann Long
Internship & Field
Experiences ..... Marcia L. Mann
Student Personnel ..... Melvin G. Villeme
Teacher Education Centers &
Off-Campus Programs ..... Raymond Urbanek
South Florida Educational Planning
Council ..... Russell Miller
Center for Instructional Design and
Evaluation Applications ..... Tom D. Freijo

COLLEGE OF ENGINEERING

Dean ..... Edgar W. Kopp
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Chairpersons
Electrical and
Electronics Systems ..... Merle R. Donaldson
Energy Conversion and
Mechanical Design ..... Linus A. Scott
Structures, Materials, and Fluids ..... John E. Griffith
Systems Engineering ..... Robert J. Wimmert

**This departmental structure has not been officially approved and exists with acting chairpersons until final action has been taken.*

Program Contact
Engineering Science ..... JOHN LLEWELLYN
Engineering Technology ..... CHARLES E. PAYNE
Computer Science ..... OSCAR N. GARCIA
Applied Mathematics ..... LOUIS F. DOTY
Chemical Engineering ..... J. CARLOS BUSOT

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Coordinator of Advising and Graduate Studies ..... C. WESLEY HOUK
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Art ..... GEORGE PAPPAS
Dance ..... WILLIAM G. HUG
Music ..... VANCE JENNINGS
Theatre ..... NANCY B. COLE
Director
Florida Center for the Arts ..... JOHN W. COKER

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Dean and Director of the Medical Center (Acting) ..... HOLLIS G. BOREN
Associate Dean for Preclinical Affairs ..... CHARLES W. FISHEL
Associate Dean for Admissions ..... JULIAN J. DWORNIK
Assistant Dean for Student Affairs ..... GREGORY R. NICOLOSI
Assistant Dean for Equal Opportunity and Affirmative Action ..... JANIFER M. JUDISCH
Assistant Dean for Curriculum and Continuing Medical Education ..... THERON A. EBEL
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Anatomy ..... HAROLD N. SCHNITZLEIN
Biochemistry ..... JOSEPH G. CORY
Comprehensive Medicine (Acting) ..... WILLIAM A. SODEMAN, JR.
Family Medicine ..... D. ROBERT HOWARD
Internal Medicine ..... ROY H. BEHNKE
Medical Microbiology ..... CHARLES W. FISHEL
Obstetrics and Gynecology ..... JAMES M. INGRAM
Ophthalmology ..... WILLIAM C. EDWARDS
Pathology ..... TBA
Pediatrics ..... LEWIS A. BARNESS
Pharmacology ..... ANDOR SZENTIVANYI
Physiology ..... CARLETON H. BAKER
Psychiatry ..... ANTHONY READING
Radiology ..... ARTHUR D. GRAHAM
Surgery ..... ROGER T. SHERMAN
Directors
Medical Center Library ..... FRED BRYANT
Laboratory Animal Medicine ..... LOUIS R. NELSON

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Biology ..... STEWART L. SWIHART
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Physics ..... NORMAN L. OLESON
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Botanical Gardens ..... FREDERICK B. ESSIG
Herbarium ..... RICHARD P. WUNDERLIN

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Associate Dean ..... GILBERT KUSHNER
Assistant Dean ..... SUSAN STOUDINGER
Coordinator of Advising ..... TBA
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Anthropology ..... GILBERT KUSHNER
Communicology ..... STEWART KINDE
Criminal Justice (Acting) ..... WILLIAM BLOUNT
Economics (Acting) ..... JOHN COOKE
Geography ..... JOHN STAFFORD
History ..... ROGER TRASK
Interdisciplinary Social Sciences ..... MARK ORR
Political Science (Acting) ..... JAMIL JREISAT
Psychology ..... JAMES ANKER
Sociology ..... ROY FRANCIS
Program Directors
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Aging Studies Program ..... THOMAS RICH
International Studies Program ..... MARK ORR
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Cooperative Education and Placement ... GLENDA F. LENTZ
Student Health Service ..... LARRY E. STEVENS
University Center ..... PHYLLIS P. MARSHALL
University Studies/Admissions/ Counseling Center ..... MAX C. DERTKE
Development ..... TERRY EDMONSON
Alumni Affairs ..... JOSEPH M. TOMAINO
Associate Director, Veterans Affairs (Tampa Campus) ..... G. ROBERT JETT, JR.
Associate Director, Veterans Affairs, Branch Campuses ..... RUSSELL BURR

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Assistant Administrator ..... HERMAN J. BRAMES
Director, Continuing Education .. J. RICHARD BRIGHTWELL
Director, Bachelor of Independent Studies ..... KEVIN E. KEARNEY

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Director (Acting) ..... DAVID R. KENERSON
Center Administrator ..... DONALD A. HANEY
University Librarian ..... DORIS C. COOK
Extension Library
Director ..... OSBORNE L. GOMEZ

FORT MYERS CAMPUS

Director ..... ROY I. MUMME
Associate Librarian ..... JEAN R. ANDERSON

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Director, Administrative Affairs ..... CHARLES C. HARRA
Director, Student Affairs ..... DALE W. HARTMAN
Director, New College Admissions ..... MILDRED P. ELLIS
Director, Records and Registration .... NANCY E. FERRARO
Director, Public Affairs ..... FURMAN C. ARTHUR
Director, Library ..... EDMON LOW
Office of Continuing Education ..... SARA HOWELL
New College of USF
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Humanities ..... DAVID E. DYKSTRA
Natural Sciences ..... PETER F. BURI
Social Sciences ..... LASZLO DEME
Coordinators
Off-Campus Studies ..... NATALIE ROSEL
Environmental Studies Program ..... JOHN B. MORRILL

FACULTY AND ADMINISTRATIVE STAFF

All members of the University of South Florida faculty and administrative staff, including teaching, research, administrative and professional personnel are listed below in alphabetical order. The listing includes name, current rank and field, first year of continuous appointment to any position in the institution, degrees, and institution and year of terminal degree, as of December 31, 1976. (A semicolon between degrees indicates different institutions.)

ABBEY, WALTER R. ..... Lecturer (Engineering), 1966
B.S.M.E., Tri-State College, Indiana, 1938

ABRAM, JACQUES ..... Professor (Music), 1963
Diploma with Distinction, Juilliard School of Music, 1938

ACKERMAN, DORIS J. ..... Assistant University Librarian (Libraries), 1969
B.A.; M.L.S., Rutgers, 1969

ADAIR, W. LEE, JR. ..... Assistant Professor, (Biochemistry), 1975
Sc.B.; Ph.D., Georgetown University, 1972

ADAMS, PATRICIA B. ..... Instructor (Nursing), 1976
B.S.N., M.N., University of Florida, 1974

ADAMS, PATRICIA W. ..... Counselor and Adviser (University Studies, Student Affairs), 1965
B.S.; M.Ed., University of Mississippi, 1963, Ed. G.C.

ADDISON, LINDA B. ..... Visiting Instructor (Education), 1976
B.S.; M.A., University of South Florida, 1975

ADLER, SAUL M. ..... Assistant Professor (Pediatrics), 1975
B.S.; M.D., Downstate Medical Center, State University of New York, Brooklyn, 1968

AGRESTI, DAVID L. ..... Instructor (Criminal Justice Program), 1973
B.A.; M.S.W., Florida State University, 1971

AHMED, NASIM ..... Instructor (Surgery), 1975 (Part time)
B.S.; M.D., Dow Medical College, Karachi, Pakistan, 1965

AHRENS, VICKI W. ..... Student Affairs Coordinator (University Studies, Student Affairs), 1974
B.A., M.A., University of South Florida, 1975

AKINS, DANIEL L. ..... Associate Professor (Chemistry), 1970
B.S.; Ph.D., University of California, Berkeley, 1968

ALEXANDER, JAMES E. .. Lecturer (SUS Oceanography), 1975
B.S.; M.S., Ph.D., University of Miami, Florida, 1964

ALEXANDER, LUELLA K. .. Visiting Lecturer (Sociology), 1972
B.A.; M.A., Ohio State University, 1966

ALEXANDER, MICHAEL D. . Clinical Psychologist (Counseling), 1975 Sarasota Campus
B.S., M.A., Ph.D., Ohio State University, 1972

ALLEN, EDMUND E. ..... Professor (Interdisciplinary Social Science), 1964
B.S.; M.S.; Ed.D., University of Florida, 1964

ALLEN, HAROLD C. . Assistant Professor (Management), 1967
B.A.; M.B.A.; Ph.D., University of Florida, 1969

ALLEN, JAMES L. ..... Professor (Engineering), 1972
B.E.E., M.S.E.E., Ph.D., Georgia Institute of Technology, 1966

ALTUS, PHILIP ..... Assistant Professor (Internal Medicine), 1976
A.B.; M.D., Upstate Medical Center, 1971

ALVAREZ, MARVIN R. ..... Professor (Biology), 1966
B.S., M.S., Ph.D., University of Florida, 1964

ANDERSEN, PHILIP H. ..... Assistant Professor (Surgery), 1974 (Part time)
B.S.; M.D., Marquette University, 1964

ANDERSON, DONALD J. ..... Director (Institutional Research), 1967
B.S.; M.A., University of South Florida, 1971

ANDERSON, E. CHRISTIAN ..... Professor (Education), 1964
B.S., M.A., Ph.D., University of Michigan, 1964

ANDERSON, EVERETT S. ..... Professor (Music), 1963
B.M., M.M., Illinois Wesleyan University, 1937

ANDERSON, JEAN R. ..... Associate University Librarian, (Libraries), 1975 Ft. Myers Campus
B.A.; M.S.L.S., Columbia University, 1961

ANDERSON, JOYCE B. ..... Instructor (Accounting), 1976
B.A., M.A., University of South Florida, 1975, C.P.A.

ANDERSON, LILLIAN YORKS ..... Director (Space Utilization and Analysis), 1964
Certified Diploma, Philadelphia College of Bible, 1955

ANDERSON, LOUIS V. .. Associate Professor (Education), 1963
B.A., M.A., Ph.D., George Peabody College, 1966

ANDERSON, MELVIN W. .. Professor (SMF-Engineering), 1969
B.S., M.S., Ph.D., Carnegie-Mellon University, 1967, P.E.

