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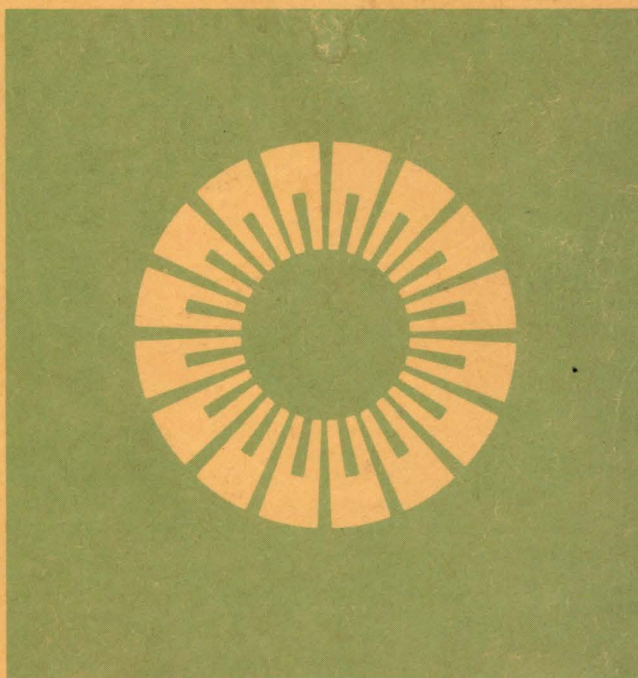
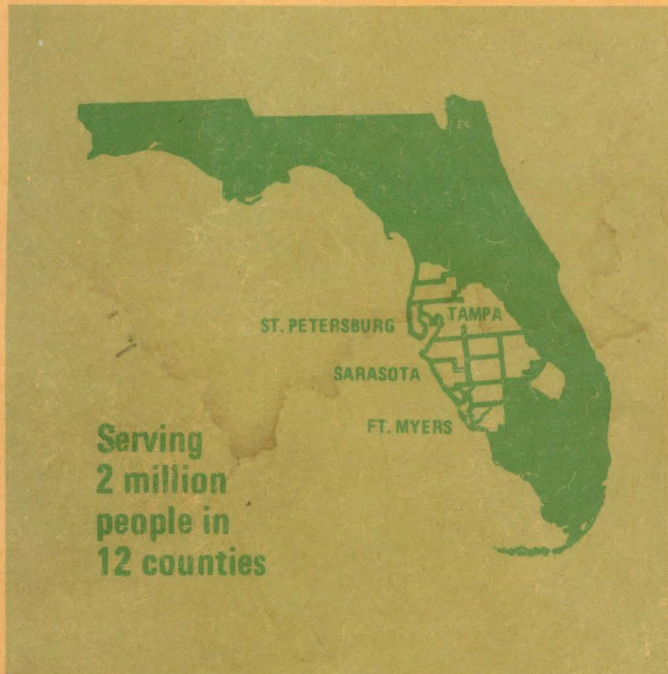
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Bio

USF BULLETIN

University of South Florida
1975-76 □ Accent on Learning

Part II





ACCENT ON LEARNING

GENERAL CATALOG OF THE UNIVERSITY OF SOUTH FLORIDA 1975-76

PART II CURRICULA AND COURSES

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.

The USF Catalog is published in two parts: Part I contains general University information including admission standards and procedures, financial information, academic regulations, and general information on academic programs offered. Part II contains detailed academic program requirements and course descriptions. Copies of Part II are distributed to all new students at their first registration and are also available at advising offices in Florida high schools and community colleges.

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: 974-2635 or by writing University Center, USF, Tampa, Fla. 33620.

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 for the campuses are given at the bottom of the page.* St. Petersburg offices may be reached by

dialing 813: 898-7411 and asking for the desired office; Fort Myers Campus offices by dialing 813: 334-3780; Sarasota Campus by dialing 813: 959-5177; Tampa campus offices by dialing 813: 974- and the extension included below:

Academic Advising (for freshmen)

Division of University Studies
FAO 126 2645

Academic Advising (for upperclassmen and graduate students)

Office of the Dean of the appropriate college

Admission (and applications)

Office of Admissions
ADM 180 2987

(Medical students should contact the Dean of the College of Medicine)

Athletics (Intercollegiate)

Athletic Director
PED 214 2125

Bachelor of Independent Studies Program

External Degree Program
FAO 105 2403

Career Planning and Placement

Division of Cooperative Education & Placement
AOC 105 2171

College Level Examination Program (CLEP tests)

Office of Testing and Advanced Placement
FAO 201 2741

Community College Relations (for transfer students)

Office of Community College Relations
FAO 149 2506

Continuing Education Courses and Conferences

Center for Continuing Education
FAO 101 2403

Cooperative Education Program

Division of Cooperative Education & Placement
AOC 105 2171

Equal Opportunity Program

Office of the Equal Opportunity Coordinator
ADM 253 2607

Financial Assistance (scholarships, loans, and student employment)

Office of Financial Aids
ADM 172 2621

Food Services

Office of Housing and Food Services
RAR 229 2761

Graduate Studies

Division of Graduate Studies
ADM 229 2846

Handicapped Student Program and Facilities

Office of Student Affairs
ADM 153 2151

Health Services (Student)

Health Center
CTR 411 2331

High School Relations

Office of High School Relations
FAO 126 2076

Housing (on campus)

Office of Housing and Food Service
RAR 229 2761

Housing (off-campus)

Student Government Office
CTR 156A 2401

Information Services

Office of Information Services
ADM 190 2181

Library Resources

Office of the Director of Libraries
ULI 224 2721

Mature Student Advising

Division of University Studies
FAO 126 2645

Orientation ("Focus")

Division of University Studies
FAO 126 2076

Parking and Traffic Services

University Police Department
UPB 2628

Records, Registration, Transcripts

Office of Records & Registration
ADM 264 2987

Student Affairs

Office of Student Affairs
ADM 153 2151

Textbook Facilities

Textbook Center
CTR 102 2545

Upward Bound

Project Upward Bound
APT 16 2802

Veterans Affairs

Veterans Affairs Office
CTR 166 2291

University of South Florida

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

University of South Florida

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

University of South Florida

Sarasota Campus
5700 N. Tamiami Trail
Sarasota, Florida 33580
Telephone: (813) 355-2986

University of South Florida

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

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ACADEMIC CALENDAR

1975

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

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					

JULY

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	

AUGUST

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						

SEPTEMBER

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				

OCTOBER

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	

NOVEMBER

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						

DECEMBER

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			

Summer Quarter (IV), 1975

NOTE: Dates apply to regular term. See quarterly Schedule of Classes for appropriate sessions.

*May 29, Thursday
June 19, 20, Thurs., Fri.
June 23, Monday
June 27, Friday

June 27, Friday
June 27, Friday

July 4, Friday
July 7, Monday
July 7, Monday
July 11, Friday

August 1, Friday
August 1, Friday
August 29, Friday

Last day to apply for admission
Registration by appointment (tentative)
Classes begin
Last day to withdraw or drop and receive full refund of registration fees
Last day to add courses
Last day for late registration (see late registration fee). Also last day to register as a Special Student
Independence Day Holiday
Last day to register for Continuing Education courses
Last day for Continuing Education course refund
Last day to apply for degree to be earned at the end of Quarter IV, 1975
Last day to drop courses without penalty
Last day to withdraw without penalty
End of Summer Quarter (IV)

Fall Quarter (I), 1975

*August 22, Friday
September 17, 18, 19
Wed., Thurs., Fri.
September 22, Monday
September 26, Friday

September 26, Friday
September 26, Friday

October 3, Friday
October 3, Friday
October 10, Friday

October 31, Friday
October 31, Friday
November 11, Tuesday
November 27-28
Thurs., Fri.
December 10, Wednesday

Last day to apply for admission
Registration by appointment (tentative)
Classes Begin
Last day to withdraw or drop and receive full refund of registration fees
Last day to add courses
Last day for late registration (see late registration fee). Also last day to register as a Special Student
Last day to register for Continuing Education courses
Last day for Continuing Education course refund
Last day to apply for degree to be earned at the end of Quarter I, 1975
Last day to drop courses without penalty
Last day to withdraw without penalty
Veterans Day Holiday
Thanksgiving Holiday
End of Fall Quarter (I)

Winter Quarter (II), 1976

*December 5, Friday
January 2, Friday
January 5, Monday
January 9, Friday

January 9, Friday
January 9, Friday

January 16, Friday
January 16, Friday
January 23, Friday

February 13, Friday
February 13, Friday
March 17, Wednesday

Last day to apply for admission
Registration by appointment (tentative)
Classes Begin
Last day to withdraw or drop and receive full refund of registration fees
Last day to add courses
Last day for late registration (see late registration fee). Also last day to register as a Special Student
Last day to register for Continuing Education courses
Last day for Continuing Education course refund
Last day to apply for degree to be earned at the end of Quarter II, 1976
Last day to drop courses without penalty
Last day to withdraw without penalty
End of Winter Quarter (II)

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



COLLEGE OF ARTS AND LETTERS

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)
- Classics (CLS)
- 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 Arts (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. 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.

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 ratio of 2.0 in this major for all USF work passed. 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 Language and Literature, 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 ratio computed for graduation. However, graduation with honors requires a 3.5 average in USF and all previous college work attempted.

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:

- 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 pages 61-62. 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 pages 62-63. 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.

■ HISTORY OF IDEAS

The program in the History of Ideas offers elective courses

in the interdisciplinary study of ideas fundamental in Western cultural history, e.g. Progress, Utopia. The methods of philosophic and linguistic analysis are employed to the ends: (1) discerning how fundamental unit-ideas grow and develop logically and historically; and (2) discerning the scope of influence such ideas, once developed, may have in relation to other ideas and to action.

■ 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)

Requirements for the B.A. Degree:

Required Core Courses (32 cr. hrs.)

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

Required Supporting Courses (12 cr. hrs.)

(no more than one course from each department)

AFA 335 or 336	(4)	HTY 311 or 312	(4)
AMS 321 or 331	(4)	HTY 400-005	(4)
COM 301	(4)	PHI 413	(4)
ENG 308	(5)	POL 463	(4)
ENG 330 or 331 or 332	(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.

■ 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 19th century and on the "classical" period of American literature. Required courses include ENG 311 (5), ENG 312 (5), ENG 313 (5), ENG 314 (5), ENG 315 (5), ENG 330 (5), and ENG 331 (5). Beyond the core requirement of 35 hours, to complete the major the student is free to select a minimum of 15 hours and a maximum of 25 hours of additional courses.

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 18th century and coming up to the present. Its core requirement of 40 hours consists of ENG 300 (5), ENG 314 (5), ENG 315 (5), ENG 316 (5), ENG 317 (5), ENG 330 (5), ENG 331 (5), and ENG 332 (5). Beyond these 40 hours, to complete the major the student is free to select a minimum of 10 hours and a maximum of 20 hours.

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*. This option is designed to meet the interest of those students who are interested in a scope of literary study that includes not only Anglo-American literature but the literature (in translation) of other nations of the Western world. Its core requirement of 35 hours consists of ENG 300 (5), ENG 301 (5), ENG 302 (5), ENG 340 (5), ENG 341 (5), ENG 342 (5), and ENG 343 (5). To complete the major the student is free to select a minimum of 15 hours and a maximum of 25 hours. Students in this option who are interested in doing graduate work in comparative literature should develop a high degree of competency in at least one language.
- IV. *General Literature*. This option, somewhat innovative, reflects the current interest in the relationships between literature and other aspects of contemporary culture and is designed to meet the desire of some students for a more generalized, culturally oriented approach to literature than traditional literary studies customarily provide. The wide-ranging eclectic survey consists of a core requirement of 30 hours, as follows: ENG 300 (5), ENG 301 (5), ENG 302 (5), ENG 310 (5), ENG 450 (5), and one course from ENG 340 (5), ENG 341 (5), and ENG 342 (5). The student has available a minimum of 20 hours and a maximum of 30 elective hours.
- V. *American Literature*. This option focuses upon our national literature and reflects our own society, past and present. This emphasis is justified by the fact that much of the major literature written in English during the 20th century has been produced by Americans. Also pertinent is the current interest in the literature of Black Americans and American Indians. Core requirements of 35 hours for this option include ENG 300 (5), ENG 301 (5), ENG 330 (5), ENG 331 (5), ENG 332 (5), ENG 430 (5), and ENG 432 (5). In addition, the Option V major has the minimum of 15 and maximum of 25 elective hours available.
- 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), and ENG 302 (5), with electives totaling between 35 and 45 credit hours. Students in this option must have prior consent of an English adviser at each stage of planning their programs.
- VII. *There is, in addition, a seventh option, a new major emphasizing writing: Creative Writing*. This represents a new option for students, and is designed for aspiring writers of fiction or poetry. The core requirement for the *fiction option* consists of 30 hours, and includes ENG 351 (5), ENG 353 (5), ENG 450 (5), ENG 451 (5), ENG 437 (5) or ENG 438 (5), and ENG 435 (5) or ENG 436 (5). To complete the *fiction option*, the student is free to select a minimum of 20 hours and a maximum of 30 hours from among departmental courses. The core requirement for the *poetry option* consists of 25 hours, and includes ENG 216 (5), ENG 352 (5), ENG 452 (5), ENG 441 (5), and ENG 451 (5). To complete the *poetry option* the student is free to select a minimum of 25 hours and a maximum of 35 hours from among departmental courses. Among the elective hours, the major in poetry or fiction may choose writing workshops (ENG 451 and ENG 452) as needed.

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 685 (this must be taken in the student's first or second term in the program)
 - b. One of the following courses as required by the adviser: ENG 601, ENG 602, or ENG 453
 - c. One of these: ENG 610, ENG 616, ENG 620, or ENG 625
 - d. One of these: ENG 630, ENG 640, or ENG 645
 - e. One of these: ENG 650 or 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 for one hour on four of the following five areas:

1. British literature before Shakespeare
2. British literature Shakespeare through Sterne
3. British literature Johnson through Wilde
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 from the area he has not written upon for the comprehensive examination outlined above. 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 409
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; or ENG 602 (if the student is an experienced teacher)
 - b. ENG 686 (offering in advanced composition for teachers only)
 - c. One of these: ENG 610, ENG 616, ENG 620, or ENG 625
 - d. One of these: ENG 630, ENG 640, or ENG 645
 - e. One of these: ENG 650 or 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 for one hour on four of the following five areas:

1. British literature before Shakespeare
2. British literature Shakespeare through Sterne
3. British literature Johnson through Wilde

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 from the area he has not written upon for the comprehensive examination outlined above. 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 703, ENG 791, ENG 799, and 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 (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 French, German, Italian, Classics (Latin, Latin-Greek), Russian and Spanish.

Combined majors are offered in any two languages. For the

combined major, a student must take the courses required for the complete major in one language and the required courses in the second language.

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 303	(4)	FRE 406	(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 303	(4)	GER 406	(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 303	(4)	ITA 406	(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 303	(4)	RUS 406	(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 406	(4)
SPA 303	(4)	SPA 407	(4)
SPA 405	(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 62.

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.

Plan II

31-35 hours, with 10-14 hours in a second language.

■ HUMANITIES (HUM)

The Humanities Program: An interdisciplinary program that deals with the visual arts, music and literature together and how they reflect 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. Forty-two to fifty-seven credits in upper level Humanities courses, 400 and 500 level.
2. HUM 491, a senior essay, three 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 23.

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 26.

Interdisciplinary Language-Literature

Interdisciplinary Language-Literature (LLI) is the prefix under which courses of an interdisciplinary nature not housed in a specific department or program within the College are offered. The primary objective of the courses has been to aid the student in expanding his understanding of the interrelations among the various disciplines.

■ LIBERAL STUDIES (ALA)

Requirements for the B.A. Degree:

The College offers a Liberal Studies major for students who require a broad academic approach for realization of their conceived academic goals (or pre-professional purposes), goals which could not be ideally achieved through pre-defined curricula.

Several basic requirements have been established for the Liberal Studies major.

1. A minimum GPR of 3.0 at the time of admission, including acceptable transfer credits.
2. Upon admission to the program no fewer than 30 or more than 120 quarter hours.

For application to the program, a written, persuasive proposal must be submitted which substantiates the student's special academic circumstances and goals meriting this major, outlining the areas of desired study, and indicating the intended utilization of the education. If the proposal is accepted, the student will then formulate, in collaboration with the program director, a program of studies to be pursued toward his particular academic goals. Foreign language is required; the Liberal Studies major must complete at least four quarters work in this area.

■ 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)

Required Supporting Courses

ANT 201	(4)	ANT 491	(4)
ANT 311	(4)	ANT 431	
ANT 321	(4)	or	
ANT 331	(4)	ANT 441	(3-6)
ANT 401	(3-6)	LIN 301*	(4)
ANT 461	(4)	LIN 401	(4)

(12 cr. hrs. minimum from the following group)

LIN 321	(4)	HII 401	(4)
ANC 373	(2)	HII 402	(4)

*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 402	(5)
ENG 301	(5)	ENG 475	(5)
ENG 302	(5)	ENG 476	(5)
ENG 310	(5)	ENG 477	(5)
ENG 350	(5)		

Required Supporting Courses

(12 cr. hrs. minimum from the following group)

ANC 373	(2)	LIN 321	(4)
HII 401	(4)	LIN 401	(4)

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

(19 cr. hrs. minimum from the following group)

ANC 373	(2)	LIN 321	(4)
ENG 477	(5)	LIN 401	(4)
LIN 301	(4)		

Plus one of the following five sequences:

I. *French (30 cr. hrs.)*

FRE 301	(4)	FRE 405	(4)
FRE 303	(4)	FRE 406	(4)
FRE 401	(4)	FRE 416	(4)
FRE 403	(4)	ANC 373	(2)

II. *German (20 cr. hrs.)*

GER 301	(4)	GER 405	(4)
GER 303	(4)	GER 406	(4)
GER 401	(4)		

III. *Italian (26 cr. hrs.)*

ITA 301	(4)	ITA 405	(4)
ITA 303	(4)	ITA 406	(4)
ITA 401	(4)	ANC 373	(2)
ITA 403	(4)		

IV. Russian (24 cr. hrs.)

RUS 301	(4)	RUS 403	(4)
RUS 303	(4)	RUS 405	(4)
RUS 401	(4)	RUS 406	(4)

V. Spanish (26 cr. hrs.)

SPA 301	(4)	SPA 405	(4)
SPA 303	(4)	SPA 406	(4)
SPA 401	(4)	ANC 373	(2)
SPA 403	(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, and SPE 503. (Credit for LIN 301, and LIN 401 may not be counted toward the degree requirements.) 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 29 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 (29 cr. hrs. minimum)

LIN 551	(5)	LIN 621	(4)
LIN 600	(2)	LIN 699	(1-8;
LIN 601	(4)	min. of 2 units	
LIN 602	(4)	must be earned)	
LIN 611	(4)		

Plus one of the following:

ENG 687	(5)
LIN 612	(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 subspecialties 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 satis-

fying 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, ANT 401, EDT 431, EDT 631, EDX 649, ENG 476, ENG 477, ENG 616, ENG 686, ENG 687, FRE 403, FRE 601, GER 513, GER 601, PHI 531, PSY 441, SPA 403, SPA 501, SPA 601, SPE 503, SPE 511, SPE 603, SPE 611, SPE 612, CLY 580, CLY 623. Descriptions of these courses may be found under the appropriate departmental heading.

MASS COMMUNICATIONS (COM)**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 GPA, 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 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 offer 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.

Typing proficiency 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 341 (4)
COM 312	(4)	COM 414 (4)
COM 313	(4)	
Selective Requirements		
COM 314	(4)	COM 376 (4)
COM 330	(4)	COM 403 (4)
COM 361	(4)	COM 449 (4)
COM 371	(4)	COM 500 (4)
COM 375	(4)	
II. Broadcasting Requirements		
News Track		
COM 330	(4)	
COM 361	(4)	
COM 362	(4)	
COM 403	(4)	
COM 465	(4)	
Programming and Production Track		
		COM 311 (4)
		COM 361 (4)
		COM 368 (4)
		COM 465 (4)
		COM 468 (4)

Selective Requirements

COM 331	(4)
COM 334	(4)
COM 363	(4)
COM 400	(4)
COM 435	(4)
COM 449	(4)
COM 463	(4)
COM 500	(4)

III. Film Requirements

COM 354	(4)
COM 451	(4)
COM 452	(4)

Selective Requirements

COM 353	(4)
COM 355	(4)
COM 356	(4)
COM 371	(4)
COM 450	(4)

IV. Journalism Requirements*News-Editorial Track*

COM 330	(4)
COM 331	(4)
COM 403	(4)
COM 433	(4)
COM 439	(4)

Selective Requirements

COM 334	(4)
COM 371	(4)
COM 372	(4)
COM 375	(4)
COM 376	(4)
COM 434	(4)
COM 435	(4)
COM 500	(4)

V. Public Relations Requirements

COM 330	(4)
COM 341	(4)

Selective Requirements

COM 311	(4)
COM 312	(4)
COM 313	(4)
COM 321	(4)
COM 331	(4)
COM 361	(4)

VI. Visual Communications Requirements

COM 354	(4)
COM 370	(4)
COM 371	(4)

Selective Requirements

COM 311	(4)
COM 321	(4)
COM 330	(4)
COM 331	(4)
COM 341	(4)
COM 353	(4)
COM 355	(4)
COM 356	(4)
COM 361	(4)

Selective Requirements

COM 312	(4)
COM 313	(4)
COM 314	(4)
COM 341	(4)
COM 353	(4)
COM 354	(4)
COM 355	(4)
COM 364	(4)
COM 371	(4)
COM 461	(4)
COM 462	(4)

COM 456	(4)
COM 457	(4)

COM 453	(4)
COM 455	(4)
COM 458	(4)
COM 554	(4)

Magazines Track

COM 320	(4)
COM 321	(4)
COM 325	(4)
COM 330	(4)
COM 403	(4)

Selective Requirements

COM 331	(4)
COM 334	(4)
COM 371	(4)
COM 372	(4)
COM 375	(4)
COM 376	(4)
COM 425	(4)
COM 435	(4)
COM 500	(4)

COM 441	(4)
COM 449	(4)

COM 362	(4)
COM 371	(4)
COM 375	(4)
COM 403	(4)
COM 453	(4)
COM 500	(4)

COM 375	(4)
COM 403	(4)

COM 368	(4)
COM 372	(4)
COM 376	(4)
COM 425	(4)
COM 453	(4)
COM 456	(4)
COM 461	(4)
COM 463	(4)
COM 471	(4)

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. Credit for a major in philosophy will be extended for HII 315.

Honors Program

The Department of Philosophy offers the philosophy major the opportunity of participating in the Philosophy Department Honors Program. A student may graduate with departmental honors if he: (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 483.

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 towards 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 Chairman.

Program Requirements. The following comprise the degree requirements in Philosophy, in addition to the general requirements for graduate work as specified on pages 61-62.

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 Chairman, and approved by the student's supervisory committee.

RELIGIOUS STUDIES (ANC/REL)**RELIGIOUS STUDIES (REL)****Requirements for the B.A. Degree:**

A total of 49 credit hours are required for a major chosen from the following courses:

REL 300	(4)	REL 370	(4)
REL 310	(4)	REL 383	(1-5)
or REL 410	(4)	REL 385	(1-5)
REL 315	(4)	REL 400	(4)
or REL 415	(4)	REL 401	(4)
REL 316	(4)	REL 402	(4)
REL 317	(4)	REL 403	(4)
REL 325	(4)	REL 410	(4)
REL 326	(3)	REL 411	(4)
REL 327	(4)	REL 412	(4)
REL 328	(4)	REL 413	(4)
REL 329	(4)	REL 415	(4)
REL 330	(4)	REL 416	(4)
REL 331	(4)	REL 417	(4)
REL 340	(4)	REL 481	(1-5)
REL 341	(4)	REL 483	(1-5)
REL 350	(5)	REL 491	(4)
REL 351	(5)	REL 583	(1-5)
REL 360	(4)		

Of the 49 hours required for a major in Religious Studies, twelve hours may be selected from the following extra-departmental courses:

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

ANC 341	(3)	HTY 361	(4)
ANC 342	(3)	PHI 301	(4)
ANC 343	(3)	PHI 333	(4)
ANC 441	(3)	PHI 341	(4)
ANC 442	(3)	PHI 409	(4)
ANC 443	(3)	PHI 521	(4)
AST 371	(5)	SOC 373	(4)
BIO 256	(4)		

With departmental approval, students may make other course substitutions for the extra-departmental courses listed above.

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 (ANC)

Requirements for the major in Ancient Studies:

The sequence in Ancient Studies requires 52-54 credits. The prerequisite is normally two years of high school Latin or one year of college Latin (the latter can be taken in college concurrently with other required courses but without credit toward it; it can be waived in special cases with the consent of the coordinator).

Required courses:

Two ancient languages (17-19)

ANC 321	(5)	ANC 483 E	(4)
ANC 352	(3)	CLS 351	(4)

Plus two of the following:

ANC 421	(4)	ANC 427	(4)
ANC 423	(4)	ANC 429	(4)

Plus 11-13 credits in electives: ancient literatures or other aspects of the ancient world, to be selected individually in consultation with the coordinator. Variations in the required courses, to meet special needs or interests, can also be made with the consent of the coordinator.

SPEECH COMMUNICATION (ENS/SPE/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 67 credits in the combined areas and 5 credits in Theatre Arts. A combined Speech Communication-Theatre Arts major requires 61 credits in the combined areas.

I. Speech Communication Sequence (SPE)

(45 cr. hrs.)		SPE 363	(5)
SPE 201	(5)	or	
SPE 203	(5)	SPE 365	(5)
SPE 321	(5)	SPE 491	(5)

20 credits of Speech Communication electives in 300-level courses or above. (A maximum of ten elective credits may be taken in any given Speech Communication area. These areas include: rhetoric and public address, oral interpretation, and speech science. The remaining credits must be taken in one or more of the other Speech Communication areas.)

II. Speech Communication-English Sequence (ENS)

(67 cr. hrs. in combined areas; 5 cr. hrs. in Theatre Arts)			
SPE 201	(5)	SPE 361	(5)
SPE 203	(5)	or	
SPE 321	(5)	SPE 365	(5)

10 credits of Speech Communication electives in 300-level courses or above.

Two courses from the following:

ENG 300	(5)	ENG 313	(5)
ENG 301	(5)	ENG 314	(5)
ENG 310	(5)	ENG 315	(5)
ENG 311	(5)	ENG 316	(5)
ENG 312	(5)		

One course from American Literature as follows:

ENG 302	(5)	ENG 331	(5)
ENG 330	(5)	ENG 332	(5)

One course from Contemporary Literature as follows:

ENG 307	(5)	ENG 438	(5)
ENG 308	(5)	ENG 442	(5)
ENG 317	(5)	ENG 446	(5)
ENG 437	(5)		

In addition, ENG 350 (5), or 351 (5), ENG 475, and TAR 303.

III. Speech Communication-Theatre Arts Sequence (STA)

(59 cr. hrs. in combined areas)

SPE 201	(5)	SPE 363	(5)
SPE 203	(5)	or	
SPE 321	(5)	SPE 365	(5)
		SPE 491	(5)

10 credits of Speech Communication electives in 300-level courses or above.

TAR 201	(2)	TAR 212	(4)
TAR 211	(4)	TAR 213	(4)

Plus eight (8) hours credit from the following:

TAR 311	(4)	TAR 434	(4)
TAR 339	(4)	TAR 437	(4)

Plus eight (8) hours credit from the following:

TAR 312	(4)	TAR 365	(4)
TAR 314	(4)	TAR 410	(4)
TAR 321	(4)	TAR 411	(4)
TAR 361	(4)		

Plus four (4) hours credit of Theatre Arts Electives.

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) approval by the Department of Speech Communication graduate committee.

Course Work. A Master of Arts degree in Speech Communication requires 45 credit hours of course work distributed in the following manner: 15 hours in Rhetoric and Public Address, 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.

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 Degrees

The general requirements for graduation in the College of Business Administration is the satisfactory completion of 180 academic quarter hours, including from 87 hours minimum to 100 hours maximum of business courses, depending upon the major field and electives chosen.

1. General Distribution Courses: 60 hours distributed over five areas as required by the University of South Florida. (See page 31, Part I).
2. General Electives: 20-27 hours to be chosen from courses not listed in the General Distribution areas;
3. Business Core: 53 hours which includes 9 hours of Accounting (ACC 201, 202, 300); 8 hours of Economics (ECN 201, 202); 5 hours of Intermediate Price Theory (ECN 301); 8 hours of Statistics (ECN 231, 331); 5 hours of Finance (FIN 301); 5 hours of Management (MAN 301); 5 hours of Marketing (MKT 301); 5 hours of Law (GBA 361); 3 hours of Computer Application (GBA 333);
4. Major Area: 20-27 hours with a 2.0 GPA in these courses;
5. Business Electives: 7-20 hours

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 35, Part I.

Admission to College Programs

Undergraduate Programs

New students and students currently enrolled at the University of South Florida, who are in good academic standing at the University of South Florida, may be admitted to the College of Business Administration by filing an intent to major in an undergraduate business degree program in the Office of Undergraduate Advising and Records.

Transfers from Junior Colleges: Junior college students should complete the program of general education as required by the junior college. Certification to this effect will be accepted as fulfilling the general distribution requirements of the University of South Florida.

Students should follow the business parallel program indicated in their junior college catalog to assure graduation from

the University of South Florida in minimum time. Should the junior 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 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 is therefore encouraged to complete more than the minimum mathematics requirements and to add beginning calculus to his curriculum at the junior college. All transfer students, particularly those not pursuing the parallel program, should note that a maximum of nine quarter hours of upper level business courses will be counted toward fulfillment of parts 3, 4 and 5 of the general requirements. Upper level refers to courses available only as 300 and 400 level courses in the College of Business Administration at the University of South Florida. Of these nine hours, no more than five quarter hours may be transferred for credit in the student's major field.

Students transferring in more than six quarter hours of Elementary Accounting must still complete ACC 300 in the Business Core. The extra hours of Elementary Accounting transferred will apply toward the Business Electives requirements. Students transferring credit in Elementary Statistics will receive credit for ECN 231. Extra hours of Elementary Statistics will apply toward the Business Electives requirements. These students, however, must take ECN 331.

Transfer Students from Other Colleges and Universities: Transfer credit will be allowed for general distribution courses similar to those required at the University of South Florida. The prerequisite courses in business subjects, such as accounting principles and principles of economics, may also be given transfer credit. Other credit transfer requests will be considered individually on their merit.

Student Advising and Counselling in the College

The College of Business Administration provides advising and counselling through a central Office of Advising and Records and through faculty advisers in individual departments.

Central Advising and Records: The Undergraduate Studies Advising and Records Office provides information about 1)

academic program requirements in the College of Business Administration, 2) services provided to students, and 3) student organizations in the College of Business Administration. It advises students on all undergraduate business programs registration procedures and conducts registration for College of Business Administration courses. It evaluates records of students entering the College of Business Administration and maintains these and subsequent records. This office is the primary source of advice on general distribution requirements, business core requirements and, along with the faculty advisers, on general electives.

Departmental Advising and Counselling Services: Each department in the college provides advising and counselling services in the individual majors and the interdisciplinary business curriculum. These faculty advisers may serve as a source of assistance on requirements in the individual majors, and general and business electives. Contact the Office of Advising and Records for further information.

Graduate Programs

Students who need to pursue night-time studies are welcome in the M.B.A. program and in each of the specialized programs in Accounting, Economics, and 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 Division of Graduate Studies, and must meet the University requirements (see pages 61-62). Applicants whose GMAT scores are below 450 or whose grade point averages are below 2.75 for the last half of their undergraduate work may be admitted under certain conditions on a probationary status.

Students are advised and counselled by the director of graduate studies in each graduate program (M.B.A., M.Acc., M.B.A. with emphasis in Finance, M.B.A. with emphasis in Marketing, M.A. in Economics).

The directors of graduate studies in each of the programs are:

- (1) M.B.A.—College Graduate Office
- (2) M.S. in Management—Dr. Richard E. Dutton
- (3) M.Acc.—Dr. Jack L. Smith
- (4) M.B.A. with specialization in Marketing—Dr. Thomas E. Ness
- (5) M.B.A. with specialization in Finance—Dr. James R. Longstreet

The appropriate director will determine ways in which entering students can remedy undergraduate background deficiencies. These include additional undergraduate course work, remedial graduate courses, and CLEP tests.

Graduate students must maintain an overall grade point average of 3.0 (B) in all courses. Students must perform satisfactorily in a comprehensive examination at the end of their program.

PROGRAMS AND CURRICULA

■ BUSINESS ADMINISTRATION (BA/MBA)

GENERAL BUSINESS ADMINISTRATION (GBA) Flexible Program

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 over and above the undergraduate business core. Essentially, business and non-business electives are blended to best meet special needs. This program will contain 34 to 47 hours beyond the business core, and no more than 16 hours will be in any single business discipline. The program shall also contain such non-business electives as will contribute to the academic objectives of the student.

BUSINESS ADMINISTRATION (MBA)

The Master of Business Administration 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 together with work in comprehensive unstructured applications which sharpen student's resourcefulness in 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. Full-time students may complete the program in a year.