ANDERSON, MERLIN G. .. Assistant Professor (Surgery), 1975 (Part time)
B.S.; M.D., Loma Linda University, 1963

ANDERSON, ROBERT L. ..... Associate Professor (Marketing), 1971
B.S., M.S.; Ph.D., North Texas State University, 1971

ANGROSINO, MICHAEL V. ..... Associate Professor (Anthropology), 1972
B.A.; Ph.D., University of North Carolina, 1972

ANKER, JAMES M. . Professor-Chairperson (Psychology), 1974
A.B., M.A., Ph.D., Catholic University of America, 1957

ANTON, WILLIAM D. ..... Academic Administrator (Counseling Center, Student Affairs), 1972
B.A., M.A., Ph.D., University of South Florida, 1975

APPLEGATE, MINERVA I. . Assistant Professor (Nursing), 1976
R.N.; B.S.N.; M.Ed., Columbia University Teachers College, 1974

ARMSTRONG, RONALD W. ..... Instructor (Sociology), 1972 St. Petersburg Campus
B.A.; M.A., University of Oregon, 1970

ARNADE, CHARLES W. ..... Professor (Interdisciplinary Social Science), 1961
A.B., M.A., Ph.D., University of Florida, 1955

ARTHUR, FURMAN C. ..... Director (Public Affairs), Sarasota Campus, 1975
B.A., Bethany College, 1948

ARTHUR, GARY K. ..... Assistant Professor (Psychiatry), 1975 (Part time)
B.S.; M.D., Hahnemann Medical College, 1970

ASHFORD, THEODORE A. ..... Professor (Chemistry) and Dean Emeritus (Natural Science), 1960
B.S., M.S., Ph.D., University of Chicago, 1936

AUBEL, JOSEPH L. ..... Associate Professor (Physics), 1964
B.S., Ph.D., Michigan State University, 1964

AUCREMANN, CHARLES E. ..... Associate Professor (Family Medicine), 1975 (Part time)
A.B., M.S., M.D., Emory University School of Medicine, 1943

AUSTIN, LARRY D. ..... Professor (Music), 1972
B.M., M.M., North Texas State University, 1952

AUSTIN, MARTHA L. ..... Professor (Education), 1963
B.A.; M.Ed.; Ph.D., University of Chicago, 1969

AYALA, RINA P. ..... University Physician (Student Health Service), 1975
B.A.; M.D., Salamanca University, Spain, 1970

AZAR, HENRY A. ..... Professor (Pathology), 1972 (Part time)
B.A., M.D., American University of Beirut, Lebanon, 1952

BABBEL, GARETH R. ..... Assistant Professor (Biology), 1972
B.A., M.S.; Ph.D., University of Texas, 1970

BAILEY, OSCAR W. ..... Professor (Visual Arts), 1969
B.A., M.F.A., Ohio University, 1958

BAIRD, RONALD C. ..... Associate Professor (Marine Science), 1969 St. Petersburg Campus
B.S.; M.A.; Ph.D., Harvard University, 1969

BAKER, CARLETON H. ..... Professor-Chairperson (Physiology), 1971
B.A.; M.A., Ph.D., Princeton University, 1955

BALIS, GENE A. ..... Assistant Professor (Surgery), 1976
A.B.; M.D., Hahnemann Medical College, 1967

BARBER, SOTIRIOS A. ..... Associate Professor (Political Science), 1967
B.A., M.A., Ph.D., University of Chicago, 1972

BARKHOLZ, GERALD R. ..... Instructor (Education), 1968
B.S., M.Ed.; Ed.D., University of Florida, 1976

BARNARD, JAMES W. ..... Professor (Education), 1968
A.B.; M.A.; M.S., Ph.D., Yale University, 1963

BARNESS, LEWIS A. .. Professor-Chairperson (Pediatrics), 1972
A.B., M.D., Harvard Medical School, 1944 M.A. Hon.

BARR, CAROLYN L. ..... Student Affairs Coordinator (Physical Education, Student Affairs), 1970
B.S.; M.A., Appalachian State Teachers College, 1962

BARTHOLOMEW, DAVID G. ..... Research Associate (Chemistry), 1975
B.S., Ph.D., University of Utah, 1974

BARTLETT, ALTON C. ..... Professor (Management), 1967
B.S.; Ph.D., University of Wisconsin, 1964

BARTLETT, ANTHONY F. ..... Visiting Assistant Professor (Management), 1976
LL.B., LL.M., Queen's University, Belfast, Ireland, 1970

BASSUK, DANIEL E. ..... Assistant Professor (Religious Studies), 1970
B.S.; M.A.; Ph.D., Drew University, 1974

BATES, MARGARET L. ..... Professor (Political Science), 1975 Sarasota Campus
B.A.; M.A.; Ph.D.; L.L.D., Ohio Wesleyan University, 1974

BATTLE, JEAN A. ..... Professor (Education), 1959
B.A., M.A., Ed.D., University of Florida, 1953

BAUDOIN, LARRY A. ..... Associate Business Manager (Medical Center), 1972
B.S., Nicholls State University, 1968

BAUMGARTEN, STEVEN A. ..... Associate Professor (Marketing), 1976
B.I.E.; M.S., Ph.D., Purdue University, 1971

BEACH, DOROTHY R. ..... University Counseling Psychologist (Counseling Center, Student Affairs), 1972
B.A., M.A.,; Ed.D., Nova University, 1975

BEAN, CHARLES F. ..... Coordinator Affiliate Lecturer (Engineering), 1968
B.Ph.; M.E., University of South Florida, 1968, P.E.

BEASLEY, BOB L. ..... Associate Professor (Education), 1970
B.S., M.Ed.; Ph.D., Florida State University, 1968

BEASLEY, W. WAYNE .. Associate Professor (Education), 1969
B.S.; M.S., Ed.D., Indiana University, 1964

BEENHAKKER, ARIE ..... Professor-Coordinator (Finance/Economics), 1973
Ph.D.; Ph.D., Purdue University, 1964

BEHNKE, ROY H. ..... Professor-Chairperson (Internal Medicine), 1972
A.B.; M.D., Indiana University School of Medicine, 1946

BELL, JAMES A. ..... Assistant Professor (Philosophy), 1974
A.B.; M.A., Ph.D., Boston University, 1969

BELL, JOHN O. ..... Lecturer (Interdisciplinary Social Science), 1969
B.S., J.D., George Washington University, 1939

BELOHLAVEK, JOHN M. .. Associate Professor (History), 1970
B.A., M.A., Ph.D., University of Nebraska, 1970

BELT, JACK W. ..... Associate Professor (Theatre Arts), 1966
B.A.; M.F.A.; J.D., University of Florida, 1967

BENEDETTI, ROBERT ..... Assistant Professor (Political Science), 1975 Sarasota Campus
B.A.; M.A., Ph.D., University of Pennsylvania, 1975

BENJAMIN, WILLIAM F. ..... Professor (Education), 1968
B.A., M.A., Ph.D., George Peabody College, 1961

BENNETT, GEORGE K. ..... Professor (Engineering), 1974
B.S.; M.S.; Ph.D., Texas Technological University, 1970

BENTLEY, JOSEPH G. ..... Professor (English), Director (Graduate Studies), 1961
B.A., M.A.; Ph.D., Ohio State University, 1961

BENTLEY, MARY ANN M. ..... Visiting Lecturer (Theatre), 1975 (Part time)
B.A., University of South Florida, 1962

BENWAY, ROBERT E. ..... Associate Professor (Surgery), 1972 (Part time)
B.S., M.D., University of Miami, Florida, 1957

BERGGREN, DOUGLAS C. ..... Professor (Philosophy), 1975 Sarasota Campus
B.A.; M.A.; M.A., Ph.D., Yale University, 1959

BERKLEY, RICHARD J. ..... Assistant Professor (Physics), 1963
B.A., M.S., New Mexico Institute of Mining & Technology, 1955

BERNSTEIN, LARRY H. . Assistant Professor (Pathology), 1975
B.S., M.S., M.D., Wayne State University, 1968

BERRY, TOMMY R. ..... Director (Auxiliary Services), 1968
B.A., University of South Florida, 1968

BEST, GAIL G. ..... Area Administrator (Housing and Food Service, Student Affairs), 1969
M.S., Illinois State University, 1969

BETZ, JOHN V. ..... Associate Professor (Biology), 1963
B.S.C.; Ph.D., St. Bonaventure University, 1963

BETZER, PETER ... Associate Professor (Marine Science), 1971 St. Petersburg Campus
B.A.; Ph.D., University of Rhode Island, 1971

BEULIG, ALFRED, JR. ..... Assistant Professor (Biology), 1975 Sarasota Campus
B.S., M.S.; Ph.D., City University of New York, 1974

BIERENBAUM, HARVEY S. ..... Assistant Professor (Chemical Engineering), 1974
B.S.; M.S., Ph.D., Worcester Polytechnic Institute, 1971

BIGGS, MARYANNE M. ..... Assistant Professor (Business Administration), 1971
B.A.; M.B.A., University of South Florida, 1974

BILLINGSLEY, EDWARD B. ..... Associate Professor (History), 1967
B.S.; M.A.; Ph.D., University of North Carolina, 1964

BINFORD, JESSE S., JR. ..... Professor (Chemistry), Affiliate Professor (Biology), 1961
B.A., M.A.; Ph.D., University of Utah, 1955

BIRKIN, STANLEY J. ..... Associate Professor (Management), 1969
B.S.C., M.S.C.; Ph.D., University of Alabama, 1969

BLAIR, RAYMOND C. ..... Visiting Instructor (Education), 1975
B.A., M.A., University of South Florida, 1972

BLAKE, NORMAN J. ..... Assistant Professor (Marine Science), 1972 St. Petersburg Campus
B.S.; M.S., Ph.D., University of Rhode Island, 1972

BLANK, WILLIAM E. ..... Visiting Assistant Professor (Education), 1976
B.S., M.S.; Ph.D., Florida State University, 1976

BLAU, LILI R. ..... University Counseling Psychologist, Academic Administrator (Counseling Center, Student Affairs), 1967
B.S., M.S.; Ph.D., United States International University, 1975

BLAU, THEODORE ..... Professor (Psychiatry), 1975 (Part time)
B.S., M.S., Ph.D., Pennsylvania State University, 1951

BLOCH, SYLVAN C. ..... Professor (Physics), 1963
B.S., M.S., Ph.D., Florida State University, 1962

BLOMQUIST, ALLEN J. ..... Associate Professor (Psychology), Coordinator (Campus-Wide Scheduling), 1971 St. Petersburg Campus
B.S., M.S., Ph.D., University of Wisconsin, 1960

BLOUNT, WILLIAM R. ..... Associate Professor-Acting Chairperson (Criminal Justice Program), 1968
B.A.; M.A.; Ph.D., George Peabody College, 1969

BOLIVAR, JUAN C. ..... Professor (Surgery), 1972 (Part time)
B.S., M.D.; M.D., University of Paris, Sorbonne, 1940

BONDI, JOSEPH C., JR. ..... Professor (Education), 1965
B.S., M.Ed., Ed.D., University of Florida, 1968

BOPP, FREDERICK, III ..... Visiting Assistant Professor (Geology), 1976
B.A., Brown University, 1966

BORDEN, ARTHUR R. ..... Professor (Literature), 1975 Sarasota Campus
A.B., M.A., Ph.D., Harvard University, 1950

BOREN, HOLLIS G. ..... Acting Director (Medical Center), Acting Dean (College of Medicine), Professor (Internal Medicine), 1973 (Part time)
B.A.; M.D., Baylor University College of Medicine, 1946

BORSAY, DORANNE J. ..... Assistant in Research (Marine Science), 1975
B.S., University of Rhode Island, 1975

BOSTOW, DARREL E. .. Associate Professor (Education), 1970
B.A., M.A., Ph.D., Southern Illinois University, 1970

BOSTOW, DIANE E. ..... Coordinator (Education), 1974
B.A.; M.A., University of South Florida, 1974

BOTERO, FERNANDO ..... Assistant Professor (Internal Medicine), 1973
B.S.; M.D., University of Antioquia Medical School, Medellin, Colombia, 1964

BOTT, WILLIAM K. ..... Professor (Education), 1960
A.B., M.Ed., Ed.D., Duke University, 1962

BOULANT, JACK A. ..... Assistant Professor (Physiology), 1974
B.A.; Ph.D., University of Rochester School of Medicine and Dentistry, 1971

BOWEN, ADA M. ..... University Librarian (Medical Library), 1965
B.S., M.S.; M.A., University of South Florida, 1971

BOWERS, JAMES C. ... Professor (Electrical Engineering), 1965
B.E.; M.S.; Sc.D., Washington University, 1964

BOWERS, LOUIS E. ..... Professor (Education), 1967
B.S.; M.A.; Ph.D., Louisiana State University, 1964

BOWERS, RICHARD T. ..... Director (Intercollegiate Athletics, Elective Physical Education, and Recreational Sports) — Professor (Physical Education, Student Affairs), 1963
B.S., M.S., Ed.D., George Peabody College, 1961

BOWMAN, R. LEWIS ..... Professor (Political Science), 1973
B.A., Ph.D., University of North Carolina, 1964

BOYCE, HENRY W., JR. ... Professor (Internal Medicine), 1975
B.S.; M.S.; M.D., Bowman Gray School of Medicine, 1955

BOYD, HERBERT F. ..... Professor (Education), 1965
B.S., M.S., Ph.D., University of Illinois, 1958

BOYD, WILLIAM P. ..... University Physician (Student Health Service, Student Affairs), 1976
B.S.; M.D., Medical University of South Carolina, 1972

BRADLEY, ROBERT V. ..... Associate University Catalog Librarian (Libraries), 1959
B.A., M.A., Florida State University, 1957

BRADSHAW, ROBERT D. ..... Student Affairs Coordinator (University Publications, Student Affairs), 1973
B.B.A., B.F.A., M.S., Miami University, Ohio, 1973

BRADY, HENRY G. ..... Associate Professor (Education), 1969
B.S.; M.Ed.; Ph.D., Florida State University, 1969

BRADY, WILLIAM M. ..... Instructor (Mass Communication), 1963 (Part time)
B.S.; M.S., University of Illinois, 1967

BRAMAN, ROBERT S. ..... Professor (Chemistry), 1967
B.S.; Ph.D., Northwestern University, 1966

BRAMES, HERMAN J. ..... Assistant Administrator (Regional Campus Affairs), 1964
B.S., M.S., Indiana State University, 1964

BRANDMEYER, GERARD A. ..... Associate Professor (Sociology), 1969
B.S., M.A., Ph.D., University of California, Los Angeles, 1962

BRANTLEY, BETTY C. .. Associate Professor (Education), 1968
B.S.; M.Ed.; Ph.D., Florida State University, 1970

BRAUNSTEIN, STEWART M. .. Assistant Professor (Radiology), 1976 (Part time)
B.S.; M.D., University of Bologna, Italy, 1968

BRAY, LLOYD J., JR. ..... Coordinator, Programming (Florida Center for the Arts), Affiliate Lecturer (Theatre), 1973
B.A.; M.A., University of North Carolina, 1965

BREIT, FRANK D. ..... Associate Professor (Education), 1968
B.A., M.Ed., Ph.D., University of Texas, 1968

BRIDGES, VIRGINIA A. . Associate Professor (Education), 1964
B.M.Ed., M.A., Ph.D., Ohio State University, 1965

BRIDGES, WINSTON T., JR. ..... Assistant Professor (Education), 1970 St. Petersburg Campus
B.A., M.Ed., Ph.D., University of Florida, 1975

BRIGGS, JOHN C. ..... Professor (Biology) Acting Chairperson (Marine Science), Affiliate Professor (Marine Science), 1964
B.S., M.A., Ph.D., Stanford University, 1952

BRIGHTWELL, J. RICHARD ..... Director (Continuing Education), 1964
B.S., M.A., Ohio State University, 1947

BRIGHTWELL, RUTH G. ..... Counselor/Adviser (Education), 1969 (Part time)
B.S., Ohio State University, 1948

BRODSKY, SIDNEY J. ..... Assistant Professor (Pediatrics), 1974 (Part time)
M.D., State University of New York, Upstate Medical Center, 1963

BROER, LAWRENCE R. .... Associate Professor (English), 1965
B.S., M.A., Ph.D., Bowling Green State University, 1968

BROOKER, H. RALPH ..... Associate Professor (Physics), 1964
B.S., M.S., Ph.D., University of Florida, 1962

BROOKS, ROBERT D. ..... Professor-Chairperson (Speech Communication), 1974
A.B.; M.A., Ph.D., Cornell University, 1965

BROWN, CURTIS J. ..... Counselor/Adviser (Business), 1972 (Part time)
B.S., Florida A & M University, 1963

BROWN, HUGH K. ..... Assistant Professor (Anatomy), 1974
B.S.; M.S.; Ph.D., Tulane University, 1974

BROWN, LARRY N. ..... Associate Professor (Biology), 1967
B.S.; M.A., Ph.D., University of Missouri, 1962

BRUCE, RITA G. ..... Associate Professor (Education), 1970
B.S., M.S., Ed.D., West Virginia University, 1965

BRUNHILD, GORDON ..... Professor (Economics), 1960
B.S., M.B.A., Ph.D., University of Southern California, 1957

BRUSS, JAMES J. ..... Director (Information Services), 1973
B.S., Ohio University, 1950

BRYANT, ALMA G. ..... Assistant Professor (English), 1972
B.S., M.A.; Ed.S., Ed.D., University of Florida, 1976

BRYANT, FRED D. ..... Director (Medical Center Library), 1971
A.B., M.S.L.S., Emory University, 1947

BRYANT, HAYDEN C., JR. ..... Associate Professor (Education) 1967
B.A., M.A., George Peabody College, 1957

BRYKCZYNSKI, KAREN A. ..... Instructor (Nursing), 1976
B.S.N., M.S.N., Adelphi University, 1976

BUENO, EDGAR E. ..... Assistant Professor (Psychiatry), 1973 (Part time)
M.D., University of San Marcos, Lima, Peru, 1965

BUKANTZ, SAMUEL C. ..... Professor (Internal Medicine), 1972 (Part time)
B.S.; M.D., New York University College of Medicine, 1934

BULLOCK, BRUCE L. ..... Visiting Lecturer (Music), 1976
B.M.; M.M.; D.M.A., North Texas State University, 1971

BULLOCK, JOHN T. ..... Associate Professor (Education), 1966
A.B., M.Ed., Ed.D., University of Florida, 1972

BULLOCK, PHYLLIS N. ..... Assistant in Research (Pediatrics), 1976
B.S.; M.A., Harvard Medical School, 1955

BURDICK, GLENN A. . Professor (Electrical Engineering), 1965
B.S., M.S., Ph.D., Massachusetts Institute of Technology, 1961

BURI, PETER F. ..... Professor (Biology), Chairperson (Natural Sciences), 1975 Sarasota Campus
Ph.D., University of Chicago, 1955

BURLEY, W. WADE ..... Professor (Education), 1966
B.A.; M.Ed., Ph.D., University of North Carolina, 1970

BURNS, THOMAS J. ..... Assistant Professor (Religious Studies), 1969
B.A., M.A., M.Th., Louvain, Belgium, 1960

BURR, RUSSELL K. ..... Associate Director (Veterans Affairs, Branch Campuses, Student Affairs), 1973
B.A., M.A., University of South Florida, 1976

BURTON, ROBERT H. . Associate Professor (Economics), 1963
B.B.A., M.B.A., Ph.D., Louisiana State University, 1967

BUSOT, J. CARLOS ..... Associate Professor-Assistant Chairperson (Chemical Engineering), 1970
B.S., M.S., Ph.D., University of Florida, 1970

BUSTA, JOSEPH F., JR. ..... Assistant to the President (President's Office), 1971
B.S.; M.S., University of Tennessee, 1972

BUTLER, CHARLES W. ..... Director (Physical Plant), 1965
B.A., Lincoln Memorial University, 1942

BUTLER, JAMES R. ..... Assistant Professor (Chemistry), 1975 Sarasota Campus
B.S., Ph.D., University of Texas, Austin, 1972

BYRNE, LUIS O. ..... Assistant Professor (Psychiatry), 1975 (Part time)
M.D., San Marcos University, Lima, Peru, 1964

CAFLISCH, JACOB C., III ..... Associate Professor (Linguistics), 1970
A.B., A.M., Ph.D., Indiana University, 1974

CALDWELL, EDWARD ..... Director-Associate Professor (Testing and Evaluation), 1965
B.S., M.S., Ed.D., Florida State University, 1958

CAMERON, WM. BRUCE ..... Professor (Sociology), 1964
B.A., M.A., Ph.D., University of Wisconsin, 1952

CAMP, JOHN B. ..... Associate Professor (Linguistics), Program Director (Liberal Studies), 1964
B.M., M.M., Ph.D., Florida State University, 1964

CAMP, PAUL E., JR. ..... Assistant University Librarian (Libraries), 1972
B.A.; M.S.L.S., Florida State University, 1972

CANO, CARLOS J. ..... Assistant Professor (Foreign Languages), 1970
B.A.; M.A., Ph.D., Indiana University, 1973

CAPSAS, CLEON W. ..... Professor (Foreign Languages), 1970
B.A., M.A., Ph.D., University of New Mexico, 1964

CARBONELL, FRIEDA W. ..... Associate Professor (Nursing), 1973
B.S., Ed.M., Ed.D., Boston University School of Education, 1961

CARD, GEORGE R. ..... Academic Administrator (Cooperative Education and Placement, Student Affairs), 1970
B.S.; M.A., University of South Florida, 1971

CARDER, KENDALL L. ..... Associate Professor (Marine Science), 1969 St. Petersburg Campus
B.S., M.S., Ph.D., Oregon State University, 1970

CARLSON, REBEKAH L. ..... Instructor (Communicology), 1968
B.S.; M.S., University of South Florida, 1970

CARMICHAEL, JOHN D. ..... Assistant Professor (Marketing), 1967
B.S., M.B.A., Georgia State University, 1965

CARPENTER, WILLIAM C. ..... Associate Professor (SMF-Engineering), 1976
B.S.C.E., Ph.D., North Carolina State University, 1966

CARR, DAVID R. ..... Assistant Professor (History), 1971 St. Petersburg Campus
B.A.; M.A., Ph.D., University of Nebraska, 1971

CARR, JOSEPH A. ..... Director (Planetarium), 1960

CARR, MATTHEW L. ..... Assistant Professor (Internal Medicine), 1974 (Part time)
B.A.; M.D., Albert Einstein Medical College, 1966

CARROLL, DELOS L., JR. ..... Associate Professor (Education), 1969
B.S.; M.Ed., Ed.D., University of Florida, 1969

CARTER, CHARLES J. ..... Assistant Vice President for Planning and Budgeting (Academic Affairs), 1974
A.B.; M.A., Ph.D., Florida State University, 1971

CARTER, DAVID A. ..... Assistant Professor (Speech Communication), 1973
B.A., M.F.A.; Ph.D., University of Iowa, 1976

CARTLIDGE, JACK E. ..... Assistant Professor (Fine Arts), 1975 Sarasota Campus
B.A.; M.A., University of Alabama, 1949

CAVANAUGH, ROBERT M., JR. ..... Assistant Professor (Pediatrics), 1976
B.A.; M.D., University of Cincinnati College of Medicine, 1970

CECONI, ISABELLE F. ..... Lecturer (English), 1960
B.A., Wells College, 1940

CHAE, SOO BONG ..... Associate Professor (Mathematics), 1975 Sarasota Campus
B.S.; M.A.; Ph.D., University of Rochester, 1970

CHAMBERS, JAMES A. .. Associate Professor (Education), 1964
A.B.; M.A.; Ed.D., University of Tennessee, 1963

CHAPPELL, JAMES E. ..... Associate in Research (Greater Tampa Alcohol Safety Action Project), 1972
B.S., Memphis State University, 1965

CHEATHAM, MARY J. ..... Lecturer (Physical Education), 1967 (Part time)
B.A.; M.S., Florida State University, 1967

CHEN, TSONG-MING .. Professor (Electrical Engineering), 1972
B.S.; Ph.D., University of Minnesota, 1964

CHERRY, R. ADRIAN ..... Associate Professor (Foreign Languages), 1961
B.A., M.A., Ph.D., University of Kentucky, 1960

CHISNELL, ROBERT E. .... Associate Professor (English), 1967
B.A., M.A.; Ph.D., Auburn University, 1971

CHRISTENSEN, JAMES A. ..... Assistant Professor (Surgery), 1973 (Part time)
A.B., M.D. Indiana University, 1968

CHRISTIE, RICK D. J. ..... Athletic Coach (Physical Education, Student Affairs), 1970
B.A., University of South Florida, 1970

CILIBERTO, E. FRANK ..... Assistant Professor (Family Medicine), 1975
B.A., M.D., Syracuse University College of Medicine, 1951

CIMINO, LOUIS E. ..... Associate Professor (Pediatrics), 1974 (Part time)
B.S.; M.D., St. Louis University, 1950

CLAPP, ROGER W., JR. ... Associate Professor (Physics), 1963
B.S.; M.S., Ph.D., University of Virginia, 1954

CLARK, JOHN R. ..... Professor-Chairperson (English), 1973
B.A.; M.A.; Ph.D., University of Michigan, 1965