Students with a background in business administration

complete a total of 48 credit hours of 500 and 600 level courses designated by the M.B.A. adviser. Typically, 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
- Other Topics Consistent with Students' Programs

Specifically, 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
- plus three electives
- GBA 603, 605, 615
- MAN 601, 602
- MKT 601, 602

For students without a background in business administration, certain additional courses will be needed to remedy deficiencies. These consist of basic courses in each of the areas of business, economics, and statistics. The specific program for each student is individually planned in consultation with the M.B.A. adviser. In developing these plans, appropriate consideration is given to scores on proficiency examinations and studies at other institutions.

Undergraduates majoring in other areas such as mass communications, theater arts, psychology, physical sciences, and so on, may devote some of their elective studies to M.B.A. preparation. This will permit them to shorten the total length of time required for earning both a bachelor's degree in their technical

specialization and also a Master of Business Administration degree. For such purposes, the following preparation should be included among the undergraduate electives:

ACC 201, 202,	FIN 301	(5)
300	MAN 301	(5)
ECN 201, 202, 231,	MKT 301	(5)
331	Total	(40)

The M.B.A. program permits a student to become a generalist, but those who wish to do so 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. Including the six hours of Finance in the core, a student may have a maximum of 15 hours in Finance. Elective courses in Finance cover a wide range of subject matter including investments, financial intermediaries, financial policy and strategy for existing firms, and advanced theories of finance. Topics of mutual interest to the student and the faculty may also be covered for variable course credit. 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.

M.B.A. with Emphasis in Marketing

Students wishing to concentrate their studies in Marketing should enroll in the M.B.A. program, and will fulfill all the stated requirements of the M.B.A. The nine credit hours of electives plus the six credit hours of required Marketing courses will give the students a minimum of 15 hours of Marketing in the M.B.A. program. Elective course work can include studies in consumer behavior, physical distribution systems and channels, promotion and advanced marketing research. Other areas of marketing can be undertaken on an independent study basis. Such independent study projects can serve part of the elective course work. No thesis is required.

ACCOUNTING (ACC/M.Acc)

The Accounting program offers students the opportunity to enter directly into the fields of professional accounting, private accounting, and governmental accountings. The professional accounting option prepares the student for employment by firms of certified public accountants; the private accounting option prepares the student for employment by individual business organizations such as manufacturers and retailers, and the governmental option prepares the student for employment by the various branches of federal, state, and local government. Departmental advisers will assist student in designing programs to meet specific career objectives.

Requirements for the B.A. degree (ACC):

Students in this program must complete 24-36 credits in upper level accounting, 53 credits in the Business Core and 10-23 credits in Business electives. It is strongly recommended that all accounting students 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, 302,	
303	(4, 4, 3)
ACC 421	(4)

Plus 9-21 credits from the following:

ACC 401	(3)	ACC 412	(3)
ACC 402	(3)	ACC 422	(3)
ACC 405	(4)	ACC 423	(4)
ACC 411	(4)	ACC 425	(3)

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 and have credit for:

ACC 301, 302,	ACC 405	(4)
303	ACC 411	(4)
ACC 421	ACC 423	(4)

Any further questions concerning the CPA examination should be directed to the Chairperson of the Accounting Department.

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 University graduate requirements. 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 Procedures	(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.

Requirements for the B.A. Degree:

A student may earn a Bachelor of Arts degree with a major in Economics by completing satisfactorily a minimum of 48 credits in Economics. Normally, these 48 credits include:

ECN 201	(4)	ECN 231	(3)
ECN 202	(4)	ECN 331	(5)
ECN 301	(5)	ECN 401	(5)
ECN 323	(5)		

In addition to this core, a student is 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.

A student in the College of Business Administration also must satisfy the other Business Core requirements detailed on page 14.

Students interested in majoring in economics are encouraged to contact the departmental 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 61-62. 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 two general approaches. The first emphasizes terminal professional training to prepare the student for decision making and problem solving roles in business, governmental agencies, and other organizations. Within this area the student may select the program emphasis in *public sector economics* which is designed to provide skills necessary for the performance of analysis and decision making in the public sector—particularly at the state and local level. The fields of economics stressed in this emphasis include public economics, urban economics and industrial organization. The second approach prepares the student for doctoral work in Economics in other recognized institutions and teaching in secondary and junior college educational institutions.

Both programs involve preparation in economic theory and quantitative methods. The student in the professional program then supplements these skills with an emphasis on courses in applied economics and additional quantitative methods selected in accordance with his career objectives. The student who is preparing for doctoral studies normally takes additional courses in economic theory, mathematics and statistics. Research and the writing of a thesis may be incorporated into the program of a student selecting this option. The nature of the thesis subject indicates his 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 30.

The student must complete 45 hours of *graduate credit* selected in consultation with the adviser in the Economics department. At least 35 of these hours must be in Economics.

FINANCE (FIN)

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 with financial institutions 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 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.

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.

Finance—Pre-Law:

A minimum of 20 hours of Finance courses as listed above with 14-27 hours of Business electives chosen with consent of adviser to specifically meet the needs of the student.

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. A maximum of 15 hours of finance is available since students will take FIN 601 and 602 as a part of the graduate core. Although a thesis is not required, graduate research projects are possible under FIN 683. 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 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 describes 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—Organizational 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 to meet the requirements for graduation.

Requirements for the Master of Science Degree in Management

Students meeting the general admissions standards of the College of Business Administration including a satisfactory score on the Graduate Management Admission Test may be admitted into the department as candidates for the M.S. degree in Management. The department welcomes men and women qualified by motivation, intellect, personality and experience for future organizational leadership. An undergraduate major in management or in other business disciplines is not required.

Graduate Studies in Management offers concentrations in Behavioral Science and Management Science and includes courses in the following areas:

1. The Management of Organizational Behavior: Managerial Behavior; Organizational Theory; Management of Organizational Change; Organizational Assessment; Planning, Control and Humanism in Management.
2. The Management of Information and Decision Systems: Administrative Decision Processes, Simulations of Administrative Systems, Quantitative Analysis of Management Decisions, the Management of Operations, Computers and Management.
3. Manpower Management: Management of Conflict, Labor Relations Law.
4. The Management of Organizational Communications.

Each student must complete a minimum of 48 hours of graduate credit selected in consultation with the departmental Director of Graduate Studies. Students, as a part of the 48-hour program, will take 12 hours of courses selected from other disciplines such as Accounting, Educational Administration, Economics, Finance, Industrial Systems, Marketing, Psychology, Public Administration, and Sociology. At least 6 of these 12 hours shall be from ACC, ECN, FIN or MKT. Entering students should meet with the departmental Director of Graduate Studies to identify and plan remedies for any background deficiencies required for the program of study they propose.

It is recommended that studies in the department be taken in conjunction with work in some managerial situation. Course content may be tailored to the needs of groups of students with similar professional needs, such as Urban, Corporate, Health and Entrepreneurial Management, and Collective Bargaining.

The departmental Director of Graduate Studies can assist students who desire to intern in such areas while fulfilling the requirements for the degree.

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.

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 effectively;
5. Creatively and effectively managing a salesforce selling industrial or consumer goods and services; and
6. Managing retail 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 advisor. 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.

Requirements for the B.A. Degree:

Majors in Marketing are required to take 27 credits in upper level marketing, 53 credits in Business Core, and 7-20 credits in Business electives. Students are encouraged to supplement their business courses by choosing electives in the computer sciences, Mass Communications, Mathematics, Political Science, Psychology, Sociology, or Speech Communication.

Required Marketing Courses (18 credit hours)

MKT 312	(3)	MKT 413	(3)
MKT 315	(4)	MKT 419	(4)
MKT 411	(4)		

Plus 9 credits from the following courses:

MKT 311	(3)	MKT 407	(3)
MKT 316	(3)	MKT 409	(3)
MKT 401	(3)	MKT 414	(3)
MKT 403	(3)	MKT 417	(3)
MKT 405	(3)	MKT 489	(3)

Any substitutions for the above courses must be approved in writing by the adviser and the chairman of the Marketing Department.

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.

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.

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, coordinated through the University Council on Teacher Education. 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

The undergraduate teacher education program leads to the Bachelor of Arts degree. It is an upper division program.

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, HII, 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, NAS, PHS, 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 201 or SSI 201 and SOC 201 or SSI 202
 - 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 201), SOC (excluding 201), SSI (excluding 201, 202, 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 (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.

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.

All students accepted in the Elementary Education Program in the College of Education will be required to pass a written proficiency examination at some time prior to enrollment in EDC 499—Supervised Teaching. The examination will consist of the students writing extemporaneously for one hour on one of three topics to be announced at the time of the examination.

■ ELEMENTARY SPECIALIZATION (EDE)

The major consists of an elementary specialization sequence. The 41 hours of elementary specialization courses include:

EDE 409	(5)	EDE 419	(5)
EDE 411	(4)	EDE 421	(4)
EDE 413	(4)	EDE 423	(2)
EDE 415	(5)	EDE 424	(3)
EDE 417	(5)	EDE 425	(4)

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)

The Art Education student may elect to emphasize painting, sculpture, graphics, ceramics, or photography/cinematography by selecting the appropriate courses.

The following courses constitute a program of study:

Art Education (25 Credit hours)

EDA 308	(4)	EDA 410	(5)
EDA 310	(5)	EDA 408	(2)
EDA 412	(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 401	ART 461	ART 542
ART 311	ART 411	ART 465	ART 543
ART 321	ART 421	ART 501	ART 561
ART 331	ART 431	ART 511	ART 565
ART 340	ART 441	ART 521	ART 591
ART 361	ART 442	ART 531	
ART 365	ART 443	ART 541	

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 includes 50 hours of course work as follows:

EDE 409	(5)	EDE 423	(2)
EDE 413	(4)	EDE 424	(3)
EDE 415	(5)	EDE 425	(4)
EDE 417	(5)	EDE 426	(4)
EDE 419	(5)	EDE 429	(5)
EDE 421	(4)	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 elementary 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.

Plus the following:

ART 476	(4)
ART (Art History Elective)	(4)
Six hours from any	
MUS, DAN, TAR	(6)

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.

■ 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.

Emotionally Disturbed (EMD)

The planned program includes:

Specialization Requirements (65-67 cr. hrs.)

CLY 201	(3)	EDS 311	(4)
EDE 409	(5)	EDS 411	(4)
EDE 415	(5)	EDS 431 (Variable)	
EDE 417	(5)	EDS 432	(5)
EDE 419	(5)	EDS 439 (Variable)	
EDE 421	(4)	<i>One of the following:</i>	
EDE 423	(2)	EDE 413	(4)
EDE 424	(3)	EDL 414	(4)
EDE 425	(4)		

Mental Retardation (MRD)

The planned program includes:

Specialization Requirements (71 cr. hrs.)

CLY 201	(3)	EDS 322	(4)
EDE 409	(5)	EDS 329	(6)
EDE 415	(5)	EDS 411	(4)
EDE 435	(4)	EDS 423	(4)
EDE 445	(4)	EDS 424	(4)
EDE 425	(4)	EDS 425	(4)
or		EDS 431	(4)
EDV 207	(4)	<i>One of the following:</i>	
EDF 379	(4)	EDE 413	(4)
EDS 311	(4)	EDL 414	(4)

Specific Learning Disabilities (SLD)

The planned program includes:

Specialization Requirements (67 cr. hrs.)

CLY 201	(3)	EDS 350	(4)
EDE 409	(5)	EDS 389	(6)
EDE 415	(5)	EDS 411	(4)
EDE 425	(4)	EDS 431	(4)
EDE 435	(4)	EDS 481	(4)
EDE 445	(4)	EDS 482	(4)
EDF 379	(4)	<i>One of the following:</i>	
EDS 311	(4)	EDE 413	(4)
EDS 322	(4)	EDL 414	(4)

HEALTH EDUCATION (HEN)

The following are courses required in the Health Education Program (61 hours):

EDP 255	(3)	HEN 411	(4)
HEN 310	(5)	HEN 412	(5)
HEN 311	(4)	HEN 421	(4)
HEN 321	(4)	HEN 422	(5)
HEN 322	(5)	HEN 423	(2)
HEN 331	(4)	HEN 431	(4)
HEN 332	(5)	HEN 432	(5)
HEN 333	(2)		

MUSIC EDUCATION (EDM)*A. Instrumental Specialization (112 cr. hrs.)**Music Education courses (24 cr. hrs.)*

EDM 370	(6)	EDM 432	(5)
EDM 390	(3)	EDM 433	(5)
EDM 431	(5)		

Music courses (88 cr. hrs.)

MUS 201, 202, 203	(9)
MUS 221, 222, 223	(6)
MUS 301, 302, 303	(9)
MUS 321, 322, 323	(6)
MUS 401, 402, 403	(9)
MUS 207	(8)
MUS 204, 304, 404, 454*	(33)
Theatre Arts	(2)
Art	(3)
Dance	(3)
Performing Ensemble	
(minimum of one per quarter with applied music)	
Piano proficiency requirement	
Graduating recital	

*B. Vocal Specialization (101 cr. hrs.)**Music Education courses (21 cr. hrs.)*

EDM 380	(6)	EDM 437	(5)
EDM 435	(5)	EDM 439	(5)

Music courses (80 cr. hrs.)

MUS 201, 202, 203	(9)
MUS 221, 222, 223	(6)
MUS 301, 302, 303	(9)
MUS 321, 322, 323	(6)
MUS 401, 402, 403	(9)
MUS 204, 304, 404, 454*	(33)
Theatre Arts	(2)
Art	(3)
Dance	(3)
Performing ensemble	
(minimum of one per quarter of applied music)	
Piano proficiency requirement	
Graduating recital	

*MUS 454 minimum of 6 hours.

PHYSICAL EDUCATION (EDP)

The following are the required courses in the physical education program of study (158 cr. hrs.):

EDP 255	(3)	EDP 365	(3)
EDP 311	(5)	EDP 411	(5)
EDP 312	(6)	EDP 412	(4)
EDP 314	(2)	EDP 421	(5)
EDP 321	(5)	EDP 422	(4)
EDP 322	(6)	EDP 431	(5)
EDP 331	(5)	EDP 432	(4)
EDP 332	(6)		

SECONDARY EDUCATION CERTIFICATION PROGRAMS

Candidates are required to meet specialization requirements in broad subject fields or in subject combinations. 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)	HTY 321	(4)
ANC 427	(4)	HTY 322	(4)
ANC 429	(4)	HTY 325	(4)
2. CLS 310	(4)	HTY 326	(4)
CLS 311	(4)	HTY 381	(4)
CLS 312	(4)	4. PHI 415	(4)
3. HTY 201	(4)	PHI 416	(4)
HTY 202	(4)	5. CLS 351*	(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)
ENG 310	(5)	SPE 201	(5)
<i>One of the following:</i>			
ENG 300	(5)	ENG 301	(5)
<i>One of the following:</i>			
ENG 316	(5)	ENG 437	(5)
ENG 317	(5)	ENG 438	(5)
ENG 332	(5)	ENG 441	(5)
ENG 436	(5)	ENG 442	(5)
<i>One of the following:</i>			
ENG 340	(5)	ENG 342	(5)
ENG 341	(5)	CLS 351*	(4)
<i>One of the following:</i>			
ENG 350	(5)	ENG 351	(5)

*CLS 351—If CLS 351 taken, the hours will count in only one area of requirements (i.e. English/Latin) not in both.

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) | HTY 321 (4) |
| ANC 427 (4) | HTY 322 (4) |
| ANC 429 (4) | HTY 325 (4) |
| 2. CLS 310 (4) | HTY 326 (4) |
| CLS 311 (4) | HTY 381 (4) |
| CLS 312 (4) | 4. PHI 415 (4) |
| 3. HTY 201 (4) | PHI 416 (4) |
| HTY 202 (4) | 5. CLS 351* (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) | () 405 (4) |
| () 303 (4) | or |
| () 401 (4) | () 406 (4) |
| () 403 (4) | |

ROM 517 and 518 may be among the selected courses

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) | One of the following: |
| SPE 321 (5) | ENG 350 (5) |
| ENG 475 (5) | ENG 351 (5) |

One of the following:

- | | |
|-------------|-------------|
| ENG 476 (5) | LIN 321 (4) |
| ENG 477 (5) | LIN 540 (4) |

One of the following:

- | |
|-------------|
| COM 300 (3) |
| COM 301 (4) |
| COM 351 (3) |

One of the following

- | | |
|-------------|-------------|
| ENG 300 (5) | ENG 313 (5) |
| ENG 301 (5) | ENG 314 (5) |
| ENG 310 (5) | ENG 315 (5) |
| ENG 311 (5) | ENG 316 (5) |
| ENG 312 (5) | |

One of the following:

- | | |
|-------------|-------------|
| ENG 302 (5) | ENG 331 (5) |
| ENG 330 (5) | ENG 332 (5) |

One of the following:

- | | |
|-------------|-------------|
| ENG 307 (5) | ENG 438 (5) |
| ENG 308 (5) | ENG 442 (5) |
| ENG 317 (5) | ENG 446 (5) |
| ENG 437 (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 Arts, Language-Literature Interdisciplinary, Philosophy, Classics, Education, or American Studies: (4).