CLARK, WILLIAM E. ..... Professor (Mathematics), 1970
B.A.; Ph.D., Tulane University, 1964

CLAYTON, GLENNDON E. ..... Assistant Vice President (Finance and Planning), 1966
B.S.; M.A., University of South Florida, 1973

CLEARY, LYNN P. ..... Associate Professor (Education), 1970
B.A., M.S., Ph.D., Florida State University, 1970

CLEAVER, FRANK L. ..... Professor (Mathematics), 1960
B.S.; M.S.; Ph.D., Tulane University, 1960

CLEMENT, DAVID E. ..... Professor (Psychology), 1965
B.S., Ph.D., Johns Hopkins University, 1963

CLINE, RALPH ..... Assistant Professor (Education), 1971 St. Petersburg Campus
A.B.; M.Ed., Ed.D., University of Florida, 1971

CLINGMAN, JOY M. ... Associate Professor (Psychology), 1970 St. Petersburg Campus
B.A., M.S., Ph.D., Florida State University, 1971

CLOUGH, W. LYNNDON ..... Professor (Classics), 1975 Sarasota Campus
B.A., M.A., Queen's College, Cambridge, 1938

COANE, RICHARD P. ..... Coordinator (Social and Behavioral Sciences), 1975
B.S., M.S.W., Florida State University, 1971

COHEN, STEPHEN L. .. Associate Professor (Psychology), 1971
B.S., M.S., Ph.D., University of Tennessee, 1971

COKER, JOHN W. ..... Lecturer-Director (Florida Center for the Arts), 1969
B.S., M.M., College-Conservatory of Music, Cincinnati, 1956

COLE, NANCY B. ..... Associate Professor and Chairperson (Theatre), 1976
A.B.; M.F.A. in Acting, State University of Iowa, 1964

COLE, ROGER W. ..... Associate Professor-Program Director (Linguistics), 1969
B.A., M.A.; Ph.D., Auburn University, 1968

COLLIER, CLARENCE H. ..... Associate Professor (Education), 1968
B.S., M.E., University of Georgia, 1965

COLLIER, TROY L. ..... Assistant to Vice President (Student Affairs), 1971
B.S.; M.L.A., Southern Methodist University, 1971

COLLINS, PASCHAL J. ..... Assistant Professor (English), 1969
B.S., M.A., University of Denver, 1968

COLLINS, PHILIP D. ..... Assistant Athletic Coach (Physical Education, Student Affairs), 1973
B.A., University of South Florida, 1973

CONNER, HUNTER N. ..... Head Basketball Coach (Physical Education, Student Affairs), 1974
B.A., M.Ed., University of Virginia, 1965

CONWAY, CHARLES E. ..... Assistant Professor (American Studies), 1970
B.S., Temple University, 1961

COOK, DORIS C. ..... University Librarian (Libraries), 1968 St. Petersburg Campus
B.A.; M.S.L.S., Florida State University, 1966

COOKE, JOHN A. ..... Assistant Professor (Music), 1974
A.R.C.M.; L.R.A.M., The Royal Academy of Music, 1970

COOKE, JOHN P. ..... Associate Professor-Acting Chairperson (Economics), 1968
B.S.; M.B.A.; Ph.D., University of Colorado, 1967

COOKE, NANCY S. ..... Counselor/Adviser (Education), 1974 (Part time)
B.S.; M.B.A., University of Denver, 1960

COOPER, CLARA B. ... Associate Professor (Humanities), 1969
B.A., M.A., Ph.D., Florida State University, 1969

CORY, JOSEPH G. ..... Professor-Chairperson (Biochemistry), 1966
B.S.; Ph.D., Florida State University, 1963

COVINGTON, HARRISON W. ..... Professor (Visual Arts), 1961
B.F.A., M.F.A., University of Florida, 1953

COWELL, BRUCE C. ..... Associate Professor (Biology), 1967
B.A., M.A., Ph.D., Cornell University, 1963

COX, BARBARA C. ..... Academic Administrator (Arts and Letters), 1974
B.A., William & Mary, 1958

COX, ERNEST L., III ..... Professor (Visual Arts), 1962
B.A.; M.F.A., Cranbrook Academy of Art, 1961

COX, ROBERT G. ..... Dean-Professor (Business Administration), 1975
B.S.; M.B.A.; Ph.D., University of Pennsylvania, 1956, C.P.A.

CRAIG, CALVERT J. ..... Associate Professor-Acting Chairperson (Education), 1967
B.S., M.S., University of Illinois, 1951

CRAIG, CHARLES P. ..... Professor (Internal Medicine), 1972 (Part time)
B.A.; M.D., University of Pittsburgh School of Medicine, 1961

CRANE, ROGER A. .... Assistant Professor (Engineering), 1974
B.S.; M.S.; Ph.D., Auburn University, 1973

CRICKENBERGER, MARGARET E. ..... Professor (Education), 1961
B.S.; M.S.; Ed.D., University of Florida, 1970

CRITTENDEN, JERRY ..... Associate Professor (Communicology), 1971
B.S.; M.A., Ph.D., Michigan State University, 1969

CROFT, JAMES E. ..... Associate Professor (Education), 1972
B.M.E.; M.A.; D.M.E., University of Oklahoma, 1970

CROUCH, JAMES W. ..... Student Affairs Coordinator (Student Organizations, Student Affairs), 1973
B.A.; M.A., Indiana University, 1971

CSIZMADIA, STEPHEN D. ..... Clinical Psychologist (Counseling Center, Student Affairs), 1976
A.B.; M.S.W., Boston College, 1957

CUNNINGHAM, VIRGINIA P. .... Assistant University Librarian (Libraries), 1976
B.A.; M.A., University of South Florida, 1976

CURRAN, JOHN S. ..... Associate Professor (Pediatrics), Director (Neonatal Service), 1972
A.B.; M.D., University of Pennsylvania, 1966

CURREY, CECIL B. ..... Professor (History), 1967
A.B., M.Sc., Ph.D., University of Kansas, 1964

CURTIS, THOMAS D. ..... Professor (Economics), 1974
B.S., M.A.; Ph.D., Indiana University, 1965

CZYZEWSKI, PAUL V. ... Assistant Professor (Education), 1974
B.S., M.S., Indiana University, 1966

DALEZMAN, JOSEPH J. ..... Assistant Professor (Experimental Psychology), 1975 Sarasota Campus
B.A.; M.A.; Ph.D., Ohio State State University, 1974

DALTON, JAMES A. .... Associate Professor (Economics), 1974
B.A.; M.A., Ph.D., Boston College, 1969

DANENBURG, WILLIAM P. ..... Associate Professor (Education), 1964
A.B.; M.Ed.; Ed.D., University of Tennessee, 1970

DANIELS, HARRY P. ..... Student Affairs Coordinator (Student Publications, Student Affairs), 1974

DAOUK, AHMAD A. ..... Associate Professor (Surgery), 1975 (Part time)
B.S., M.D., American University of Beirut, 1965

DAUGHERTY, GEORGE G. ..... Lecturer (Mass Communications), 1972
B.S., University of Houston, 1958

DAVEY, KENNETH W. ..... Assistant Professor (Economics), Coordinator of Advising, Undergraduate (Business Administration), 1966
B.A.; M.A., St. Mary's University, 1965

DAVIS, DARRELL L. ..... Professor (Physiology), 1971
B.S., M.A.; Ph.D., St. Louis University, 1956

DAVIS, JEFFERSON C., JR. ..... Professor (Chemistry), 1965
B.S., M.S.; Ph.D., University of California, Berkeley, 1959

DAVIS, RICHARD A., JR. ..... Professor-Chairperson (Geology), 1973
B.S.; M.A.; Ph.D., University of Illinois, 1964

DAVIS, WESLEY F. ..... Professor (English), 1960
A.B.; M.A.; Ph.D., Stanford University, 1970

DAWES, CLINTON J. ..... Professor (Biology), 1964
B.S., M.A., Ph.D., University of California, Los Angeles, 1961

DEANS, STANLEY R. ..... Associate Professor (Physics), 1967
B.S.; M.S.; Ph.D., Vanderbilt University, 1967

DEATS, SARA M. ..... Associate Professor (English), 1970
B.A., M.A., Ph.D., University of California, Los Angeles, 1970

DEBORD, WARREN A. . Associate Professor (Marketing), 1969
B.S., M.B.A., Ph.D., University of Illinois, 1969

DEER, HARRIET H. ..... Associate Professor (English), 1966
St. Petersburg Campus
M.A., University of Minnesota, 1964

DEER, IRVING ..... Professor (English), 1966
B.S.; M.A., Ph.D., University of Minnesota, 1956

DEITER, JOHN C. ..... Associate Professor (Finance), 1965
B.S., M.B.A., Ph.D., Western Reserve University, 1965

DEME, LASZLO ..... Professor (History), Chairperson (Social Sciences), 1975 Sarasota Campus
M.A., Ph.D., Columbia University, 1969

DENKER, MARTIN W. . Associate Professor (Psychiatry), 1972
B.A., M.D., Johns Hopkins University, 1968

DENNIS, DAVID M. .... Associate Professor (Accounting), 1972
A.B.; M.B.A.; Ph.D., University of Missouri, 1972, C.P.A.

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B.A.; M.B.A., Rutgers University, 1968, C.P.A.

DE QUESADA, ALEJANDRO M. ..... Assistant Professor (Internal Medicine), 1973 (Part time)
B.S.; M.D., University of Havana School of Medicine, 1960

DERESINSKI, STANLEY C. ..... Assistant Professor (Internal Medicine), 1976
M.D., University of Illinois College of Medicine, 1968

DERTKE, MAX C. ..... Associate Professor-Director (University Studies/Admissions/Counseling Center) (Student Affairs), 1967
B.A., Ph.D., University of Miami, Florida, 1968

DEVINE, JAMES F. ..... Assistant Professor (SMF-Engineering), 1965
B.S., M.S., University of Illinois, 1960

DEVINNEY, EDWARD J., JR. ..... Associate Professor (Astronomy), Director (Astronomical Observatory), 1968
A.B., Ph.D., University of Pennsylvania, 1968

DICKEY, ANNAMARY L. ..... Assistant Professor (Music Arts), 1969
B.S.; M.Ed., Columbia University, 1963, Artist Diploma

DICKINSON, JAMES C. ..... Professor (Education), 1969
A.B., A.M., Ph.D., University of Minnesota, 1964

DICKMAN, FRED J. ..... Associate Professor (Rehabilitation Studies Program), 1970
B.A., S.T.B., M.Ed., Ed.D., University of Florida, 1967

DIETRICH, LINNEA S. . Assistant Professor (Visual Arts), 1968
B.A.; M.A., Ph.D., University of Delaware, 1972

DIETRICH, RICHARD F. ..... Professor (English), 1968
A.B.; M.A.; Ph.D., Florida State University, 1965

DIETZ, JOHN J. ..... Instructor (English), 1971
A.B., M.A., Temple University, 1965

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DOWNS, BERNARD F. ..... Assistant Professor (Speech Communication), 1970
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B.Th.; Ph.L.; M.A., Ph.D., University of North Dakota, 1968

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DUTTON, RICHARD E. ..... Professor (Management), 1963
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DWYER, ROBERT C. .... Associate Professor (Education), 1964
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FENDER, RICKARD C. ..... Director (University Budgets) (Budget Office), 1968
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B.F.A., M.F.A., University of Alabama, 1958

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GESSMAN, ALBERT M. ..... Professor (Religious Studies), 1961
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B.A.; M.A., University of Iowa, 1967

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B.S., M.Ed.; Ed.D., Indiana University, 1966

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B.S., A.B.; M.S., Ph.D., Northwestern University, 1973

GOLDING, LOIS A. ..... Associate Professor (Music Arts), 1962
A.M., L.M., F.T.C.L., Trinity College, London, 1966

GOLDMAN, ALLAN L. ..... Associate Professor (Internal Medicine), 1974
B.A., B.S., M.D., University of Minnesota, 1968