Two special methods courses EDT 447 and EDT 431 are included in the professional education sequence.

FOREIGN LANGUAGE EDUCATION (FOL)**Foreign Language-English Education:***Specialization Requirements (76 cr. hrs.)**English (40 cr. hrs.)*

- | | |
|-------------|-------------|
| ENG 300 (5) | ENG 350 (5) |
| or | or |
| ENG 301 (5) | ENG 351 (5) |
| ENG 302 (5) | ENG 475 (5) |
| ENG 310 (5) | SPE 201 (5) |

One of the following:

- | | |
|-------------|-------------|
| ENG 317 (5) | ENG 438 (5) |
| ENG 435 (5) | ENG 441 (5) |
| ENG 436 (5) | ENG 442 (5) |
| ENG 437 (5) | |

One of the following:

- | | |
|-------------|-------------|
| ENG 340 (5) | ENG 342 (5) |
| ENG 341 (5) | CLS 351 (4) |

If an elective is needed, SPE 321 is recommended. *Foreign Language* requires a minimum of 36 credit hours beyond intermediate courses. Foreign language course requirements are:

- | | |
|-------------|-------------|
| () 301 (4) | () 405 (4) |
| () 303 (4) | or |
| () 401 (4) | () 406 (4) |
| () 403 (4) | |

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 35 credit hours, and in the minor language 26 credit hours. The required upper level foreign language courses for the major language are:

- | | |
|-------------|-------------|
| () 301 (4) | () 403 (4) |
| () 303 (4) | () 405 (4) |
| () 401 (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) | () 405 (4) |
| () 303 (4) | or |
| () 401 (4) | () 406 (4) |
| () 403 (4) | |

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 403 (4) |
| FRE 303 (4) | FRE 405 (4) |
| FRE 401 (4) | FRE 406 (4) |

Plus a minimum of 21 additional selected hours of upper level courses. (21)

German (45 credit hours)

- | | |
|-------------|-------------|
| GER 301 (4) | GER 403 (4) |
| GER 303 (4) | GER 405 (4) |
| GER 401 (4) | GER 406 (4) |

Plus a minimum of 21 additional selected hours of upper level courses. (21)

Italian or Russian (45 credit hours)

- | | |
|-------------|-------------|
| () 301 (4) | () 403 (4) |
| () 303 (4) | () 405 (4) |
| () 401 (4) | () 406 (4) |

Plus a minimum of 21 additional selected hours of upper level courses. (21)

Spanish (45 credit hours)

- | | |
|-------------|-------------|
| SPA 301 (4) | SPA 405 (4) |
| SPA 303 (4) | SPA 406 (4) |
| SPA 401 (4) | SPA 407 (4) |
| SPA 403 (4) | |

Plus a minimum of 17 additional selected hours of upper level courses. (17)

ROM 517 and ROM 518 may be used to satisfy selected course requirements in any of the modern foreign languages.

■ MASS COMMUNICATIONS— ENGLISH EDUCATION (MCE)

Specialization Requirements (63 cr. hrs.):

Mass Communications (23 cr. hrs.)

COM 300	(3)	COM 301	(4)
COM 330	(4)	or	
COM 483	(4)	ENG 308	(5)

2 of the following or 1 of the following plus a more advanced course in that area.

COM 311	(4)	COM 370	(4)
COM 320	(4)	COM 371	(4)
COM 341	(4)	COM 375	(4)
COM 351	(3)	COM 453	(4)
COM 361	(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)

2 of the following:

ENG 300	(5)	ENG 313	(5)
ENG 301	(5)	ENG 314	(5)
ENG 310	(5)	ENG 315	(5)
ENG 311	(5)	ENG 316	(5)
ENG 312	(5)		

1 of the following:

ENG 302	(5)	ENG 331	(5)
ENG 330	(5)	ENG 332	(5)

1 of the following:

ENG 307	(5)	ENG 438	(5)
ENG 317	(5)	ENG 442	(5)
ENG 437	(5)	ENG 446	(5)

2 additional ENG courses in literature or 1 ENG course and SPE 321.

■ HUMANITIES EDUCATION (HUE)

Specialization Requirements (3 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.

■ 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 309	(3)
MTH 303	(4)	MTH 323	(4)
MTH 304	(4)	MTH 423	(3)
MTH 305	(4)	MTH 424	(3)

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 four credit hours 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 major in the Natural Sciences. This requires 36 credit hours in the discipline of major concentration and 24 credit hours within the Natural Sciences and outside the concentration area. These latter 24 hours must be approved by the student's adviser and include at least one 300 level course. (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 202	(4)	BIO 331	(4)

Additional selections from:

BIO 401	(5)	BOT 311	(5)
or		MIC 351	(5)
BIO 510	(4)	ZOO 311	(6)
BIO 445	(4)	ZOO 313	(5)
BOT 302	(5)		

Minimum credits outside of concentration (24-32 credit hours)

Courses outside biology would normally include:

CHM 211	(3)	CHM 332	(2)
CHM 212	(3)	CHM 333	(3)
CHM 213	(3)	Electives	(4)
CHM 217	(1)	CHM 331	(3)
CHM 218	(1)	CHM 332	(2)
CHM 219	(1)	CHM 333	(3)
CHM 331	(3)	Electives	(4)

Courses in Mathematics, Physics, and Geology are also recommended.

■ 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 program 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, geology, 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 203	(5)	or	
SPE 321	(5)	SPE 365	(5)
		SPE 491	(5)
Two 5-hour upper division Speech Com. Electives (10)			
ENG 475	(5)		
TAR 303	(5)		

Two of the following:

ENG 300		ENG 313	
ENG 301		ENG 314	
ENG 310		ENG 315	
ENG 311		ENG 316	(10)
ENG 312			

One of the following:

ENG 302		ENG 331	
ENG 330		ENG 332	(5)

One of the following:

ENG 307		ENG 438	
ENG 308		ENG 442	
ENG 317		ENG 446	(5)
ENG 437			

One of the following:

ENG 350		ENG 351	(5)
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The following special methods courses are included in the professional education sequence: EDT 447, EDT 423, EDT 424 (2) and EDR 407 (2).

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)
ACC 202	(3)	GBA 371	(4)

Three hours of advanced typing (3), three hours of advanced shorthand (3).

Two of the following:

ECN 100	(5)	EDV 431*	(4-8)
ECN 201	(4)	EDV 461	(5)
ECN 202	(4)	EDV 361	(5)
EDV 353	(5)	EDV 407	(4)

Electives in Education and/or Business Administration courses to bring total to 73.

Recommendations include:

FIN 201	(5)	MAN 301	(5)
GBA 333	(3)	MKT 301	(5)

* Required only if student lacks sufficient office work experience.

■ DISTRIBUTIVE EDUCATION (VDE)

Specialization (62 cr. hrs.)

Distributive (22 cr. hrs.)

EDV 431	(4)	EDV 406	(4)
EDV 443	(5)	EDV 407	(4)
EDV 445	(4)		

Business (21 cr. hrs.)

ACC 201	(3)	MKT 301	(5)
ECN 100		MKT 311	(3)
or		MKT 312	(3)
ECN 201	(4)	MKT 315	(4)

Electives, as approved by adviser, in Education and/or Business Administration courses to total 62 hours.

In addition, they must fulfill the state requirement of two years of distributive on-the-job work experience or arrange to fulfill this requirement via 8 cr. hrs. of EDV 431.

■ 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 speciality 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 504	(4)
EDV 431	(8)	EDV 505	(4)
EDV 443	(5)	EDV 406	(4)
EDV 445	(4)	EDV 407	(4)
EDV 480	(4)	EDV 511	(4)
EDV 503	(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-ratio 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 chairman.

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.

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 advise 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 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 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.

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. 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: Individually planned emphasis include EDE 429 and three courses from the following: EDE 435, 527, 539, 629, 639.
- e. Elementary School Mathematics Emphasis: Individually planned emphasis to include four courses from the following: EDE 615, 645, 646; EDN 515, 616, 617, 618, 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.

Elementary-Early Childhood Education

This concentration requires recommendation of the program for admission. Requirements in specialization and related courses total 32 hours and include: EDE 527, 435, 539, 609, 629, and 639.

Elementary-Early Intervention N-3

This emphasis is designed for regular classroom teachers to become acquainted with the varying forms and degrees of behavioral manifestations and learning performance of young children in a pluralistic society.

The course of study includes 1) the developmental theories and their applicability with young children, 2) the environmental factors as they relate to developmental process, and 3) the developmental psycho-education appraisal of young children. An interrelated course of study is planned for advanced training to provide skills and competencies in clinical teaching. It includes methods such as systematic observation, developmental assessment, prescriptive teaching and individualized instruction for the prevention of learning and behavior problems.

SECONDARY EDUCATION PROGRAMS

■ ENGLISH EDUCATION (ENE)

Candidates must score at least 500 on the Verbal Aptitude section of the GRE or 550 on the Advanced Literature test of the GRE.

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. Students holding a bachelor's degree and qualified for Rank III Secondary English certification except for the required Education courses may enroll as Special students and complete certification requirements. After obtaining certification, they may apply for degree-seeking status and apply up to 12 credit hours of relevant work in Education on this degree. Plan I requires at least 32 hours of English as specified below.

PLAN II—Requirements for admission: A bachelor's degree in English from a recognized Liberal Arts institution of higher learning. Requires at least 28 hours of English as outlined below.

Course Sequence for both plans: Process Core (16 hours), EDT 631, ENG 450 (Theory of Fiction), ENG 686 (Advanced Composition for Teachers), one advanced course in linguistics, depth preparation in two English areas (minimum of two courses in each) from among the following: 1) Old English-Middle English (to 1500); 2) Renaissance (1500-1660); 3) Restoration-Eighteenth Century (1600-1780); 4) Nineteenth Century British (1780-1890); 5) American Literature (to 1920); 6) Twentieth Century British (after 1890); 7) Stylistics.

■ 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 ratio of 3.0 or better on the last half of the B.A., or
- GRE aptitude score of 1000, or GRE advanced foreign

- language score in upper third, or equivalent.
2. Baccalaureate degree in chosen foreign language, or in foreign language education from an accredited institution of higher learning.
3. Favorable recommendation from program chairman.

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 satisfy 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 a minimum of 27 credit hours in foreign language courses of the 500 and 600 levels. Foreign language requirements, however, are not the same for all and may go as high as 36 hours, depending upon the individual candidate's background and strengths. Unless otherwise approved by adviser, at least 21 hours in French should be on the 600 level; in German at least 15 hours should be on the 600 level; in Spanish at least 18 hours should be on the 600 level.

■ HUMANITIES EDUCATION (HUE)

The program in Humanities consists of 27-45 credit hours selected from the following with the advice of the adviser in the field of specialization:

HUM 481	HUM 542
HUM 535	HUM 543
HUM 536	HUM 545
HUM 537	HUM 611
HUM 539	HUM 623
HUM 540	HUM 681
HUM 541	HUM 683

Up to nine hours may be substituted for the above from courses outside of Humanities with the consent of the adviser in Humanities.

■ MATHEMATICS EDUCATION (MAE)

This program requires a minimum of 51 quarter hours. Before the 12-hour level the student must demonstrate that he has the competence in mathematics to undertake the program. MTH 405, 406 and any MTH course from the 500 and 600 level and above may be included in the planned program.

■ 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. 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.

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 department deems necessary for fulfilling minimum state certification requirements.

■ SPEECH COMMUNICATION EDUCATION (SPH)

Admission requires a bachelor's degree from a recognized institution, and approval of the Speech Communication Education faculty.

Course requirements range from 53 to 61 hours: Plan I process core requirements; 10 hours in speech communication education; and 35 hours in speech communication divided as follows: 15 hours in rhetoric and public address, 10 hours in oral interpretation of literature, 5 hours in speech science, and 5 hours of graduate seminar in speech communication.

Each candidate for the M.A. degree in Speech Communication Education must successfully complete a written and oral comprehensive examination.

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.

Emotionally Disturbed (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 45 hours, at least 27 hours are allocated to the area of specialization. The following or equivalents are required:

EDS 531	EDS 632
EDS 610	EDS 633
EDS 611	EDS 639

Additional courses, including electives, are planned jointly by the student and his adviser.

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 27 hours in the area of specialization (as outlined above) plus such other courses which may be 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 611
EDS 550	EDS 643
EDS 551	EDS 653
EDS 559	EDS 654

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 611
EDS 550	EDS 643
EDS 551	EDS 653
EDS 559	EDS 654

An individual may meet initial certification through Plan II by taking 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.

Process Core Requirements (16-17 hours)

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	EDS 620
EDF 635	EDS 621
EDL 613 or EDE 631	EDS 622
EDS 611	EDS 623

Two electives, chosen from the following (8):

EDC 699 (8)	EDS 612 (4)
EDS 511 (4)	EDS 613 (4)
EDS 531 (4)	EDS 681 (4)
EDS 561 (4)	

PLAN II—Process Core Requirements (16-17 hours)

At least 40 hours are allocated to the area of specialization with an emphasis on Mental Retardation.

Prerequisites:

EDE 409
EDE 415
EDV 207 or EDP 640
EDS 322
EDS 423 or EDS 425
EDS 424

Basic Course Requirements:

EDC 501
EDE 631 or EDL 613
EDS 610 or equivalent

Courses required:

CLY 683	EDS 620
EDC 691	EDS 621
EDF 635	EDS 622
EDS 529	EDS 623
EDS 611	

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 (16-17 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 or EDE 631 or EDL 613 or EDL 625	
EDE 646	
EDF 635	EDS 611
EDR 631	EDS 623
EDR 632	EDS 681
EDS 531 or EDS 561	EDS 682

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:

EDC 501
EDE 631 or EDL 613 or EDL 625
EDE 645
EDS 610

Courses required:

CLY 683	EDS 531 or EDS 561
EDC 691	EDS 611
EDE 646	EDS 623
EDF 635	EDS 681
EDR 631	EDS 682
EDR 632	

One Elective, chosen from the following:

EDE 417	EDE 424
EDE 419	EDE 425
EDE 421	

GUIDANCE (EDG)

PLAN I—The guidance program typically requires seventeen credit hours from the Process Core including EDF 605, 607, 613 and one of the following: EDF 621, 623, or 625. Additional course requirements depend upon the major emphasis in either elementary school guidance or in secondary school guidance.

a. Elementary School Guidance Emphasis: Requirements in specialization and related courses total 38 credit hours and include:

EDG 601	EDG 621
EDG 603	EDG 625
EDG 609	EDG 633
EDG 613	EDF 631 or PSY 452
EDG 617	

b. Secondary School Guidance Emphasis: Requirements in specialization and related courses total 39 credit hours and include the following and an approved elective:

EDG 601	EDG 623
EDG 603	EDG 627
EDG 609	EDG 633
EDG 619	EDF 631 or PSY 452

PLAN II is available in both emphases and requires EDC 501 and EDC 691 in addition to minimum requirements.

The Guidance Program has no full-time residency requirement. Students who are gainfully employed on a full-time basis are limited to 8 hours per quarter. Exceptions are made only with permission of the Guidance Program Committee.

Applications for admission to the Guidance Program should be submitted at least four months prior to the quarter in which the student plans to begin the program.

LIBRARY-AUDIOVISUAL (MEDIA) EDUCATION (EDL)

Basic courses are required for all students with a choice of specialization for work in one of the following areas: School Media (formerly School Library); Public Library; Academic Library; Special Library. The requirements for the School Media specialization include Rank II certification for the State of Florida. Other requirements prepare the student to assume leadership roles in the profession.

The number of credits required in this program range from 46 to a possible maximum of 75. The average number of hours totals 60, thirty-three of which must be taken after the student is fully accepted into the graduate program. The exact number of hours is determined in conference with the student and his assigned program adviser on the basis of the student's needs and the program standards for the specialty areas of study. Thesis

hours when elected, EDC 699 (4-), are in addition to course work.

Required courses, or their equivalent, for students in all library specializations are:

EDL 500	EDL 608
EDL 601	EDL 614
EDL 606	EDL 615

and one audiovisual or instructional technology course.

Administration courses recommended for each specialization are:

EDL 612	EDL 650
EDL 621	EDL 660
EDL 640	

School media certification requires courses in materials for children and in materials for young adults. Electives may be chosen from any of the other Library-Audiovisual courses. Students interested in more extensive preparation in the nonprint areas of the school media specialization may expect to take 6-9 hours more of course work or field experiences in this area. Students requiring internship will take Field Work, EDL 609, in one school level media center (e.g. Elementary) and Internship, EDC 691, in the other school level media center (e.g. Secondary).