GOLDSMITH, GEORGE H. ..... Director (Financial Aids, Student Affairs), 1969
B.A.; M.Ed., Tulane University, 1968

GOLLOWAY, GLENN G. ..... Assistant Professor (Psychiatry), 1976
B.A.; M.D., Cornell University Medical College, 1949

GOMEZ, OSBORNE L. ..... Director (Extension Library), 1965 St. Petersburg Campus
A.B., M.A., M.S.L.S., Florida State University, 1969

GONZALEZ, JUAN O. ..... Associate Professor (Energy Conversion Systems), 1965
B.S., M.S., Virginia Polytechnic Institute, 1950

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B.S., M.A., Ph.D., University of Michigan, 1953

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HINDLE, WILL M. ..... Associate Professor (Visual Arts), 1972

HINSCH, GERTRUDE W. .. Associate Professor (Biology), 1974
B.S.; M.S., Ph.D., Iowa State University, 1957

HIRSHBERG, EDGAR W. ..... Professor (English), 1960
B.A., M.A., Ph.D., Yale University, 1951

HOFFMAN, HUBERT A. ..... Professor-Associate Dean (Education), 1966
B.S., M.Ed., P.E.D., Indiana University, 1969

HOFFMAN, THEODORE B. ..... Professor (Humanities), 1962
A.B., M.A., Ph.D., University of the Pacific, 1959

HOGUE, MARGARET A. ..... Assistant University Librarian (Libraries), 1970
B.A.; M.S.L.S., Florida State University, 1975

HOLCOMB, DAN L. ..... Associate Professor-Athletic Coach (Physical Education, Student Affairs), 1965
B.Ed., M.S., Florida State University, 1962

HOLLAND, MARGARET S. ..... Lecturer (Education), 1966
B.A., M.A.T., Duke University, 1961

HOLLEY, JOHN W. ..... Assistant Professor (Sociology), 1971
B.A., M.S., Ph.D., Florida State University, 1971

HOLMES, ROLAND C. ..... Instructor (Geography), 1974 St. Petersburg Campus
A.B., M.S., University of Florida, 1959

HOLT, THOMAS M. ..... Assistant Professor (Anatomy), 1974
B.S., M.S.; Ph.D., Louisiana State University, 1974

HONKER, H. ANDREW ..... Assistant Professor—Assistant Director (Physical Education, Student Affairs), 1969
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HOPKINS, THOMAS L. .. Associate Professor (Marine Science), 1967 St. Petersburg Campus
B.A., M.A., Ph.D., Florida State University, 1964

HOPPER, ALAN T. ..... Instructor (Music), 1972, (Part time)
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HOPPIN, MARION C. ..... Auxiliary Professor (Psychology), 1975 Sarasota Campus, (Part time)
A.B.; M.A., Ph.D., Columbia University, 1950

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HORRIGAN, FREDERICK J. ..... Associate Professor (Political Science), 1968
B.A., M.A., Ph.D., Indiana University, 1958

HORSMAN, DAVID A. E. ..... Assistant Professor (Mass Communications), 1970
B.A.; M.A., Ph.D., New York University, 1970

HOUGHTON, LEA M. ..... Academic Administrator (Graduate Studies, Academic Affairs), 1968

HOUK, C. WESLEY ..... Coordinator of Advising and Graduate Studies and Associate Professor (Fine Arts), 1961
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B.S.; M.A., Ed.D., George Peabody College, 1962

HUANG, WEN H. ..... Associate Professor (Geology), 1970
B.S.; M.A.; Ph.D., University of Missouri, 1970

HUBBARD, CONRAD E. ..... Assistant Professor (Accounting), 1962
B.S., M.B.A., University of Kentucky, 1957, C.P.A.

HUG, WILLIAM G. ..... Professor-Chairperson (Dance), 1969
B.S., M.A., University of Illinois, 1960

HULBARY, WILLIAM E. ..... Associate Professor (Political Science), 1976
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HUMM, HAROLD J. ..... Professor (Marine Science), 1966 St. Petersburg Campus
B.S.; M.S., Ph.D., Duke University, 1945

HUNNICUTT, CLARENCE W. ..... Professor (Education), 1967
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HUNTER, JAMES H., JR. ..... Professor (Astronomy), 1970
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HURWITZ, HARRY L. . Associate Professor (Visual Arts), 1973
B.A., M.A., New York University, 1963

HYMAN, RANDY E. ..... Counselor to Students (Housing and Food Service, Student Affairs), 1976
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B.A.; M.A., Ph.D., New York University, 1974

INGALLS, ROBERT P. ..... Assistant Professor (History), 1974
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JAESCHKE, DONALD P. ..... Associate Professor (Education), 1963
B.S.; M.S., Ph.D., Florida State University, 1971

JAIN, VIJAY K. ..... Professor (Electrical Engineering), 1972
B.E.; M.E.; Ph.D., Michigan State University, 1964

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B.A.; M.A.; Ed.D., Rutgers University, 1971

JOHNSON, GORDON A. ..... Professor (Music Arts), 1963
B.S., M.M., Ph.D., Michigan State University, 1963

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JOHNSON, ROGER E. ..... Professor (Education), 1967
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JOHNSON, THOMAS E., JR. ..... Associate Professor (Management), 1974
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JOHNSTON, MILTON D., JR. ..... Assistant Professor (Chemistry), 1973
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JONES, HILTON K. ..... Assistant Professor (Music Arts), 1969
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JONES, MARCUS E. ..... Provisional Assistant Professor (Geography), 1976
B.A.; M.A.; Ph.D., Southern Illinois University, 1976

JONES, W.DENVER ..... Professor (Physics), 1970
B.A.; M.A., Ph.D., Vanderbilt University, 1963

JORDAN, DAVID C. ..... Acting Assistant Vice President (Administrative Affairs), 1968
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JOSEPHSON, RICHARD A. ..... Instructor (Psychiatry), 1974 (Part time)
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JUERGENSEN, HANS ..... Professor (Humanities), 1961
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KASHDIN, GLADYS S. ..... Professor (Humanities), 1965
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B.S., M.A., Ph.D., University of Florida, 1960

KEELER, HAROLD J. ..... Professor (Education), 1969
B.S., M.S., Ed.D., Cornell University, 1956

KEENE, T. WAYNE ..... Associate Professor (Education), 1963
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KEETH, JOHN E. ..... University Acquisition Librarian (Libraries), 1968
B.A., M.L.S., Louisiana State University, 1969

KEITER, FRONSIE B. ... Associate Professor (Education), 1966
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B.S.; Ph.D., Vanderbilt University, 1973

KELLEY, ANNE E. ..... Associate Professor (Political Science), 1963
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KELLEY, JOHN E. .... Associate Professor (Mathematics), 1964 St. Petersburg Campus
B.S., M.S., Ph.D., University of Michigan, 1960

KENDALL, HARRY W. ..... Professor (Physics), 1960
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A.B., M.C.S., Dartmouth College, 1938

KENNEDY, JAY B. ..... Associate Professor (Economics), 1967
A.B., M.A., Ph.D., Indiana University, 1961

KERNS, ALLEN F. ..... Instructor (Education), 1974
B.A.; M.S.T.; M.S.Ed., Florida State University, 1971

KERNS, ROBERT L. ..... Associate Professor (Mass Communications), 1972
B.A.; M.A., Syracuse University, 1969

KETCHERSID, ARTHUR L. ..... Assistant Director (Libraries), 1973
B.S., M.S., Florida State University, 1961

KHORSANDIAN JAN K. ..... Assistant Professor (Music Arts), 1971
B.S., M.S., University of Illinois, 1970

KIEFER, H. CHRISTIAN ..... Professor (English), 1960
A.B.; M.A., Ph.D., Columbia University, 1961

KIEFER, MICHAEL R. ..... Student Affairs Coordinator (Veterans Affairs, Student Affairs), 1975
B.A., University of South Florida, 1975

KIM, H. HARRY ..... Assistant Professor (Geography), 1974
B.A.; M.A.; M.A., Ph.D., University of Washington, 1971

KIMMEL, ELLEN B. ..... Professor (Education), 1968
B.A.; M.A., Ph.D., University of Florida, 1965

KIMMEL, HERBERT D. ..... Professor (Psychology), 1968
B.S., M.A., Ph.D., University of Southern California, 1958

KINCAID, GEORGE H. .. Associate Professor (Education), 1967
A.B., M.R.C., Ed.D., University of Florida, 1965

KINDE, STEWART W. ..... Associate Professor-Chairperson (Communicology), 1965
B.S., M.A., Ph.D., Michigan State University, 1972

KINDER, BILLY N. ..... Assistant Professor (Psychology), 1976
B.S.; Ph.D., University of South Carolina, 1975

KING, ARLINE T. ..... Assistant University Catalog Librarian (Libraries), 1964
B.A., M.A.; M.S.L.S., Florida State University, 1970

KING, CHARLES E. ..... Associate Professor (Biology), 1972
A.B.; M.S.; Ph.D., University of Washington, 1965

KING, RAYMOND C. ..... Director (Housing and Food Service, Student Affairs), 1963
B.S.; M.A., Columbia University, 1961, Prof. Diploma

KIVETZ, ROBERT S. ..... Area Administrator (Housing and Food Service, Student Affairs), 1973
A.B.; M.S., Miami University, Ohio, 1971

KLEG, MILTON ..... Associate Professor (Education), 1970
A.B., M.A., Ed.D., University of Georgia, 1970

KLEIN, THOMAS W. ..... Assistant Professor (Medical Microbiology), 1973
B.S., Ph.D., Creighton University, 1972

KLEINE, GEORG-HELMUT ..... Associate Professor (History), 1968
Ph.D., University Erlangen-Nurnberg, 1967

KLESIUS, JANELL P. ..... Instructor (Education), 1972
B.S.; M.A., University of South Florida, 1972

KLESIUS, STEPHEN E. ..... Associate Professor-Acting Chairperson (Education), 1969
B.S., M.S.; Ph.D., Louisiana State University, 1968

KLIPPEL, R. EUGENE ... Associate Professor (Marketing), 1976
B.B.A., M.B.A.; Ph.D., The Pennsylvania State University, 1971

KLOPFENSTEIN, CONNIE B. ..... Assistant Professor (Nursing), 1976
B.S.N.; M.N., University of Florida, 1974

KNEEBURG, DON W. .. Associate Professor (Music Arts), 1968
B.A.; M.M., Indiana University, 1962

KNEGO, JOHN M. ..... Associate Professor (Education), 1975
M.A., Ph.D., Indiana University, 1974

KNEPPER, EDITH G. ..... University Librarian (Libraries), 1975
B.A.; M.S.L.S., University of Kentucky, 1960

KNIPPEN, JAY T. ..... Associate Professor (Management), 1970
B.B.A., M.B.A., D.B.A., Florida State University, 1970

KNOX, ROBERT H. ..... Professor (Literature), 1975, Sarasota Campus
A.B., Ph.D., Harvard University, 1959

KOEHLER, JERRY W. ..... Associate Professor (Speech Communication), 1976
B.S., M.A.; D.Ed., The Pennsylvania State University, 1968

KOPP, EDGAR W. ..... Dean-Professor (Engineering), 1964
B.N.S., B.I.E., M.S.I.E., Georgia Institute of Technology, 1947, P.E.

KRANC, STANLEY C. . Associate Professor (Engineering), 1972
B.S.S.E., Ph.D., Northwestern University, 1968

KRAUS, ALLAN D. ... Lecturer (Technology Engineering), 1971
B.E., M.S.M.E., M.E.E.; Ph.D., University of South Florida, 1976

KRONSNOBLE, JEFFREY M. ..... Professor (Visual Arts), 1963
B.S.; M.F.A., University of Michigan, 1963

KRUSCHWITZ, WALTER H. ..... Associate Professor (Physics), 1967
A.B.; M.A.; Ph.D., University of Michigan, 1961

KRZANOWSKI, JOSEPH J. ..... Associate Professor (Pharmacology), 1971
B.S.; M.S., Ph.D., University of Tennessee, 1968

KUESTER, HAROLD H. ..... Visiting Assistant Professor (Religion), 1976, Sarasota Campus
B.A.; B.D.; M.A., Ph.D., University of Chicago, 1975

KUFFEL, CONSTANCE F. .... Instructor (Communicology), 1969
B.A., M.A., University of South Florida, 1968, C.C.C.

KUMMERFELDT, JANET E. ..... Counselor to Students (Housing and Food Services, Student Affairs), 1974
B.S., M.S., Iowa State University, 1974

KUSHNER, GILBERT ..... Professor-Associate Dean (Anthropology), 1970
B.A., M.A., Ph.D., University of Arizona, 1968

KUTCHER, LOUIS W., JR. ..... Assistant Professor (Sociology), 1967
A.B., M.A., Ph.D., University of Minnesota, 1972

LABARBA, RICHARD C. ..... Professor (Psychology), 1966
B.A.; Ph.D., University of Tennessee, 1965

LAGODNA, MARTIN M. .... Assistant Professor (History), 1970
B.A., M.A., Ph.D., University of Florida, 1970

LAMBETH, DAVID O. .... Assistant Professor (Chemistry), 1973
B.S.; M.S.; Ph.D., University of Wisconsin, 1971

LANCZ, GERALD J. ..... Assistant Professor (Medical Microbiology), 1971
A.B., M.S., Ph.D., Northwestern University, 1970

LANDSMAN, MURRAY J. ..... Associate Professor (Rehabilitation Studies Program), 1969
B.S., M.A., Ph.D., University of Florida, 1964

LANTZ, DONALD L. ..... Professor (Education), 1961
A.B., M.A., Ph.D., University of Minnesota, 1961

LARSEN, MERNET L. . Associate Professor (Visual Arts), 1967
B.F.A.; M.F.A., Indiana University, 1965

LASSETER, JAMES, JR. ..... Assistant Professor (Accounting), 1966
B.S.; M.B.A., University of Chicago, 1964, C.P.A.

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B.A.; M.S., Florida State University, 1960

LAUBER, VOLKMAR ..... Visiting Instructor (Political Science), 1976
D.J.; LL.M., Harvard Law School, 1970

LAVELY, CAROLYN D. . Associate Professor (Education), 1970
B.A., M.A., Ph.D., Syracuse University, 1968

LAWRENCE, JOHN M. ..... Professor (Biology), 1965
B.S., A.M., Ph.D., Stanford University, 1966

LAWSON, STEVEN F. ..... Assistant Professor (History), 1972 St. Petersburg Campus
B.A.; M.A., Ph.D., Columbia University, 1974

LAX, BERNARD ..... Associate Professor (Education), 1969
B.A., M.A., Ph.D., University of Texas, 1970

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B.A.; M.S.; M.D., University of Texas, 1946

LAYDEN, WILLIAM E. ..... Associate Professor (Ophthalmology,) 1972
B.A., M.D., University of Vermont, 1963

LAYMAN, JAY S. ..... Associate Business Manager (Medical Center), 1971
B.S., Florida State University, 1968

LEAHY, GERARD J. ..... Lecturer (Florida Center), Affiliate Lecturer (Theatre), 1974
B.A.; M.F.A., Yale School of Drama, 1967

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B.S.; M.A., University of South Florida, 1973

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B.S.; M.Ed., Ed.D., University of Florida, 1976

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B.A., M.A., University of South Florida, 1972

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B.S.S., M.S., City College of New York, 1938

LEVY, ARTHUR B. ..... Assistant Professor (Political Science), 1970
B.A., M.A., Ph.D., Harvard University, 1969

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B.A., M.A., Ph.D., Michigan State University, 1975

LEVY, JOHN W. ..... Associate Professor (Education), 1972
B.S.; M.A.; Ed.D., University of Georgia, 1970

LEWIS, JAMES E. ..... Assistant Professor (Music Arts), 1971
B.M., M.M., University of Illinois, 1965

LEWIS, PETER W. ..... Associate Professor (Criminal Justice), 1976
B.A.; M.A., Ph.D.; J.D., Loyola University, Louisiana, 1974

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B.A., M.A., Ph.D., Ohio State University, 1969

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B.S., M.S., Ph.D., University of Florida, 1965

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B.Sc., Ph.D., University of Florida, 1964

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B.S., M.Ed.; Ph.D., Oklahoma University, 1974

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A.B., M.Ed., Ph.D., Florida State University, 1969

LONGSTREET, JAMES R. ..... Professor (Finance), 1967
B.A.; M.B.A., Ph.D., Northwestern University, 1956

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B.S.; M.S., Pennslyvania State University, 1964

LOW, EDMON ..... Director (Library), 1975 Sarasota/Bradenton Campus
B.A.; M.A.L.S., University of Michigan, 1938

LOWE, ALVIN J. ..... Associate Professor (Education), 1966
B.A., M.A.; Ed.D., University of Virginia, 1967, D.A.G.S.

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B.A.; M.S., Institute of Design, Illinois Institute of Technology, 1969

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B.A.; M.S.W., University of America, 1960

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MACDONALD, GWENDOLINE R. ..... Dean-Professor (Nursing), 1973
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MCCORMICK, ROBERT M. ..... Assistant Professor (Music Arts), 1974
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M.A., Ph.D., Duke University, 1961

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MEYERRIECKS, ANDREW J. ..... Professor (Biology), 1961
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OKULSKI, THOMAS A. ... Assistant Professor (Radiology), 1976 (Part time)
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B.S., M.S., Ph.D., University of Michigan, 1940

OLINE, LARRY W. ..... Professor (SMF-Engineering), 1967
B.A.; B.S.; M.S.; Ph.D., Georgia Institute of Technology, 1968

OLSEN, EUGENE D. ..... Professor (Biochemistry), 1964
B.S., Ph.D., University of Wisconsin, 1960

OLSSON, RAY A. ..... Professor (Medicine), 1976
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O'MALLEY, BRENDAN C. ..... Assistant Professor (Medicine), 1976
M.B., Ch.B., Sheffield University, England, 1970

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ORLOSKY, DONALD E. ..... Professor (Education), 1969
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O'SULLIVAN, PETER B. ... Associate Professor/Assistant Dean (Theatre), 1963
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B.S.; M.A.; M.Ed., University of Florida, 1967

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B.A.; M.A., Ph.D., University of Maryland, 1965

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A.B., M.D., Columbia College of Physicians and Surgeons, 1962

PASSELL, NICHOLAS . Assistant Professor (Mathematics), 1975, Sarasota Campus
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PATTERSON, MICHAEL H. ..... University Planning Consultant (Facilities Planning), 1973
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B.I.E., M.S.E., University of Florida, 1965, P.E.

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B.S., M.S., M.D., University of Louisville, 1967

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B.S.; M.A.; Ph.D., University of Pittsburgh, 1970

PEVNICK, STEPHEN H. ..... Assistant Professor (Visual Arts), 1972
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B.S.; M.Ed.; A.M.L.S., Ph.D., University of Michigan, 1970

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B.A.; M.A.; Ph.D., Florida State University, 1966

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RENNE, ROGER ..... Assistant Professor (Mathematics), 1975, Sarasota Campus
B.A.; M.A., University of California, Berkeley, 1963

REYNOLDS, DAVID H. ..... Professor (Surgery), 1976 (Part time)
M.D., Duke University School of Medicine, 1951

REYNOLDS, JERALD M. ..... Associate Professor (Music Arts), 1966
B.A.; M.M., University of Oregon, 1963

RHEE, JOONG G. ..... Assistant in Education, 1974
B.S.E.E.; M.S.E.E., University of South Florida, 1973

RICH, THOMAS A. ..... Professor—Program Director (Aging Studies), 1961
B.A., M.A., Ph.D., University of Florida, 1957, S.M.Hyg.

RICHEY, JOYCE A. ..... Systems Coordinator (Computer Research Center), 1960
B.S., University of Kentucky, 1955

RICKER, LAWRENCE H. ..... Professor (Communicology), 1966
B.S., M.A., Ph.D., University of Florida, 1962

RIDDLE, RONALD W. ..... Assistant Professor (Musicology), 1975, Sarasota Campus
A.B.; M.A.; Ph.D., University of Illinois, 1975

RIFKIN, STEPHEN I. ..... Assistant Professor (Internal Medicine), 1974 (Part time)
A.B., M.D., University of Rochester, 1967

RIGGS, CARL D. ..... Vice President (Academic Affairs), Professor (Zoology), 1971
B.S., M.S., Ph.D., University of Michigan, 1953

RIGOS, PLATON N. ..... Assistant Professor (Political Science), 1976
B.A.; M.A.; Ph.D., Michigan State University, 1974

RIMBEY, DONALD H. ..... Professor (Energy Conversion Engineering), 1967
B.S., M.S., Ph.D., University of Illinois, 1967, P.E.

RINKEL, MURICE O. ..... Instructor-Assistant Director (Marine Science), 1973, St. Petersburg Campus
B.S., Florida State University, 1953

RITTERMAN, STUART I. ..... Professor (Communicology), 1969
B.A.; Ph.D., Case Western Reserve University, 1968, C.C.C.

ROBERTS, LOREN G. ..... Coordinator (Education), 1968
B.S., M.S., Emporia State Teachers College, 1963

ROBERTS, ROBIN E. ..... Athletic Coach (Physical Education, Student Affairs), 1976
B.S., Michigan State University, 1948

ROBERTSON, HENRY M. ..... Professor-Program Director (American Studies), 1961
B.A.; M.A., Ph.D., University of Minnesota, 1966

ROBERTSON, PHYLLIS M. ..... Counselor/Adviser (Education), 1968 (Part time)
B.A., University of Minnesota, 1941

ROBINSON, CHASE ..... Associate Professor (Dance), 1971
B.S., Florida State University, 1959

ROBINSON, GERALD G. ... Associate Professor (Biology), 1960
B.S., Ph.D., University of Minnesota, 1960

ROBINSON, JACK H. ..... Professor (Education), 1963, St. Petersburg Campus
B.S.; M.A.; Ed.D., Harvard University, 1960

ROCKWELL, ELIZABETH K. ..... Associate Professor (Psychiatry), 1976 (Part time)
A.B., M.D., University of Michigan, 1939

ROGERS, DONALD W. ..... Associate Professor (SMF-Eingineering), 1973
B.A.; M.S., Ph.D., University of North Carolina, 1973, P.E.

ROGERS, JOANNE L. ..... Athletic Coach (Physical Education, Student Affairs), 1975
B.A., M.A., University of South Florida, 1975

ROMIG, LARRY G. ..... Instructor-Assistant Director (Continuing Education), 1966
B.S.; M.A., University of South Florida, 1970

ROOT, ALLEN W. ..... Professor-Associate Chairperson (Pediatrics), 1973
A.B.; M.D., Harvard Medical School, 1958

ROSE, DALE A. J. ..... Assistant Professor (Theatre), 1969
B.A., M.A., Michigan State University, 1968

ROSE, DONALD C. ..... Professor (Mathematics), 1960
A.B.; M.A., Ph.D., University of Kentucky, 1954

ROSEL, NATALIE E. ..... Assistant Professor (Sociology), Coordinator (Off-Campus Study Programs, New College), 1975, Sarasota Campus
B.A., M.A., Ph.D., Indiana University, 1971

ROSENTHAL, NORMAN S. ..... Assistant Professor (Radiology), 1975 (Part time)
B.A.; M.D., New York Medical College, 1967

ROSS, BERNARD E. ..... Professor (SMF-Engineering), 1965
B.S.M.E., M.S.A.E.; M.S.E.M., Ph.D., Universty of Florida, 1964, P.E.