Public, Academic and Special Library students are exempted from the Education core courses. Among recommended courses for them in lieu of the Education core are:

EDF 502	POL 525
EDH 651	POL 527
ESC 501	SSI 503
MAN 601	

Each student is urged to take field work, EDL 609, in the area of his specialization.

With the consent of his adviser any student may choose one or more cognates from other courses offered outside the department.

Criteria for admission and for graduation are those general criteria specified by the College of Education. The Library-Audiovisual program also asks for three letters of recommendation to be sent to the director of the program, and an interview with the program director, the program's admission committee or any other individual designated by the director. Graduation requirements include the fulfillment of the student's filed program of studies, application for graduation at the beginning of the quarter in which he intends to graduate, and the successful completion of a final comprehensive examination administered by the Library-Audiovisual faculty.

■ MUSIC EDUCATION (EDM)

Plans in both instrumental and vocal music are offered. At least 27 hours are taken in one of these areas. 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: 7 to 14 credits in music education, including EDM 601, 614, and 635; 8 to 12 credits in music theory-literature,

and at least 4 credits in applied music.

Instrumental Majors: 7 to 14 credits in music education, including EDM 601, 603, 617, 633; 8 to 12 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)

Specialization in Reading Education shall include a minimum of 32 credit hours:

EDE 609	EDR 632
EDE 631	EDR 633
EDR 409	EDR 634
EDR 631	EDR 635

(Candidates who have had a children's literature course at either graduate or undergraduate level may take an elective in lieu of EDE 631).

Students entering the program with an undergraduate major outside elementary education should substitute EDE 409 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 a full-time work assignment.

■ 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.

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 45 credit hours. Specialization requirements of 27 credit hours in Adult Education are required 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 631
EDV 445	EDV 661
EDV 503	EDV 671
EDV 505	EDV 687
EDV 506	

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. A minimum of 12 credit hours in the specialization area of Business and Office Education. Individualized pro-

grams will include courses to be taken from the following:

EDV 407	EDV 621
EDV 503	EDV 631
EDV 506	EDV 687

Any deficiencies needed for business teacher certification must be included in the Master's candidate's program.

2. Selected courses from which to choose in Vocational and Adult Education:

EDV 407	EDV 605
EDV 431	EDV 621
EDV 445	EDV 631
EDV 480	EDV 641
EDV 503	EDV 651
EDV 504	EDV 661
EDV 505	EDV 671
EDV 506	EDV 687
EDV 511	

3. 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. Appropriate College of Business Administration courses in marketing, management, economics, finance, and accounting for Distributive Education teacher certification (22 credit hours maximum).
2. Distributive Education (minimum of 12 credit hours)

EDV 407	EDV 511
EDV 431	EDV 621
EDV 445	EDV 641
EDV 503	EDV 651
EDV 504	EDV 661
EDV 505	EDV 671
EDV 506	
3. EDV 687 Seminar in Distributive Education Research.
4. 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, 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-certificated teachers. The candidate is required to complete additional professional education courses—usually 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 University 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 the campus, has formulated the program.

The Junior College program includes:

Astronomy	History
Biology	Mathematics
Business	Physics
Chemistry	Political Science
English	Psychology
Engineering*	Sociology
Economics	Spanish
French	Speech
Geography	Communication
Geology	

* 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 of 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.

MASTER OF EDUCATION PROGRAMS

■ ADMINISTRATION AND SUPERVISION (ESA)

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 U.S.F. 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 (CUR)

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, or assistant principals of curriculum. The degree requires at least 50 quarters 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.

PH.D. PROGRAM

The Doctor of Philosophy degree is available in Education. Specialization is in Elementary Education with research emphasis on problems or 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.



COLLEGE OF ENGINEERING

This section provides detailed information on College of Engineering programs as well as on supplementary college requirements students must meet. (Basic information on the college and

its programs is contained in Part I of the USF Bulletin and is not repeated here.) Students must comply with both Part I and Part II of the USF Bulletin.

PROFESSIONAL ENGINEERING

■ FOUR-YEAR PROGRAM— BACHELOR OF SCIENCE IN ENGINEERING DEGREE (EGU)

This program contains four major elements further detailed below.

Social Science and Humanities Core	—47 credit hours min.
Mathematics and Science Core	—49 credit hours min.
Engineering Core	—56 credit hours min.
Specialization (Option)	—49 credit hours min.

Note: 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.

Core Requirements

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 Humanities/Fine Arts area and the Behavioral and Social Sciences area (to meet the University's Genial 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 judgement. 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.

4. Specialization (Option) Requirements (49 credit hours minimum)

Specific options available and their offering departments are listed below.

Option	Department
Chemical	Energy Conversion and Mechanical Design
Electrical	Electrical and Electronic Systems
Industrial	Industrial Systems
Mechanical	Energy Conversion and Mechanical Design
Structures, Materials, and Fluids*	Structures, Materials, and Fluids

*Concentrations in Structures, Materials, Fluids, Civil Engineering, Water Resources, and Applied Mechanics are available.

The General option accommodates Pre-Medical, Pre-Law and Biomedical students as well as students following an individually arranged program.

General information on these options is available in Part I of the USF Bulletin. Detailed information, including listing of required courses and approved electives, is available in the department responsible for the option. For information on the General option contact the College's Advising Office.

■ FIVE-YEAR PROGRAM—MASTER OF SCIENCE IN ENGINEERING DEGREE (EGG)

This program requires the same 152 credit hours minimum of foundation coursework consisting of the Social Science and Humanities Core, Mathematics and Science Core, and Engineering Core. In addition it requires 94 credit hours minimum of Specialization (option) coursework. The program leads to concurrent Bachelor of Science and Masters of Science in Engineering degrees. The program is available in all options listed under the Four Year Program (EGU). Detailed information for each option of this 246 credit hours minimum program is available in the responsible department.

■ POST-BACCALAUREATE MASTER OF SCIENCE IN ENGINEERING DEGREE (EGP)

■ MASTER OF ENGINEERING DEGREE PROGRAM (EGM)

General Information on these two degree programs is furnished in Part I of the USF Bulletin. Detailed information on requirements in each of the college's areas of concentration is available in the responsible department.

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. This examination will be administered by the faculty of the University's English program and students evidencing a deficiency will be required to initiate the necessary corrective programs, with the assistance of their advisers. Correction of any deficiency must be effected prior to recommendation of the student for graduation by the faculty of the College.

Foreign students entering the College of Engineering must have taken, for advising purposes, the Test of English as a Foreign Language (TOEFL), and have the score sent to the University's Admissions Office. A full-time student is expected to achieve a score of 550 or better.

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. 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 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 core 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 (ABCD) basis. (Exceptions are required courses not available on a graded basis.)

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 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.

APPLIED SCIENCE AND TECHNOLOGY

Engineering Science

Environmental Science Dean's Office
Other areas Dean's Office

- **FOUR-YEAR PROGRAM—
BACHELOR OF SCIENCE IN
ENGINEERING SCIENCE DEGREE
(EGC)**
- **FIVE-YEAR PROGRAM—MASTER
OF SCIENCE IN ENGINEERING
SCIENCE DEGREE (EGC)**
- **POST-BACCALAUREATE—MASTER
OF SCIENCE IN ENGINEERING
SCIENCE DEGREE (EGC)**
- **DOCTOR OF PHILOSOPHY
DEGREE IN ENGINEERING
SCIENCE (EGC)**

General information on these programs is furnished in Part 1 of the USF Bulletin. For detailed information the following offices should be contacted:

<i>Option/Specialization</i>	<i>Department</i>
Computer Science	Electrical and Electronic Systems
Applied Mathematics	Dean's Office
Biomedical Systems	Dean's Office

OTHER REQUIREMENTS FOR ENGINEERING SCIENCE

The Other Requirements for Engineers on page 33 are applicable to Engineering Science students.

Engineering Technology

- **BACHELOR OF
ENGINEERING
TECHNOLOGY (ETK)**

General information on these programs is furnished in Part 1 of the USF Bulletin. For detailed information contact:

Coordinator for Engineering Technology
USF St. Petersburg Campus
830 First Street, South
St. Petersburg, Florida 33701
or
Coordinator for Engineering Technology
College of Engineering
University of South Florida
Tampa, Florida 33620

COLLEGE OF FINE ARTS



PROGRAMS AND CURRICULA

Courses for Degree Programs:

The College of Fine Arts offers courses of study leading to undergraduate degree programs (the B.A. degree) in the Departments of Art, Dance, Music, and Theatre Arts; and leading to graduate degree programs in the Departments of Art (the M.F.A. degree) and Music (the M.M. degree).

Joint Programs:

Degree 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, and in vocal and instrumental music for these programs, are offered by the College of Fine Arts. (See programs under the College of Education.)

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 Part I of the University Bulletin for a complete description of music, and theatre courses toward the partial satisfaction of the University's 60-hour General Distribution Requirements. (See Part I 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.

Fine Arts Courses as Electives (and Policy for Course Availability in the College, Generally):

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.

Advising in the College:

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.

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.

B.A. Degree Requirements in the College of Fine Arts (Art, Dance, Music, Theatre Arts):

Only the College and the Departmental requirements for the B.A. degree offered by the College of Fine Arts are outlined in this Part II of the University Bulletin. Complete information as to the remaining and total requirements for graduation are to be found in the University, College, and Departmental sections of Part I of the University Bulletin.

Briefly summarized here, however, 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 Arts, a minimum of 64 hours 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, and Theatre Arts majors, 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 Art and Dance majors, 22 hours of Special Requirements outside the major department.
8. For Theatre majors, 21 hours of Special Requirements outside the major department.
9. For Music majors, 17 hours of Special Requirements outside the major department.

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 instruc-

tor 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.

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

The Dean's List Honors will be published quarterly by the Dean of the College of Fine Arts. The following are criteria for Dean's List Honors to students majoring in the College of Fine Arts:

1. The Dean's List will be limited to a maximum of the top 5% of the undergraduates in the College of Fine Arts.
2. The Dean's List will be further limited to the undergraduates in the College of Fine Arts who earn a grade point average of 3.3 or better for course work undertaken in any given quarter.
3. The student must be enrolled for and successfully complete a minimum of 12 USF credit hours of course work during a given quarter in an undergraduate degree seeking program to be eligible for that quarter.
4. The only S/U grades in these first 12 hours will be the non-optional ones.
5. No restriction other than above will be placed on courses graded S/U.
6. "I" grade (incomplete) limitations:
 - a. The Dean's List may not be achieved retroactively.
Example: A student undertakes 13 quarter credit hours under the conventional letter grade system in a given term. He receives a five hour "A" and a four hour "A" and a four hour "I" (incomplete). The student would initially disqualify due to the fact that the minimum of 12-successfully completed hours was not met. Even if the student should complete the incomplete work as early as the next quarter, and even if the "I" grade were to be replaced by an "A" grade, the student would not be recognized for the Dean's List Awards retroactively.
 - b. The Dean's List may not be achieved by a student for graded work in any given quarter for whom an "I" grade exists, unresolved, for any previous quarter.

PROGRAMS AND CURRICULA

■ ART (ART)

Requirements for the B.A. Degree:

The listing of courses in the Art Department (page 70) are in a numerical sequence, by level, and are not topically grouped by subject matter-related areas or sequentially organized by specific 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 and VIDEO

ART HISTORY and THEORY

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. (See 500 and 600 level courses leading to the graduate MFA degree following the undergraduate course listing.)

Art Studio Concentration

The following are the requirements for a studio major:

1. ART 201, ART 202 and ART 301, each with a grade of "C" or better.
2. Minimum of 12 hours of 300-level studio courses.
ART 201 is a prerequisite to all two-dimensional media courses;
ART 202 is a prerequisite to all three-dimensional courses;
ART 301 is prerequisite to all 300-level studio courses.
3. Minimum of 12 hours of 400-level studio courses and/or technique seminars. PR: 300-level equivalent. ART 201, ART 202, and ART 301.
4. Minimum of 12 hours in Idea Seminars, and/or art history courses. Basic Seminar, ART 301, is a prerequisite to the Idea Seminars (ART 491). Art history has no prerequisite except for appropriate level. ART 476 20th Century Art History, is required of all art majors.
5. ART 453, Art Senior Seminar.

6. Additional art courses for a total of 63 credit hours.
7. Admission to all 500-level studio courses is by Consent of the Instructor.

Art History Concentration

Requirements are as follows:

1. ART 201 (4), ART 202 (4), and ART 301 (2).
2. Minimum of 16 hours from the following: ART 470, ART 471, ART 472, ART 473, ART 474, ART 475, ART 477; and ART 476, for a total of 20 hours in art history.
3. Seminar in the History of Art History (offered under ART 499); PR: 16 hours in art history.
4. Minimum of 16 hours of ART 491 (2), and/or ART 498 (4).
5. ART 453 (3), ART Senior Seminar.
6. Additional art courses to total 63 credit hours.
7. Proficiency in at least one foreign language.

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.

M.F.A. Degree Requirements

The M.F.A. degree requires a minimum of 72 quarter hours. With the exception of ART 682 (which must be taken at least twice), ART 683, ART 684, and ART 699, which are required, the specific course structure of any student's graduate program will be determined by Faculty Graduate Committee appraisal of the student's interests, capacities and background during his first quarter of residency. It should be noted that under normal circumstances, students will be encouraged to take a broad range of courses rather than more toward a narrow specialization. (A graduate degree in Art History is not offered).

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 to be confused with "the thesis" as described (in Part II section of the University Bulletin "Division of Graduate Studies", under "Master's Degree" on page 62,) 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 35 mm. 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, Video, 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.

The student's entire graduate committee must give its preliminary approval of the written Documentation prior to the student's scheduled oral defense of that Documentation (at the time of and necessarily in connection with the Thesis Exhibition).

Each member of the student's graduate committee will sign final approval of the written Documentation only after the completion of the oral defense, and then only after any required corrections or changes are acceptably made. The signed original and four signed copies of the finally approved written Documentation 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).

DANCE (DAN)

Requirements for the B.A. Degree:

Modern majors are required to take, for a total of 63 hours:

DAN 201	(3)	DAN 313	(3)
DAN 202	(3)	DAN 401	(5)
DAN 203	(3)	(20 credits)	
DAN 301	(3)	DAN 403	(3)
(six credits)		DAN 413	(3)
DAN 302	(3)	DAN 453	(3)
DAN 303	(3)	DAN 463	(3)
DAN 311	(1)	DAN 464	(3)
(four credits)			

Ballet majors are required to take, for a total of 63 hours:

DAN 201	(3)	DAN 312	(1)
DAN 202	(3)	(six credits)	
DAN 203	(3)	DAN 313	(3)
DAN 301	(3)	DAN 402	(5)
DAN 302	(3)	(20 credits)	
(six credits)		DAN 413	(3)
DAN 303	(3)	DAN 453	(3)
DAN 311	(1)	DAN 464	(3)
(four credits)			

MUSIC (MUS)

Requirements for the B.A. Degree:

All students seeking a degree in music are required 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. 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 301	(3)
MUS 201	(3)	MUS 302	(3)
MUS 202	(3)	MUS 303	(3)
MUS 203	(3)	MUS 321	(2)
MUS 221	(2)	MUS 322	(2)
MUS 222	(2)	MUS 323	(2)
MUS 223	(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 304	(9)	MUS 454	(9)

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.

Requirements for the M.M. Degree:

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. The courses generally available to music graduate students are listed at the 500 and 600-level. A minimum of 54 quarter hours is required.

THEATRE ARTS (TAR)

Requirements for the B.A. degree . . Total 180 hours

TAR MAJOR REQUIREMENTS: (total of 64 hours)

All students must take:

TAR 201	(2)	TAR 403	(6)
TAR 211	(4)	TAR 453	(4)
TAR 212	(4)	Plus one from:	
TAR 213	(4)	TAR 430	(4)
TAR 311	(4)	TAR 431	(4)
TAR 321	(4)	TAR 434	(4)
TAR 339	(4)	TAR 437	(4)

Depending upon choice of concentration, additional requirements are:

PERFORMANCE:

TAR 410	(4)	TAR 415	(4)
TAR 411	(4)	Plus one from:	
TAR 412	(4)	TAR 438	(4)
TAR 414	(4)	TAR 439	(4)

TECHNOLOGY AND DESIGN:

TAR 421(2), 422(2), 423(2)

Plus any three from:

TAR 420	(2)	TAR 427	(2)
TAR 424	(2)	TAR 428	(2)
TAR 425	(2)	TAR 429	(2)

And a choice of either all of

TAR 461	(4)	TAR 476	(4)
TAR 462	(4)	or all of	
TAR 463	(4)	TAR 417	(2)
or all of		TAR 464	(2)
TAR 474	(4)	TAR 465	(2)
TAR 475	(4)	TAR 472	(4)
		TAR 473	(2)

Special Requirements:

- Courses inside or outside TAR department as suggested by TAR faculty or advisers as necessary for an individual student's progress; or additional Free Electives (see restrictions in catalog Part I) 12 hours
- When the student makes an initial declaration of major, a reading list will be presented. The list is comprised of plays, books and articles which the department considers essential to the general knowledge of majors. The student will be expected to read independently from this collection.