ROSS, WILLIAM T. ..... Associate Professor (English), 1970
B.A.; M.A, Ph.D., University of Virginia, 1970

ROTHWELL, STUART C. ..... Professor (Geography), 1965
B.A., M.A., Ph.D., Syracuse University, 1964

RUBIN, STEVEN J. ..... Associate Professor (English), 1969
B.A.; M.A., Ph.D., University of Michigan, 1969

RUNDUS, DEWEY J. .... Assistant Professor (Psychology), 1972
B.S.; Ph.D., Stanford University, 1970

RUTENBERG, DANIEL ..... Professor-Chairperson (Humanities), 1964
A.B., M.A.; Ph.D., University of Florida, 1967

RYON, JAMES M. ..... Instructor (Music Arts), 1973
B.S., Yale College, 1973

SABA, HUSSAIN I. ..... Assistant Professor (Internal Medicine), 1975 (Part time)
M.D.; Ph.D., University of North Carolina School of Medicine, 1970

SADLOWSKI, RONALD W. ..... Assistant Professor (Surgery), 1976 (Part time)
B.S.; M.D., Indiana University School of Medicine, 1968

SAENZ, ARMANDO ..... Associate Professor (Psychiatry), 1975
B.A.; M.D., University of Texas, Southwestern Medical School, 1963

SAFF, DONALD J. ..... Dean-Professor (Fine Arts), 1965
B.A.; M.A.; M.F.A.; Ed.D., Columbia University, 1964

SAFF, EDWARD B. ..... Professor (Mathematics), 1969
B.S.; Ph.D., University of Maryland, 1968

SALTER, E. GEORGE ..... Assistant Professor (Anatomy), 1972
B.S.; M.S., Ph.D., University of Alabama, 1970

SANDERS, CATHERINE M. ..... Coordinator (Arts and Letters, Academic Advising), 1970
B.A., M.A., University of South Florida, 1970

SANDERS, THOMAS E. ..... Associate Professor (English), 1968
B.A., M.A., University of Denver, 1951

SANDERSON, ARTHUR M. ..... Professor (Mass Communications), 1965
B.A., M.A.; Ph.D., University of Iowa, 1963

SANDLER, JACK ..... Professor (Psychology), 1969
B.A., M.S.; Ph.D., Florida State University, 1969

SANTOS, STUART L. ..... Assistant in Research (Biology), 1973
A.B.; M.A., University of South Florida, 1972

SASSER, EMERY L. ..... Professor-Chairperson (Mass Communications), 1973
A.B., M.A.; Ph.D., University of Illinois, 1967

SATTERWHITE, JAMES P. ..... University Physician (Student Health Service, Student Affairs), 1976
M.D., Bowman Gray School of Medicine, 1946

SAXON, SUE V. ..... Professor (Aging Studies Program), 1963
B.S., M.S., Ph.D., Florida State University, 1963

SCHALEMAN, HARRY J., JR., ... Assistant Professor (Geography), 1969 St. Petersburg Campus
B.S.; M.A., University of Cincinnati, 1963

SCHATZ, DAVID R. ..... Assistant Professor (Russian Language and Literature), 1975, Sarasota Campus
B.A.; M.A., Harvard University, 1969

SCHENCK, DAVID P. ..... Assistant Professor (Foreign Languages), 1974
B.A.; M.A.; Ph.D., Pennsylvania State University, 1971

SCHEUERLE, JANE W. ..... Assistant Professor (Communicology), 1971
B.S., B.A.; M.S.; M.A.; Ed.D., Nova University, 1975

SCHEUERLE, WILLIAM H. ..... Associate Vice President (Academic Affairs), Professor (English), 1964
B.A.; M.A.; Ph.D., Syracuse University, 1964

SCHIMMEL, STEVEN D. ..... Assistant Professor (Biochemistry), 1974
B.A.; Ph.D., Albert Einstein College of Medicine, 1969

SCHLICKE, LUTZ H. ..... Assistant Professor (Surgery), 1976
B.S.; M.D., Yale Medical School, 1969

SCHMITT, CHARLES J. ..... Events Coordinator (Florida Center for the Arts), Affiliate Lecturer (Theatre), 1976
B.A.; M.A., University of Wisconsin, 1956

SCHNEIDER, RAYMOND J. ..... Associate Professor (Speech Communication), 1968
A.B.; Ph.L.; M.A.; S.T.L.; Ph.D., University of Michigan, 1965

SCHNELLER, STEWART W. ..... Associate Professor (Chemistry), 1971
B.S., M.S.; Ph.D., Indiana University, 1968

SCHNITZLEIN, HAROLD N. ..... Professor-Chairperson (Anatomy), 1973
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SCHREINER, GREGORY L. . Lecturer (Dance), 1976 (Part time)
B.M.; M.A., Western Illinois University, 1973

SCHRODER, HAROLD M. ..... Professor-Chairperson (Management), 1973
B.A.; M.A., Ph.D., Ohio State University, 1954

SCHWARTZ, CAROLE J. ..... Instructor (Education), 1970
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SCHWARTZ, JULIA L. ... University Librarian (Libraries), 1962
B.S.; M.S.L.S., Case Western Reserve University, 1955

SCOTT, JOHN O. ..... Budget Analyst (Academic Affairs), 1974
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SCOTT, LAWRENCE E. ..... Assistant to Vice President (Student Affairs), 1976
B.S.; M.A., Ed.D., Western Michigan University, 1976

SCOTT, LINUS A. ..... Professor-Chairperson (Energy Conversion and Mechanical Design Engineering), 1964
B.S.M.E., M.S.E; Ph.D., Case Institute of Technology, 1960, P.E.

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SCRUGGS, CHARLES E. ..... Associate Professor (Foreign Languages), 1972
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SEARLS, EVELYN F. ..... Visiting Assistant Professor (Education), 1974
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SELEMBO, JOHN A. ..... Business Manager (Ambulatory Care Center), 1976
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SELMAN, JAMES ..... Professor (Education), 1971
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SEMINARIO, LEE ANNE ..... Assistant Professor (Foreign Languages), 1972
A.B.; M.A.; Ph.D., Florida State University, 1974

SEPANIK, MARY A. ..... Assistant Director (Libraries), 1969
B.S.; M.A.L.S., Rosary College, 1965

SERGENT, JERRY E. ..... Associate Professor (Electrical Engineering), 1970
B.S.E.E., M.S.E.E., Ph.D., University of Cincinnati, 1970

SERRIE, HENRICK ... Assistant Professor (Anthropology), 1975 Sarasota Campus
B.A.; M.A.; Ph.D., Northwestern University, 1975

SEXTON, IRENE M. ..... Associate Professor (Education), 1969
B.S.E.; M.Ed.; M.Adm.; Ed.S.; Ph.D.; Ph.D., Heed University, 1975

SHAMBLIN, REBECCA S. ..... Instructor (Education), 1976
B.A., M.A., University of South Florida, 1976

SHANNON, ROBERT F. ..... Associate Professor (Economics), 1966
B.S.; M.B.A.; Ph.D., University of Illinois, 1966

SHANNON, ROBERT L. ..... Professor (Education), 1960
A.B., B.S.; M.A.; Ed.D., Florida State University, 1960

SHANNON, ROGER ..... Assistant Professor (Physiology), 1974
B.A., Ph.D., University of Kentucky, 1970

SHARPE, JOHN R. ..... Assistant Professor (Surgery), 1973 (Part time)
B.S.; B.S., M.D., Medical School of Virginia, 1967

SHAW, KAILIE R. ..... Assistant Professor (Psychiatry), 1974 (Part time)
J.M.B.; M.D., University of Cape Town Medical School, 1966

SHEPHERD, DAVID C. ..... Professor (Communicology), 1972
B.A., M.A.; Ph.D., Syracuse University, 1962

SHERMAN, JAMES J. ..... Professor (Management), 1967
B.S.; J.D.; Ph.D., State University of New York at Buffalo, 1966

SHERMAN, ROGER T. .. Professor-Chairperson (Surgery), 1972
A.B.; M.D., University of Cincinnati, 1948

SHILOH, AILON ..... Professor (Anthropology), 1973
B.A.; M.A.; Ph.D., Dropsie University, 1959

SHIPP, PAMELA S. ..... Assistant University Librarian (Libraries), 1972
B.A.; M.Ln., Emory University, 1972

SHIRES, DANA L., JR. ..... Professor (Internal Medicine), 1973
B.S., M.D., University of Florida, 1961

SHIVER, ROBERT H. ..... Assistant Director (Intercollegiate Athletics, Golf Course), 1969
B.S., University of Florida, 1961

SHOWS, E. WARREN .. Associate Professor (Economics), 1964
B.B.A., M.B.A., Ph.D., Georgia State University, 1968

SIAS, RICHARD J. ..... Assistant Professor (Dance), 1974

SIDOR, JOHN M., JR. ..... Associate Professor (Political Science), 1969
A.B.; M.P.A., Ph.D., University of Pittsburgh, 1969

SIDOWSKI, JOSEPH B. ..... Professor (Psychology), 1969
B.A.; M.S., Ph.D., University of Wisconsin, 1956

SILBERT, EDWARD M. .... Associate Professor (History), 1965
B.S.; M.A.; Ph.D., University of Florida, 1966

SILBIGER, MARTIN L. .. Associate Professor (Radiology), 1973 (Part time)
A.B.; M.D., Western Reserve University, 1962

SILVER, BRUCE S. ..... Associate Professor (Philosophy), 1971
B.A., M.A., Ph.D., University of Colorado, 1971

SILVER, JAMES W. ..... Professor (History), 1969
A.B.; M.A.; Ph.D., Vanderbilt University, 1935

SILVER, WARREN S. ..... Professor (Biology), 1970
B.S., M.S.; Ph.D., Johns Hopkins University, 1953

SILVERMAN, ILENE B. ..... Assistant University Librarian (Libraries), 1974
B.S.D.; A.M.L.S., University of Michigan, 1973

SILVERMAN, IRA J. ..... Associate Professor (Criminal Justice Program), 1972
B.A.; M.A., Ph.D., Ohio State University, 1970

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B.A.; M.S.; Ph.D., Ohio State University, 1968

SILVERMAN, STUART H. ..... Associate Professor (Education), 1970
B.B.A.; M.S., Ph.D., Yeshiva University, 1971

SILVERSTEIN, BARRY M. ..... Project Coordinator (Education), 1974
A.B.; M.A., University of South Florida, 1974

SIMMONS, A. KEITH ..... Director (Procurement), 1969
B.A., University of South Florida, 1968

SIMON, JOSEPH L. ..... Associate Professor (Biology), 1963
B.S.; M.S., Ph.D., University of New Hampshire, 1963

SINGER, PHILIP A. ..... Assistant Professor (Internal Medicine), 1974 (Part time)
A.B., M.D., University of Rochester School of Medicine & Dentistry, 1969

SINGH, SURENDRA P. .. Associate Professor (Education), 1967
B.A., M.A.S.; Ed.D., University of California, Los Angeles, 1967

SISCO, JOHN I. ..... Professor (Education and Speech Communication), 1968
B.S.; M.A.; Ph.D., University of Minnesota, 1966

SISK, DOROTHY D. ..... Professor (Education), 1966
B.S.; M.A.; Ed.D., University of California, Los Angeles, 1966

SISTRUNK, FRANCIS ..... Professor (Psychology), 1965
B.A.; M.S., Ph.D., University of Miami, Florida, 1963

SKELTON, WILLIAM H. ..... Associate Professor (SMF Engineering), 1971
B.S.;M.S.; Ph.D., Iowa State University, 1971

SLATER, ARTHUR L. ..... Assistant Research Scholar/Scientist (Social and Behavioral Sciences), 1975
B.A.; M.S.W., Florida State University, 1973

SLEEPER, DAVID C. ..... Professor (Marketing), 1964
B.B.A., M.B.A.; Ph.D., Ohio State University, 1965

SMALL, NORMAN C. ..... Professor (SMF-Engineering), 1969
B.M.E.; M.M.E; Ph.D., Brown University, 1960

SMEACH, STEPHEN C. ..... Assistant Professor (Mathematics), 1973
B.A.; M.A., Ph.D., North Carolina State University, 1973

SMILLIE, DAVID ..... Professor (Psychology), 1975 Sarasota Campus
B.A.; M.A.; Ph.D., Cornell University, 1953

SMITH, ALICE G. ..... Professor (Education), 1965
B.A., M.S., Ed.D., Wayne State University, 1965

SMITH, CARLOS A. ..... Associate Professor (Energy Conversion Engineering), 1972
B.S.; M.S., Ph.D., Louisiana State University, 1972

SMITH, CHARLES D. .... Associate Professor (Education), 1967
B.S.; M.A.; Ed.D., Temple University, 1967

SMITH, CHARLES T. ..... Associate Professor (Finance), 1968
B.A., M.B.A.; Ph.D., State University of New York at Buffalo, 1970 Grad. Cert.