University and College of Fine Arts Requirements:

- General Distribution Requirements (details in catalog Part I) 60 hours
- Free Electives (up to 28 hours may be taken in TAR courses beyond major requirements) 35 hours
- Special Requirements—courses in other departments in College of Fine Arts 9 hours

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 community 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 Preclinical, Clinical and Volunteer 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 to 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 Assistant Dean for Admissions, Office for Admissions, College of Medicine, University of South Florida, Tampa, Florida 33620.

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 R.O.T.C.)

Regardless of the number of years involved in Pre-Medical training, the college credits submitted by the applicant must include the following:

- 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

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, College of Medicine, University of South Florida, Tampa, Florida 33620.



COLLEGE OF NATURAL SCIENCES

Programs in the College of Natural Sciences are designed to prepare students for their role in modern society. Through the disciplines of the scientific method and logical deduction, students enrolled in these programs are engaged in the search for an understanding of their world. Specific courses provide professional training for careers in science, research, industry, teaching, and preparation for advanced study in professional schools.

Further requirements in liberal arts training enlarges awareness of the past heritage, enhances appreciation of the arts, and increases effectiveness of inter-personal communication. For the student wishing to explore in depth areas in science and mathematics, the College of Natural Sciences offers graduate programs in every department.

BACCALAUREATE LEVEL DEGREE PROGRAMS

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.

Admission to the College

A student who has been accepted as a first-time student at this University may be admitted to the College of Natural Sciences by declaring any major or program offered by the College. A student who wishes to transfer from the Division of University Studies or from another college of this University must in addition have an overall grade point average of 2.0. At the time of admission to this College, 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 departments, majors, programs, counseling and other services of the College can 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 in Part I, 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. 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 require-

ments, 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 25 hours of courses from the Colleges 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 students' 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.

Credits transferred from other schools will not be included in the grade point average computed for graduation. However, graduation with honors requires a 3.5 average in USF work and also in any previous college work.

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 documentation 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.

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 62, and for the Ph.D. degree on page 62. 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.

■ ASTRONOMY (AST)

Requirements for the B.A. Degree:

- I. *Astronomy Courses (34 cr. hrs. of upper level courses minimum)*

AST 301 (4)	AST 312 (2)
AST 302 (4)	AST 413 (4)
AST 303 (4)	AST 443 (5)
AST 311 (1)	

A minimum of 8 cr. hrs. from:

AST 313 (3)	AST 522 (4)
AST 351 (5)	AST 533 (4)
AST 414 (4)	AST 536 (4)
AST 521 (5)	AST 583 (1-6)

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-	or
305 (17)	PHY 301-
MTH 401 (4)	306 (12)
PHY 201-206,	
315 (18)	

At least three of the following Physics courses:

PHY 307 (3)	PHY 405 (3)
PHY 309 (4)	PHY 407 (3)
PHY 323 (4)	PHY 437 (3)
PHY 331 (4)	PHY 541 (3)

At least one of the following Mathematics courses:

MTH 311 (4)	MTH 445 (3)
MTH 323 (4)	MTH 447 (4)
MTH 345 (5)	

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 40).

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 40).

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 include FRE 101, 102, GER 101-102, or RUS 101-102 in their course work or achieve an equivalent level of competence in at least one of these three languages.

Teacher Education Programs:

For information concerning the M.A. degree for junior college teachers, see page 30.

Requirements for the M.A. Degree:

General requirements for graduate work are given on page 61.

A minimum of 45 credits 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 chairman.

■ 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. 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 cr.)

BIO 201-	BIO 401-
203 (12)	402 (10)
BIO 331 (4)	BIO 445 (4)
Physiology (choice of course—for all programs as indicated: BOT 421, MIC 456, ZOO 423)	(5)

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) (29 cr. hrs.)

BOT 421	(0)	BOT 314	(3)
(part of core)		BOT 419	(5)
BOT 302	(5)	BOT 491	(1)
BOT 311	(5)		
or			

Biology Department Electives (15 or 13 credits)**Microbiology Major (MIC)** (25 or 26 cr. hrs.)

MIC 351	(5)	or	
MIC 453	(5)	Immunology	
MIC 456	(0)	Course	(4)
(part of core)		BOT 417 or	
MIC 457	(5)	MIC 518 or	
MIC 491	(1)	BOT 543 or	
MIC 451	(5)	ZOO 513	(5)

Zoology Major (ZOO) (15 cr. hrs.)

ZOO 422	(5)		
ZOO 313	(5)		
ZOO 423	(0)		
(part of core)			
Any one lab course in vertebrate biology			(5)

II. Supporting Courses in the Natural Sciences (Required for all B.A. Degrees, 44 cr.)

CHM 211-
213; CHM 217-
219 (12)

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 40). The selection of courses within the requirement is to be done in conference with Biology Department advisers. Note: Based on allowable waivers, a maximum of 24 credit hours will be required for completion of General Distribution Requirements.

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 40).

V. Free Electives (including General Distribution waivers) can be taken over and above major requirements and major electives.

Biology Major (BIO): 28 cr. hrs.

Microbiology Major (MIC) 27-28 cr. hrs.

Botany Major (BOT) 24 cr. hrs.

Zoology Major (ZOO) 38 cr. hrs.

Teacher Education Programs:

For information concerning the degree programs for secondary school teachers and junior colleges, see pages 23, 27, and 30 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 allows specialization in marine biology.

Requirements for the M.A. Degree:

General requirements for graduate work are given on pages 61-62.

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 major professor 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) and may obtain up to 9 hours for thesis credit.

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 62.

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. Upon acceptance of the student by the faculty member and before the lapse of three quarters, 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 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. An equivalent number of similar credit hours from a master's degree program at USF may be applied toward meeting the above requirements.

Some time before the end of the sixth quarter, a student must have demonstrated a reading proficiency in two foreign languages. 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, a departmental preliminary examination, consisting of

both written and oral parts, must be satisfactorily completed.

After completion of the above requirements, the student may be admitted to candidacy upon approval of the Dean and the Director of Graduate Studies of the College. Admission to candidacy must be granted at least one academic quarter before the degree is granted. 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 *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 (marine science, biochemistry, psychology, business administration, etc.). In accord with this goal the curriculum for the B.S. degree has been certified 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.

A program leading to a B.S. degree in Clinical Chemistry (CHC) is offered by the Department of Chemistry. This program, one of only a few available in the country, will train chemists for a new and growing field serving the medical profession. This program is built upon a strong background of chemistry, biology, and related sciences. Graduates of this program could go on to graduate school in clinical chemistry, biochemistry, or even medical school. Interested students should see the Coordinator of the Clinical Chemistry Program in the Department of Chemistry for further information.

Requirements for the Baccalaureate Degree:

I. Chemistry Courses*

B.A. Chemistry (CHM) (54 cr. hrs.)

CHM 211-		CHM 341-	
213 and 217-		343	(8)
219		CHM electives	
CHM 311	(5)		(9)
CHM 321	(5)		(300 level or above)
CHM 331-			
336	(15)		

B.S. Chemistry (CHS) (65 cr. hrs.)

CHM 211-		CHM 351	(4)
213 and 217-		CHM 441-	
219		443	(12)
CHM 291	(1)	CHM 445-	
CHM 321	(5)	447	(11)
CHM 331-		CHM 491	(1)
336	(15)	CHM 411	(4)

B.S. Clinical Chemistry (CHC) (66 cr. hrs.)

✓ CHM 211-213 and 217-219		✓ CHM 441, 443	(8)
✓ CHM 321	(5)	✓ CHM 485	(5)
✓ CHM 331-336	(15)	✓ CHM 421	(4)
✓ CHM 351, 354	(7)	✓ CHM 423	(4)
		✓ CHM 425	(4)
		✓ CHM 426	(2)

*CHM 215-216 (10) can be substituted for CHM 211-213 and 217-219 (12). This reduces by 2 the cr. hrs. 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)	Electives (except 370-470 series)	(12)
PHY 201-206	(15)		

B.S. Clinical Chemistry (CHC) (54-61 cr./hrs.)

✓ MTH 302-304	(13)	✓ ZOO 321	(5)
✓ PHY 301-306 or 201-206	(12-15)	✓ EGB 231-232 or ESC 301-302	(3-6)
✓ BIO 201-203	(12)	✓ PHY 422 or ETK 522	(4-5)
✓ MIC 351	(5)		

B.S. Chemistry (CHS) (32 cr. hrs.)

MTH 302-305	(17)	PHY elective (300-400 level except 371)	(3)
PHY 301-306	(12)		

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 40).

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 40).

V. Free Electives* (Including General Distribution waivers)

B.A. Chemistry (CHM): 31 cr. hrs.

B.S. Chemistry (CHS): 23 cr. 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 concerning the degree programs for secondary school teachers and junior college teachers, see pages 27 and 30 of this bulletin.

Requirements for the M.S. Degree:

General requirements for graduate work are given on pages 61-63.

All entering graduate students who have no advanced work beyond a B.A. or B.S. will be required to take the core course 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 his thesis. The specific

course requirements will be determined by his supervisory committee and his proposed research, in consonance with the regulations given on page 62.

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 examination 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 he has passed three by the time five quarters have elapsed from his admission as either a degree-seeking or a non-degree seeking full-time graduate student. Normally, the examinations will be given during the period preceding Quarters I, II, III, and IV after the preceding quarters have ended.

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 his 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 62.

The Ph.D. in Chemistry does not require a specific number or distribution of course credits. The candidate, with the help of his adviser and the approval of his 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 his 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 before attempting the Qualifying Examinations.

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 he must also pass two of these examinations (one of which is in his major area) "with distinction". In other words, the Ph.D. candidate must demonstrate a very real grasp of the principles in his major area and one other area (probably related to his 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 he has passed four, two with high pass, by the time five quarters have elapsed from his admission as either a degree-seeking or non-degree seeking full-time graduate student. 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.

Language Examinations. Before a student is eligible to qualify for candidacy for the Ph.D. degree, he must demonstrate 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); or he must demonstrate reading knowledge in one of these languages and demonstrate proficiency in a skill or specialization outside the discipline of chemistry. 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 of proficiency deemed appropriate by the supervisory committee.

The language requirement must be met by one of the following: (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 to Candidacy. Completion of all the foregoing requirements admits the student to candidacy for the Ph.D.

Final Thesis Defense. Upon completion of the dissertation research and approval of the dissertation by the supervisory committee, the Ph.D. candidate will give a public oral presentation of his research. This presentation can be scheduled only after all members of the supervisory committee have approved and signed the final form of the dissertation. The oral presentation will be chaired by a member of the faculty outside of the Department of Chemistry appointed by the Dean of the College. The candidate may expect questions concerning the details and significance of his research after the oral presentation. Final approval of the candidate's degree will require approval by a majority of the supervisory committee, which shall include the chairman of the oral presentation.

■ 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 (49 cr. hrs.)

GLY 210	(4)	GLY 410	(4)
GLY 211	(4)	GLY 411	(4)
GLY 212	(4)	GLY 412	(4)
GLY 302	(5)	GLY electives	(12)
GLY 361	(4)		
GLY 405	(4)		

II. Supporting Courses (35-41 cr. hrs.)

CHM 211-		PHY 201-	
213	(12)	206	(15)
MTH 211 and		or	
212	(8)	PHY 301-	
or		306	(12)
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 40.

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 40.)

V. Free Electives (Including Distribution waivers) (41-47 cr. hrs.)

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 30.

Requirements for the M.S. Degree:

Requirements for admission to the Division of Graduate Studies and general graduate curriculum guidelines are given on pages 61-63.

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 interest and thesis topic of the individual. A minimum of 45 credit hours 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 twice. 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. Satisfactory performance on a comprehensive examination covering the student's course work and thesis 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 23, 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 40 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 advisor. At least three of the supporting courses must be at the 300 level or above. Except for courses that are graded S/U only, all courses in the major program must be taken by letter grade. The student must earn 2.0 grade point averages 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)

The Department of Marine Science has its headquarters at the St. Petersburg campus, at Bayboro Harbor, Tampa Bay. There are excellent dockside, classroom, laboratory and research facilities in proximity to the Marine Laboratory of the Florida Department of Natural Resources, as well as the State University System Institute of Oceanography (SUSIO). Field stations are located at the Anclote River and Crystal River areas, and a new aquaculture laboratory is being established at St. Petersburg Beach in cooperation with the Pinellas Marine Institute. The Department operates a fleet of small vessels from 14' to 36' in length, utilizes the SUSIO-chartered vessel, *Bellows* (67') as well as ships of opportunity from major Atlantic coast oceanographic institutions and agencies.

The majority of graduate students in marine science are supported through research assistantships based on grants and contracts for activities in basic and applied areas. These include: environmental baseline studies on the continental shelves of the eastern Gulf of Mexico, including sediment properties, pollutants, histology and community structure of organisms; estuarine environmental studies near southwest Florida power plants, including ecology of benthos, plankton and fishes, and hydrodynamic modeling; deep sea food chain studies; aquaculture of algae, invertebrates and fishes; nutrient cycles in sea water and sediment-water interfaces; optical and chemical studies of deep ocean particulate matter; sedimentology of Tampa Bay, and geo-physical, geological and geochemical studies in the western Caribbean and Gulf of Mexico.

Cooperation with departments on the Tampa campus is extensive and strongly encouraged.

Requirements for the M.S. Degree:

General requirements are given on pages 61-62. A minimum of 45 credits must include MSC 521, 531, 541, and 551 unless the student, as determined by this graduate committee, has had the equivalent of one or more of these courses.

The student may emphasize biological, geological, chemical, or physical oceanography 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.

■ MATHEMATICS (MTH)

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 520	(4)
MTH 445	(3)	MTH 523	(4)
MTH 447	(4)	MTH 531	(4)
MTH 511	(4)	MTH 547	(3)

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 PHY 301-302, 303-304, and 305-306 and one of the following sequences:

1. AST 301, 302 and one of AST 413, 443, 521, 522, 533, or 536.
2. BIO 201, 202, 203.
3. CHM 211, 212, 213, 217, 218, 219.
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.
9. PSY 201, 311, 312, and one of PSY 402, 403, 404, 405.

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
GER 101, 102
RUS 101, 102

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 40).

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 23, 27, and 30 of this Bulletin.

Requirements for the M.A. Degree:

General requirements for graduate work are given on pages 61-62.

A thesis is optional. The thesis program requires a minimum of 45 credits of course work, 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.

For each of the above programs, one of the following three 8-hour courses is required: MTH 614-615, 624-625, 632-633, and eight hours in each of disciplines—analysis, algebra, and topology. MTH 691 or MTH 681 is required each quarter, and may be omitted or taken more than six times only with the permission of the chairman.

A reading knowledge of either French, German, or Russian is required.

A comprehensive examination will be given to candidates before recommending that the degree be granted.

Requirements for the Ph.D. Degree:

In addition to the general University requirements for the Ph.D. degree, on page 62, the Mathematics department requires the following:

1. The two languages required must be chosen from French, German, and Russian.
2. Written preliminary examinations, usually taken during the second year, must be passed in four of the five following subjects: Algebra, Complex Analysis, Differential Equations, Real Analysis, and Topology.
3. Specific numbers or distributions of course credits are not required. It is assumed that at this level the candidate, with the help of his adviser, and the approval of his advisory committee, will design a program of study and research that will result in a mature and creative grasp of mathematics. Approval of the student's program will rest with his advisory committee.

■ PRE-MEDICAL SCIENCES AND PROFESSIONAL

Medical Technology (MET)

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.

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 Sciences

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 321) 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 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 credits 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.

Pre-Medical Sciences Program

The pre-medical sciences program provides a complete array of courses and educational experiences necessary for preparing oneself for admission to a professional school. Pre-medical science students should major in a discipline which is of the greatest appeal to them, whether it be in the sciences or non-sciences, and fulfill all requirements in that major for graduation. The following science courses are the minimum requirements for admission to virtually every accredited professional school:

One year of Biology: BIO 201, 202, 203.

Two years of Chemistry: CHM 211, 212, 213, 217, 218, 219, 331-332, 333-334, 335-336.

One year of Physics: PHY 201-202, 203-204, 205-206.

Additional science requirements vary according to the professional school to which the student will be applying. Part of these additional requirements may be fulfilled by the following courses:

Chemistry: CHM 321, 341, 351

Mathematics: MTH 211, 212, 213, (or MTH 122, 123, 302, 303, 304)

Biology: BIO 331, 401, 402, ZOO 311

Beyond the science course requirements, it is essential that students acquire an inventory of courses developing a sense of understanding of cultural and moral values, and basic social problems. It is understood that the quality of academic performance should be of the highest level.

It may be noted that 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 USF 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 from the Interdisciplinary Natural Sciences major must be fulfilled as follows:
 - A. 135 credit hours with at least a "C" average (2.0) 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 concentration must be in courses applicable to a major in that department (and the student must earn a 2.0 grade point average in these courses). The 24 credit hours in supporting courses must 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 2.0 grade point averages in all attempted course work of both major concentration and supporting courses, except for any courses graded S/U only, all courses must be taken by letter grade.
3. Credit in the following courses:
 BIO 201, 202, 203
 CHM 211, 212, 213, 217, 218, 219, 331, 332, 333, 334, 335, 336
 PHY 201, 202, 203, 204, 205, 206
4. A minimum of 30 credits from the following courses:
 BIO 331, 401, 402
 CHM 321, 341, 351
 MTH 211, 212, 213
 ZOO 311
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 must be earned in the College of Natural Sciences.
7. The last 45 credit hours prior to transfer to a medical or dental school must be 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.

■ PHYSICS (PHY/PHS)

Requirements for the Baccalaureate Degree:

I. Physics Courses

B.A. Physics (PHY) 45-51 cr. hrs.

PHY 201-		PHY 417**	(3)
206	(15)	PHY 309	(4)
PHY 315		PHY 409	(3)
or*	(3)	PHY 419**	(3)
PHY 301-		PHY 341	(2)
306	(12)	PHY 441	(2)
PHY 307	(3)	PHY Electives	(10)
PHY 407	(3)		

B.S. Physics (PHS) 56-63 cr. hrs.

PHY 201-		PHY 441	(2)
206	(15)	PHY 323	(4)
PHY 315		PHY 331	(4)
or*	(3)	PHY 405	(3)

PHY 301-		PHY 437	(3)
306	(12)	PHY 421 or	
PHY 307	(3)	PHY 517 or	
PHY 407	(3)	PHY 523	(4)
PHY 417	(3)	PHY 415	(4)
PHY 309	(4)	or PHY 501	(4)
PHY 409	(3)	or PHY 541	(3)
PHY 419	(3)		
PHY 341	(2)		

*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.

II. Supporting Courses in the Natural Sciences

B.A. and B.S. Physics—(28-33 cr. hrs.)

CHM 211-		MTH 302-	
213 and 217-		305 or	(17)
219 or	(12)	MTH 351-	
CHM 215-		354	(14)
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 40). 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 40).

V. Free Electives (Including General Distribution waivers)

B.A. Physics (PHY): 47-58 cr. hrs.

B.S. Physics (PHS): 35-47 cr. hrs.

Teacher Education Programs:

For information concerning the degree programs for secondary school teachers and junior college teachers, see pages 23 and 30 of this Bulletin.

Requirements for the M.A. Degree:

General requirements are given on page 61. 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 an Advisory Committee appointed by the department chairman. The Advisory 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 537, 541, 607, 631, and 641. The Advisory 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, 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, 633, 637, and 641. The Advisory Committee will administer a written and an oral comprehensive examination before recommending that a degree be granted.

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 for 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 98. 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 61. 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. Students seeking certification to teach in the state of Florida may select either of the following options:

1. The student may complete the Master of Arts degree program in any department of the College of Natural Sciences and in addition enroll in at least 9 hours of Directed Teaching which is numbered 689 in the appropriate departmental course listing. The master's degree program is normally 45 credit hours. University requirements for an M.A. degree are found on page 61. The specific departmental requirements are found under the appropriate departmental description of this portion of the bulletin.
2. 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."



COLLEGE OF NURSING

The College of Nursing is committed to the improvement of nursing and health care services through its educational 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 is designed so that students with appropriate preparation equivalent to two years of college level study can enroll in the nursing major and complete requirements for the degree in the equivalent of two additional years of full-time study.

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.

Student 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 professionals in the health care system and as citizens. 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.

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. One class is admitted 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.

The academic requirements used as a basis for evaluating eligibility of applicants for admission to the upper division major are outlined below. These are minimum requirements and the selection process also includes consideration of overall academic performance, academic performance in sciences basic to nursing, nature of courses taken and degree of difficulty, individual goals and interests and other factors pertinent to the purposes of this program and professional nursing practice. All applicants are interviewed as part of the admissions process. Qualified applicants who are Florida residents are given priority for admission.

Minimum Requirements

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 hours (40 semester hours) in the following areas with *not less than 8 quarter hours (6 semester hours)* in each area: English composition; humanities; mathematics/quantitative methods; natural sciences; social sciences.
Courses in chemistry and biology may be used to meet general distribution requirement in natural science. Additional credits derived from these courses contribute toward meeting the overall general education distribution requirements. Credits from psychology and sociology also contribute toward meeting general education requirements. Students with an A.A. degree will be considered to have met the above requirements.
3. Completion with a "C" average or better:
 - a) One year of chemistry with laboratory. (Courses that include general, biochemistry and organic chemistry are recommended).
 - b) One year of biology (courses which includes cell structure, ecology, and genetics). Human anatomy, physiology or microbiology cannot be used to meet requirements in this area.
 - c) Psychology or behavioral science—at least two courses, one of which is beyond the introductory level (e.g., human growth and development, group dynamics, child psychology, aging, adolescent psychology, developmental psychology, abnormal psychology).
 - d) Sociology—at least two courses, one of which is beyond the introductory level (e.g., cultural anthropology, family relationships, social and cultural issues, gerontology, etc.).
 - e) At least one of the following: microbiology, human anatomy, nutrition, or growth and development.

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 admis-

sion 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, 4202 Fowler Avenue, 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, transcripts, etc. 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.

Curriculum for Nursing Majors

Following are curriculum requirements for the upper division major in nursing.

Supporting Sciences

Those required of all nursing majors include the following:

- *NUR 301 Human Anatomy (4)
- *NUR 302 Nutrition (3)
- *MIC 351 Introduction to Microbiology (5)
- *SSI 427 Life Cycle (5)
- NUR 304 Human Physiology (5)

**At least one of these courses (or its equivalent) is required for admission to the nursing major. The others must be completed during the first quarter of the junior year. Human physiology is offered during the second quarter of the junior year. Transfer credit in lieu of this course will be granted only for comparable physiology courses taken elsewhere.*

Nursing Courses

Junior Year

- *NUR 300 Community Health Resources (3)
- NUR 303 Nursing Process I (4)
- NUR 305 Nursing Process II (3)
- NUR 310 Nursing Process Laboratory (3)
- NUR 306 Seminar in Nursing I (2)
- NUR 307 Nursing Core I (5)
- NUR 308 Nursing Intervention I (5)
- NUR 309 Seminar in Nursing II (2)

Senior Year

- NUR 400 Nursing Core II (5)
- NUR 401 Nursing Intervention II (5)
- NUR 402 Seminar in Nursing III (2)

- NUR 403 Nursing Inquiry I (3)
- NUR 404 Nursing Core III (5)
- NUR 405 Nursing Intervention III (5)
- NUR 406 Seminar in Nursing IV (2)
- NUR 407 Nursing Core IV (3)
- NUR 408 Nursing Intervention IV (7)
- NUR 409 Seminar in Nursing V (2)
- NUR 412 Independent Study (2-5)
- *NUR 483 Selected Topics in Nursing (2-4)

**These courses are available on an elective basis.*

Nursing courses 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.

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, stethoscope, 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.

Requirements for Graduation

Students will be certified for graduation with a Bachelor of Science degree, major in nursing, upon completion of a minimum of 180 quarter hours (with a cumulative grade point average of 2.0 or better) distributed among courses in general education, supporting sciences, nursing, and electives.



COLLEGE OF SOCIAL AND BEHAVIORAL SCIENCES

The social and behavioral sciences are concerned with man, his development, problems, and institutions. They help the student to understand the world around him and to become an informed citizen. Social and behavioral sciences provide the student with an adequate background and knowledge for later application in business, government, and social service professions, either upon graduation or upon completion of additional graduate study.

The College is concerned with the broad development of students' knowledge. Thus it offers interdisciplinary programs and limits work in any one field. The college emphasizes individual projects in many courses, laboratories, field studies, and the opportunity to earn credit through independent study and examination.

Two programs in the College, Urban Community Psychology and Gerontology, have been approved by the Board of Regents as Programs of Distinction. Although the programs are housed

in the Department of Psychology and the Aging Studies Program, they utilize faculty expertise from many disciplines. Approval is being requested to formally extend the Program of Distinction to include Applied Anthropology, Communicology, Criminal Justice, Geography, Political Science, Rehabilitation Counseling, and Sociology to further emphasize the human sciences and services. Students majoring in these areas will receive high quality educational experiences in both university and community settings.

It is important that the student develop basic skills for research and creative scholarship; hence the provision of senior seminars and special courses on research methodology. These skills are important for the critical appraisal of scholarly work even though the student might not go on to graduate study. There is opportunity for students to collaborate with their professors on research projects and to render services to the community.

BACCALAUREATE LEVEL DEGREE PROGRAMS

Admission to the College

Students may be admitted by application to the college and are encouraged to apply early in their freshmen year.

Application for admission to the college is made in the Office of the Coordinator of Advising. Upon admission the student will be counseled in his selection of courses by an adviser from the major field. He will then plan the remainder of his college program to fulfill his educational needs and satisfy requirements for the Bachelor of Arts degree. The academic adviser for the student will generally supervise his progress; however, the student assumes the responsibility for meeting all University, college, and departmental requirements.

Any student of the University may take courses in the College of Social and Behavioral Sciences. Students in other colleges or adults in the community may elect social and behavioral science courses of particular interest.

General Requirements for Degrees

The College of Social and Behavioral Sciences currently offers one undergraduate degree: Bachelor of Arts. The requirements (referred to in Part I of this catalog) are summarized as follows:

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. (A maximum of 4 quarter hours physical education course credit may be counted toward graduation.)
2. 60 hours of general distribution courses as required by the University in the areas of English Composition, Humanities/Fine Arts, Mathematics/Quantitative Methods, Natural Sciences, and Social and Behavioral Sciences. (See Distribution Requirements in Part I). It should be noted that a student is allowed to apply a maximum of 12 hours in a single department toward distribution requirements.
 - a. Area I—English Composition: ENG 101, 102, 103.
 - b. Area II—Humanities/Fine Arts: AMS, ART, CLS,

DAN, ENG (excluding 100, 101-103), HUM, any Modern Language, LIN 301 and 321, MUS, PHI (excluding 303), REL, SPE, TAR.

c. Area III—Mathematics/Quantitative Methods: ECN 231, 331, ESC, MTH, PHI 303, SSI 301.

d. Area IV—Natural Sciences: AST, BIO, BOT, CHM, GLY, NAS, MSC, PHY, PHS, ZOO.

e. Area V—Social and Behavioral Sciences: AFA, AGE, ANT, CJP, ECN 100, EDF 377, GPY, HTY, POL, PSY, SOC, SSI (excluding 301), WSP.

Advisers may suggest up to a maximum of 20 additional hours to count toward the general distribution requirements. Each student should check with his departmental adviser regarding these requirements.

3. Completion of a major in a subject or an integrated major involving several subjects. There must be at least a 2.0 average in this major for all USF work. To insure breadth experience and to preclude undue specialization, a student must earn a minimum of 120 academic credits outside his discipline of concentration, including at least 90 credits outside the college of the major.
4. Work transferred from other schools will not be included in grade point average computed for graduation. (However, graduation with honors requires at least a 3.5 average in USF work and any previous college work.)
5. A student must complete at least 45 of the last 90 hours of his undergraduate credit in on-campus courses. 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.

Most of the social and behavioral science majors require statistics, therefore, the student should take courses as appropriate to properly prepare himself. All social and behavioral science majors require clarity and accuracy of English expression.

The student must fulfill all the requirements for his major as indicated on the following pages, or receive written permission from the department chairman for any substitution or exemption.

Programs Leading the Baccalaureate Degree

The College of Social and Behavioral Sciences offers a major in 13 fields as described in the following pages. In addition to the departmental majors, interdisciplinary majors are offered. (See Interdisciplinary Social Science, International Studies, and Social Science Education listed below.) Economics offers two majors 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)**

* Offered jointly with the College of Arts and Letters

** Offered jointly with the College of Education

GRADUATE LEVEL DEGREE PROGRAMS

Graduate level courses are now offered in most social and behavioral science areas and 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) also offers a *Master of Science Degree* in:

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

A *Doctor of Philosophy Degree* is offered in:
Psychology (PSY)

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 **LEISURE STUDIES PROGRAM** is concerned with leisure in its broadest sense and provides a core of courses for interested students. This program is presently housed in the Department of Interdisciplinary Social Sciences and the courses are listed under Social Sciences (Interdisciplinary) (SSI) as SSI 413, 421, 522, 523, 525.

The **OFF-CAMPUS TERM PROGRAM** offers a wide variety of opportunities for self-designed, supervised experiences for credit. This program is presently housed in the Department of Interdisciplinary Social Sciences and the courses are listed under Off-Campus Term (OCT).

The **WOMEN'S STUDIES PROGRAM** consists of courses designed to deal with historical, anthropological, sociological, and psychological aspects of 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** 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 offered through the Interdisciplinary Social Sciences Department (SSI). 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.

PROGRAMS AND CURRICULA

AFRO-AMERICAN STUDIES (AFA)

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 (32 cr. hrs.)

AFA 230	(4)	AFA 335	(4)
AFA 333	(4)	AFA 336	(4)
AFA 334	(4)		

Plus three of the following:

AFA 343	(4)	AFA 484	(4)
AFA 432	(4)	AFA 440	(4)
AFA 481	(1-4)	AFA 491	(4)

Elective Courses (24 cr. hr.)

AFA 337	(4)	AFA 443	(4)
AFA 341	(4)	AFA 444	(4)
AFA 428	(4)	AFA 483	(1-4)
AFA 431	(4)	AFA 485	(2-4)
AFA 438	(4)	AFA 499	(4)
AFA 442	(4)		

■ AGING STUDIES (AGE)

Requirements for the M.A. Degree in Gerontology:

The M.A. degree requires five university quarters of full-time study including one quarter of supervised field experience. Most of the courses required 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 courses including 12 hours of field placement. Of the 54 hours, 47 hours must be in courses labeled "AGE". Required courses for the M.A. degree include:

AGE 501	(3)	AGE 610	(3)
AGE 502	(3)	AGE 691	(2)
AGE 503	(3)	AGE 692	(2)
AGE 507	(3)	AGE 693	(2)
AGE 603	(3)	AGE 694	(2)
AGE 606	(3)	AGE 695	(12)

Majors are also required to take a minimum of 6 hours from the following:

AGE 504	(2)	AGE 585	(1-3)
AGE 509	(2)	AGE 611	(1-6)
AGE 605	(4)	AGE 612	(1-6)

Electives from other departments must be approved by the student's adviser. There are no language or thesis requirements.

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 or 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 800 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 programs for older persons. In addition to the University graduate studies application, a program application is required and should be obtained from the Aging Studies Program.

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 and runs for five academic quarters.

■ ANTHROPOLOGY (ANT/ANL)

Anthropology aims at comprehending man as a biological and social being. It is concerned with all forms of man 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. 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.

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 331	(4)
LIN 301*	(4)	ANT 461	(4)
ANT 311	(4)	ANT 491	(4)
ANT 321	(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 491	(4)
ANT 311	(4)	ANT 431	(3-6)
ANT 321	(4)	or	
ANT 331	(4)	ANT 411	(3-6)
ANT 401	(3-6)	LIN 301*	(4)
ANT 461	(4)	LIN 401	(4)

Required Supporting Courses (12 cr. hrs. minimum from the following group)

LIN 321	(4)	HII 402	(4)
ANC 373	(2)	PSY 441	(4)
HII 401	(4)		

*A 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 61-62 and should be studied carefully.

The student must complete 45 credit 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 statistics course and two courses outside the department chosen in mutual agreement by the student and his committee; successfully pass the comprehensive examinations; undertake graduate 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 all four core seminars before the student can proceed to take the comprehensive examinations.