SMITH, DAVID H. ..... Dean-Professor (Arts and Letters), 1976
B.S.; M.A.; Ph.D., Ohio State University, 1966

SMITH, DONN L. ..... Professor (Pharmacology and Comprehensive Medicine), 1969
B.A., M.S.; Ph.D., M.D., University of Colorado, 1958

SMITH, EDWIN E. ..... Instructor (Religious Studies), 1972
B.S.; M.Div., S.T.M., Seabury-Western Theological Seminary, 1970

SMITH, ELTON E. ..... Professor (English), 1961
B.S.; M.A.; B.D.; Ph.D., Syracuse University, 1961, D.D. (Hon.)

SMITH, HAYWOOD C., JR. ..... Visiting Assistant Professor (Astronomy), 1972
A.B.; M.A., Ph.D., University of Virginia, 1972

SMITH, JACK L. ..... Associate Professor (Accounting), 1969
B.B.A.; M.S., Ph.D., University of Mississippi, 1969, C.P.A.

SMITH, J. JEROME .. Assistant Professor (Anthropology), 1972
B.A.; M.A., Ph.D., University of Arizona, 1972

SMITH, JOHN L., JR. ..... Assistant Professor (Music), 1972
B.M.E.; M.M.E., Indiana University, 1961

SMITH, PHILIP L. ..... Instructor/Acting Program Director (Social Work Program), 1975
B.S.; M.S.W., University of Georgia, 1968

SMITH, ROBERT E. ..... Director (SUS Institute of Oceanography), 1974
B.S., M.S.; Ph.D., University of Delaware, 1965

SMITH, WILLIAM A. ..... Professor (Energy Conversion Engineering), 1966
B.S.M.E.; M.S., Ph.D., University of Florida, 1966

SMITH, W.REECE, JR. ..... Interim President, 1976
B.S.; J.D., University of Florida, 1949, LL.D.Hon.

SMITH, WILMA A. ..... Lecturer (Industrial Systems Engineering), 1966
B.I.E., University of Florida, 1959

SNIDER, ARTHUR D. ..... Assistant Professor (Mathematics), 1970
B.S.; M.A.; Ph.D., New York University, 1971

SNOOK, JANICE B. ..... Assistant Professor (Political Science), 1968
A.B.; M.S.; Ph.D., University of Maryland, 1969

SNYDER, LEE D. ..... Associate Professor (History), 1975 Sarasota Campus
B.A.; M.A.; M.Div.; Ph.D., Harvard University, 1966

SOBOROFF, STEPHEN H. ..... Assistant Professor (Internal Medicine), 1974
B.S.; M.D., University of Illinois, 1969

SODEMAN, WILLIAM A., JR. .... Professor-Acting Chairperson (Comprehensive Medicine), 1975
B.A.; M.D., University of Pennsylvania, 1960

SOFIA, SABATINO ..... Professor (Astronomy), 1967
B.S., M.S., Ph.D., Yale University, 1966

SOLOMON, DAVID A. .... Assistant Professor (Medicine), 1976 (Part time)
B.S., M.D., University of Maryland School of Medicine, 1969

SOLOMONS, T. W. GRAHAM ..... Professor (Chemistry), 1960
B.S.; Ph.D., Duke University, 1959

SOLOMONSON, LARRY P. ..... Assistant Professor (Biochemistry), 1976
B.A.; Ph.D., University of Chicago, 1969

SOSA, ROBERTO A. ..... Assistant Professor (Pediatrics), 1976
B.S.; M.D., University of San Carlos Guatemala, 1969

SPAIN, FRANK H. ..... Director (Community College Relations), 1959
B.S., M.S.; Ed.D., University of Florida, 1954

SPARKS, AMY J. ..... Associate Professor (Humanities), 1968
B.A., M.A.; Ph.D., Louisiana State University, 1964

SPEAR, FRANK E. ..... Director, Publications (University Relations), 1969
B.A.; M.A., University of Iowa, 1960

SPECTOR, PAUL E. ..... Lecturer (Management), 1976
B.A., M.A., Ph.D., University of South Florida, 1975

SPENCE, JAMES G. ..... Instructor (Economics), 1975
B.S., M.A., University of Oklahoma, 1970

SPIELBERGER, CHARLES D. ..... Professor-Program Director (Psychology), 1972
B.S.; B.A., M.A., Ph.D., University of Iowa, 1954

SPILLANE, JAMES R. ... Assistant Professor (Humanities), 1966
B.S.; M.A., University of Iowa, 1966

SPOTO, EDWARD, JR. ..... Associate Professor (Internal Medicine), 1973
B.S., M.D., Tulane Medical School, 1964

SPREHE, DANIEL J. ..... Assistant Professor (Psychiatry), 1975 (Part time)
B.S., M.D., University of Oklahoma, 1957

SPROLES, H. ALLAN ..... Assistant Professor (Education), 1971
B.S.; M.Ed., Ed.D., University of Georgia, 1973

STAFFORD, JOHN W. ..... Associate Professor-Chairperson (Geography), 1969
B.S., M.S.; M.A.; Ph.D., Michigan State University, 1971

STALNAKER, LEO, JR. ..... Assistant Professor—Director (Student Publication, Student Affairs), 1969
B.A., M.A., University of South Florida, 1973

STANKO, JOSEPH A. .... Associate Professor (Chemistry), 1973
B.S.; Ph.D., University of Illinois, 1966

STANTON, KENNETH D. ..... Director (Instructional Media, Educational Resources), 1964
B.Des.; M.A., University of South Florida, 1968

STAPLETON, DON J. ..... Assistant Professor (Education), 1972
B.A.; M.Ed., Pennsylvania State University, 1970

STARBUCK, MICHELE .... Assistant Professor (Fine Arts), 1975

STEELE, HOWARD R. ... Director (Regional Data Center), 1972
B.S.M.E.; M.B.A., University of Miami, Florida, 1960

STEIN, LESLIE R. ..... Associate University Attorney (General Counsel), 1976
A.B.; M.A.; J.D., Stetson University College of Law, 1976

STEINER, H. EDWIN, JR. ..... Associate Professor (Education), 1969
B.S., M.A.; Ph.D., University of Texas, 1970

STEINIKE, GEORGE C. ..... Associate Professor (Economics), 1970
B.S.; Ph.D., University of California, Berkeley, 1963

STELZMANN, RAINULF A. ..... Professor (Foreign Languages), 1963
DIP. I; DIP. II., Dr. Phil., University of Freiburg, 1953

STEPHENS, SARAH J. ..... Professor (Chemistry), 1975 Sarasota Campus
B.S.; Ph.D., University of Texas, 1953

STEPHENS, WILLIAM L. ..... Associate Professor (Accounting), 1971
B.S., M.Acc., D.B.A., Florida State University, 1971, C.P.A.

STEVENS, BRIAN ..... Professor (Chemistry), 1967
B.A., M.A., Ph.D., Oxford University, England, 1960

STEVENS, DANA N. ..... Assistant Professor (Economics), 1976
B.A.;Ph.D., Stanford University, 1973

STEVENS, LARRY E. ..... Director (Student Health Service, Student Affairs), 1971
B.S.; M.D., University of Kentucky, 1970

STEVENS, NOEL S. ..... Assistant Professor (Music), 1970
B.M., M.M., D.M.A., Eastman School of Music, 1959, Artist's Diploma

STEVENS, WILLIAM D. ..... Professor (Marketing), 1968
A.B.; Ph.D., Harvard University, 1950

STEVENSON, RALPH G., JR. ..... Associate Professor (Geology), 1968
B.S., M.S.; Ph.D., Indiana University, 1965

STEWART, LAWRENCE R. ..... Lecturer (Education), 1970, St. Petersburg Campus
A.B.; M.A.; M.Ed., Ed.D., George Peabody College, 1956

STEWART, MARK T. ..... Assistant Professor (Geology), 1976
A.B.; M.S., M.S., Ph.D., University of Wisconsin, 1976

STIRLING, HAMILTON W. ..... Lecturer (Management), 1971, St. Petersburg Campus
B.S.; M.B.A., Rutgers University, 1968

STONE, DOUGLAS E. ..... Professor (Education), 1964
B.A., M.A., Ph.D., University of Chicago, 1962

STONE, LEO D. ..... Visiting Professor (Finance), 1974, St. Petersburg Campus
B.A.; M.B.A., J.D., Ohio State University Law School, 1939

STORR, KARL ..... Instructor (Mass Communications), 1973
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STORY, COLEEN M. .... Associate Professor (Education), 1965
B.S., M.S., Florida State University, 1951

STOUDINGER, SUSAN M. ..... Associate Professor (Political Science) Assistant Dean (Social and Behavioral Science), 1969
B.A.; M.A.; Ph.D., Indiana University, 1970

STOWERS, DEWEY M., JR. ..... Associate Professor (Geography), 1967
B.A.; M.A.; Ed.D., Duke University, 1961

STRANGE, JAMES F. ..... Associate Professor (Religious Studies), 1972
B.A.; M.Div; Ph.D., Drew University, 1970

STRENGLEIN, DENISE D. ... Institutional Research Coordinator (Institutional Research), 1970
B.A., M.A., University of South Florida, 1969

STRONG, PASCHAL N. ..... Professor (Psychology), 1966
A.B.; Ph.D., University of Tennessee, 1955

STUART, KENNETH D. ..... Assistant Professor (Biology), 1972
A.B.; M.A.; Ph.D., University of Iowa, 1969

STUDT, JOHN F. ..... Assistant in Research (Marine Science), 1975
B.S.; M.S., University of South Florida, 1976

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B.M.; M.A., University of South Florida, 1970

SUMMER, AVERILL V. ..... Instructor (Music), 1973 (Part time)
B.A.; M.M., Indiana University, 1967

SUMMER, ROBERT J., III ..... Assistant Professor (Music Arts), 1973
B.S.; M.M., Indiana University, 1966

SWAFFORD, MELPOMENE ..... Assistant Professor (Education), 1965
B.A.; M.A., University of Florida, 1957

SWANSON, JAMES M. ..... Associate Professor (History), 1964
B.A.; M.A.; Ph.D., Indiana University, 1968

SWARTZ, WILLIAM E., JR. ..... Assistant Professor (Chemistry), 1972
B.S.; Ph.D., Massachusetts Institute of Technology, 1971

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B.S.; M.B.A.; Ph.D., Pennsylvania State University, 1971

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B.A.; M.S., Ph.D., Lehigh University, 1964

SWINNEY, DOROTHY J. ..... Instructor (Education), 1974
B.S.; M.A., University of South Florida, 1974

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B.A., Ph.D., University of Iowa, 1930

FRENCH, SIDNEY J. ..... Dean Emeritus Academic Affairs and Professor (Education), 1958-1969
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B.A.; M.A., Woodstock College, 1920

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B.S.; M.A., Ph.D., Columbia University, 1937

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B.A., M.A., Ed.D., Syracuse University, 1955

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B.A.; M.A.; Ed.D., Stanford University, 1954

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