I. COURSES REQUIRED OF ALL STUDENTS

A. Core Courses

ANT 601	(3)	ANT 621	(3)
ANT 611	(3)	ANT 631	(3)

B. Additional Requirements

Two elective courses outside the department; one statistics course;

ANT 681 (1-15)	ANT 699	(1-6)
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II. COURSES IN ONE OF THREE TRACKS

A. Medical Anthropology Track

ANT 641	(4)	ANT 661	(4)
ANT 651	(4)		

B. Urban Anthropology Track

ANT 644	(4)	ANT 664	(4)
ANT 654	(4)		

C. Public Archaeology Track

ANT 647	(4)	ANT 667	(4)
ANT 657	(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, and submitting cumulative Graduate Record Examination scores of 850 or above. Student 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 will be eligible for admission to the fifth year of the M.S. program if the following minimal requirements are met:

1. Submission of a cumulative score of 1000 for the Graduate Record Examination Aptitude Tests plus a grade point average of 3.0 (A = 4.0) for the last half of their undergraduate course work; *or*
2. Submission of a cumulative score of 850 for the Graduate Record Examination Tests plus a grade point average of 3.0 (A = 4.0) for the last half of their undergraduate course work.

Requirements for the M.S. Degree in Speech Pathology—Post-Baccalaureate (SPP):

General requirements for graduate work are to be found in the section of this bulletin titled "Division of Graduate Studies." A minimum of 45 credits is required as well as completion of sufficient course work and practicum to meet the American Speech and Hearing Association's requirement for clinical certification in speech. The student with an existing bachelor's degree and appropriate prerequisites may plan his degree program from among the following courses:

CLY 511	(6)	CLY 620	(4)
CLY 513	(6)	CLY 621	(4)
CLY 571	(6)	CLY 622	(4)
CLY 572	(6)	CLY 623	(4)
CLY 574	(6)	CLY 675	(4)
CLY 575	(4)	CLY 680	(4)
CLY 576	(4)	CLY 683	(4)
CLY 577	(4)	CLY 684	(6)
CLY 578	(4)	CLY 685	(6)
CLY 579	(4)	CLY 698	(1-12)
CLY 580	(4)	CLY 699	(1-9)
CLY 583	(4)	or	
CLY 598	(1-12)	CLY 681	(1-12)

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 513	(6)
CLY 302	(6)	CLY 571	(6)
CLY 311	(6)	CLY 572	(6)
CLY 312	(6)	CLY 574	(6)
CLY 313	(6)	CLY 575	(4)
CLY 482	(6)	CLY 576	(4)
CLY 498	(1-12)	CLY 577	(4)
CLY 511	(6)	CLY 578	(4)

CLY 580	(4)	CLY 680	(4)
CLY 583	(4)	CLY 684	(6)
CLY 598	(1-12)	CLY 698	(1-12)
CLY 620	(4)	CLY 699	(1-9)
CLY 621	(4)	or	
CLY 622	(4)	CLY 681	(1-12)

Plus one of the following:

CLY 579	(4)
CLY 675	(4)

In addition, sufficient and appropriate course work (approved by a speech pathology adviser) will be included to meet the preparation requirements of the American Speech and Hearing Association for the Certificate of Clinical Competence.

Requirements for the M.S. Degree in Audiology—Post Baccalaureate (AUD):

General requirements for graduate work are to be found in this bulletin under the section titled "Division of Graduate Studies." A minimum of 45 credits is required as well as sufficient course work and practicum to meet the American Speech and Hearing Association's requirement for clinical certification in audiology. The student with an existing bachelor's degree and appropriate prerequisites may plan a program from among the following courses:

CLY 512	(6)	CLY 674	(4)
CLY 513	(6)	CLY 675	(4)
CLY 571	(6)	CLY 676	(4)
CLY 572	(6)	CLY 677	(4)
CLY 573	(6)	CLY 680	(4)
CLY 574	(6)	CLY 684	(6)
CLY 575	(4)	CLY 685	(6)
CLY 579	(4)	CLY 698	(1-12)
CLY 580	(4)	CLY 699	(1-9)
CLY 583	(4)	or	
CLY 598	(1-12)	CLY 681	(1-12)
CLY 673	(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 580	(4)
CLY 302	(6)	CLY 583	(4)
CLY 311	(6)	CLY 673	(4)
CLY 312	(6)	CLY 674	(4)
CLY 313	(6)	CLY 675	(4)
CLY 482	(6)	CLY 676	(4)
CLY 498	(1-12)	CLY 677	(4)
CLY 512	(6)	CLY 680	(4)
CLY 513	(6)	CLY 684	(6)
CLY 571	(6)	CLY 698	(1-12)
CLY 572	(6)	CLY 699	(1-9)
CLY 573	(6)	or	
CLY 575	(4)	CLY 681	(1-12)
CLY 579	(4)		

Plus one of the following:

CLY 574	(6)
CLY 685	(6)

In addition sufficient and appropriate course work (approved by an audiology adviser) must be included to meet the preparation requirements of the American Speech and Hearing Association for the Certificate of Clinical Competence in Audiology.

Requirements for the M.S. Degree in Aural (Re)Habilitation—Baccalaureate (ARH):

General requirements for graduate work are to be found in this bulletin under the section titled "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. Students may plan programs with emphasis in the areas of preschool, school age, multiple 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 676	(4)
CLY 513	(6)	CLY 680	(4)
CLY 572	(6)	CLY 684	(6)
CLY 577	(4)	CLY 685	(6)
CLY 580	(4)	CLY 698	(1-12)
CLY 583	(4)	CLY 699	(1-9)
CLY 598	(1-12)	or	
CLY 673	(4)	CLY 681	(1-12)
CLY 675	(4)		

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. Students may plan programs with emphasis in the areas of preschool, school age, multiple 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 the following:

CLY 301	(6)	CLY 583	(4)
CLY 302	(6)	CLY 673	(4)
CLY 311	(6)	CLY 675	(4)
CLY 312	(6)	CLY 676	(4)
CLY 313	(6)	CLY 680	(6)
CLY 482	(6)	CLY 684	(6)
CLY 513	(6)	CLY 685	(4)
CLY 598	(1-12)	CLY 698	(1-12)
CLY 572	(6)	CLY 699	(1-9)
CLY 577	(4)	or	
CLY 579	(4)	CLY 681	(1-12)
CLY 580	(4)		

■ CRIMINAL JUSTICE (CJP)

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 315	(8)
CJP 301	(4)	CJP 491	(3)
CJP 302	(4)	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.

Effective 9/75, any student who receives a grade of "D" or lower in more than one USF CJP course will be automatically barred from graduating as a Criminal Justice major. This applies only to students whose first CJP course is taken after Fall Quarter (I) 1975.

Requirements for the M.A. Degree:

Requirements for graduation for all M.A. candidates will consist of:

- 45 credits of CJP course work (or approved equivalent) which include:

CJP 601	(4)	CJP 693	(1)
CJP 602	(4)	CJP 699	(1)
CJP 603	(4)		

2. Completion of a thesis.

All course work counted toward the degree *must* have the *prior* approval of the student's major professor and the Director of Graduate Studies.

■ ECONOMICS

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. Normally, these 48 credits include:

ECN 201	(4)	ECN 231	(3)
ECN 202	(4)	ECN 331	(5)
ECN 301	(5)	ECN 405	(4)
ECN 323	(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.

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 student 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 students 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:

A major in geography consists of 50 credit hours as follows: Required core courses (40 cr. hrs.)

GPY 301	(5)	
GPY 302	(5)	
GPY 303	(5)	
GPY 371	(5)	World Geography
GPY 403	(5)	Meteorology
GPY 405	(5)	Economic
GPY 407	(5)	Any region
GPY 409	(5)	Cartography

Electives in geography (10 cr. hrs.)

Any 10 hours in GPY 400-or-500-level courses.

Requirements for the M.A. Degree:

General requirements for graduate work are given on pages 61-62.

All students must complete 45 credit hours in graduate geography courses, following one of the two plans outlined below. A written and oral comprehensive examination covering the general field of geography is required before graduation, and the student must demonstrate his ability to translate into English the pertinent scientific literature from one modern foreign language. Foreign students, whose mother tongue is not English, may use English as their foreign language. A computer language (such as Fortran) may be used to meet the language requirement.

Thesis Program: The 45 credit hours in geography must include: GPY 501, 503, 507, 603, 605, 607, and 699. Up to eight credits outside the department may be elected with the approval of the student's committee and major professor. An oral defense of the thesis is required.

Non-Thesis Program: The 45 credit hours in geography must include: GPY 501, 503, 507, 601, 603, 605, 607, and 689. Up to four credits outside the department may be elected with the approval of the student's committee and major professor.

HISTORY

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 Science, 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 is responsible for offering two types of courses: (1) a series of courses which provide the social science facet of that part of a formal university education which should be common to all graduates of the University of South Florida; and (2) courses designed to deal with cross-disciplinary problems in the social sciences by using the "convergence" concept of interdisciplinary treatment. Its courses are provided as a service to all interested departments of the University. Certain of the courses offered by the department are either required or recommended by a number of departments in other colleges within the University and by several interdisciplinary degree programs.

The Department of Interdisciplinary Social Sciences includes several related programs and course sequences. It coordinates the college major (SSI) and offers a B.A. degree in International Studies. In addition, the department provides several courses which were formerly part of the Basic Studies College program as a service to all students. These courses include SSI 201, 202, 383, formerly known as CBS 201, 202, 203 (Behavioral Science) and SSI 100 and 300 which now substitute for CBS 301 and 302 (American Idea). They constitute part of the University's distribution requirements.

Requirements for the B.A. Degree in Interdisciplinary Social Sciences (SSI):

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. 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.

A different kind of interdisciplinary major for prospective teachers of social studies is described under the College of Education requirements.

Requirements for the B.A. Degree in International Studies (INT):

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 361	(4)	SSI 491	(4)

One of the following:

SSI 339	(4)	SSI 345	(4)
SSI 341	(4)	SSI 347	(4)
SSI 343	(4)		

One of the following with international content:

SSI 383	(2-5)
SSI 481	(1-4)
SSI 485	(1-4)

The additional 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 reinforce 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).

Leisure Studies Program

The Leisure Studies Program is perhaps the only university agency in America devoted entirely to the subject of leisure in the broadest sense: a concern with the total pattern of work and nonwork trends of the post-industrial society related to cybernation, increases in bulk time, flexible work patterns, urbanization, changing values, public policy, expenditures for recreation, and new demands on education and other social institutions. This is done through conferences, consultations, field research, lectures, writings and newsletters, workshops and seminars. Its quarterly *Newsletter* is widely distributed; *Technology, Human Values and Leisure* (Abingdon Press, 1971) results from one of its conferences. The USF Program represents the United States in a research team including France, West Germany, Canada, Sweden, Switzerland, Poland, Bulgaria, and Czechoslovakia. Students in the introductory and advanced seminars participate in field studies, such as family interviews, questionnaire surveys, and observations of activities.

Courses staffed by Leisure Studies and offered through the Interdisciplinary Social Science Department:

SSI 413 Leisure in Society
SSI 421 Sport in Society
SSI 522 Leisure Theory
SSI 523 Leisure Planning: Community and State
SSI 525 Leisure Policy

POLITICAL SCIENCE (POL)

Requirements for the B.A. Degree:

A minimum of 44 credit hours is required for a major. The core curriculum consists of 8 credit hours and, in addition, the student must take at least one course each from three of the four fields with a total of nine courses and 36 credit hours. While some courses may be listed under two fields, a course may be used only once to fill a field requirement.

The undergraduate curriculum in political science is composed of the following:

Required Core Courses (8 cr. hrs.)

POL 199	(4)
or	
POL 201	(4)
or	
POL 203	(4)
and	
SSI 301	(4)

Electives from three of the four fields (36 cr. hrs.)

Field I American Government

POL 338	(4)	POL 434	(4)
POL 341	(4)	POL 441	(4)
POL 345	(4)	POL 443	(4)
POL 347	(4)	POL 455	(4)
POL 431	(4)	POL 463	(4)
POL 432	(4)	POL 530	(4)

Field II Public Administration & State and Local Government

POL 351	(4)	POL 520	(4)
POL 453	(4)	POL 525	(4)
POL 454	(4)	POL 527	(4)
POL 455	(4)	POL 530	(4)
POL 457	(4)		

Field III Political Theory and Philosophy

POL 343	(4)	POL 462	(4)
POL 431	(4)	POL 463	(4)
POL 443	(4)	POL 464	(4)
POL 461	(4)		

Field IV Comparative Politics & International Relations

POL 311	(4)	POL 421	(4)
POL 331	(4)	POL 425	(4)
POL 333	(4)	POL 428	(4)
POL 338	(4)	POL 436	(4)
POL 405	(4)	POL 438	(4)
POL 410	(4)	POL 550	(4)
POL 415	(4)	POL 561	(4)

The following are to be used as elective hours only and may not be used to fill a field requirement:

POL 481	(1-8)
POL 491	(4)
POL 571	(4)

Requirements for Pre-Law

Pre-law (preparation for the successful study of 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 in an area of his personal choice.

The American Association of Law Schools suggests that students preparing for law school must acquire basic skills in: (1) rapid reading and comprehension, and (2) the English language. Mastery of the English language, both written and oral, and ability to read rapidly and comprehensively are positively essential for successful performance in the study of law. As there is no prescribed pre-legal program, any courses that help develop clear and systematic thinking, logic, command of the English language and a broad understanding of our society would constitute sound preparation. A good lawyer must have knowledge of an understanding of the economic, political, and social context within which legal problems arise.

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 at Princeton, New Jersey.

The Law School Admission Test is given simultaneously several times each year at University of South Florida and numerous other testing centers throughout the state. Students should plan to take the test not later than February of the year in which they make application to a law school. Information pamphlets and application blanks for the test are obtainable from the Department of Political Science, University of South Florida.

Requirements for the M.A. Degree:

General requirements for graduate study are given on pages 61-62.

The student must complete a minimum of 45 credit hours of graduate level courses. At least 24 hours must be at the 600 level. The minimum of 30 credit hours must be taken in formal, regularly scheduled classes, 15 hours of which must be at the 600 level. Courses at the 500 level are acceptable for credit towards the master's degree when taken as part of a planned degree program, approved by both the student's adviser and the Department of Political Science. A required number of core courses must be taken by all students in the graduate program.

A minimum of 28 credit hours must be taken in political science; 8 credit hours of approved electives may be taken outside the Department. All graduate students must write a thesis (9 credit hours) or petition for substitution with 12 credit hours of regular courses. A comprehensive oral examination will follow the completion of the course work.

Students who do not have an undergraduate major in Political Science, or its equivalent, may be admitted to candidacy in the program upon consent of the Department. Such students may be required to take additional courses beyond the minimum requirements.

A minimum of one-half of the master's degree program must be completed on campus. The student must be registered as full-time graduate student for at least one quarter of study.

More detailed instructions may be obtained from the Department of Political Science.

■ PSYCHOLOGY (PSY)

Requirements for the B.A. Degree:

Majors must complete at least 42 credit hours in the field. All majors must complete PSY 201 (5), SSI 301 (4), PSY 311-312 (4:1), and select four courses as follows: one of PSY 402 or 441 (4); one of PSY 403 or 404 (4); one of PSY 405 or 445 (4); and one of PSY 452 or 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 M.A. or 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, are available from the Chairman, Graduate Admissions Committee, Department of Psychology, USF, Tampa, Florida 33620.

Requirements for the M.A. Degree:

General requirements for graduate study are given on pages 61-62.

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 nine courses: PSY 609, 612, 614, 634, 635, 636, 638, 639, and 641. 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 29.)

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 62.

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 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 61-62.

The M.A. program in Rehabilitation Counseling requires a minimum of 60 credit hours and offers the student the flexibility of entering while he is a University senior (REF) or after he has earned a baccalaureate degree (REH).

Minimum admission requirements for students electing the 5-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, and a personal interview. He must complete all General Distribution requirements and 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, and a personal interview.

The GRE must be taken by all students entering the program whether or not they meet the B average requirement.

Requirements for graduation for all students include a minimum of 60 credit hours in the post-baccalaureate program and a total of no less than 225 for those in the 5-year program. The following 47 hour core courses are consistent with national certification standards for rehabilitation counselors and must be taken by all students:

REH 501	(5)	REH 602	(5)
REH 502	(5)	REH 610	(4)
REH 503	(5)	REH 611	(2)
REH 507	(4)	REH 620	(15)
REH 508	(2)		

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. While the department is developing an undergraduate track in social work, students should understand that sociology majors are not restricted to social work or even social action types of careers. Any career involving human interaction, and that covers an extremely wide range of careers, actually benefits from sociological training.

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)
SOC 315	(4)	SSI 301	(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 543	(4)

Requirements for the M.A. Degree:

A minimum of 45 credit hours and a thesis.

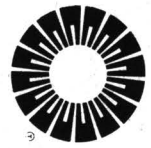
Required Courses (23 cr. hrs.)

SOC 611	(4)	SOC 690	(2)
SOC 621	(4)	SOC 699	(1-15)
SOC 623	(5)		

University requirements for graduate study are given on pages 61-62.

Admission to the M.A. Program: Satisfactory score on the Graduate Record Examination (Aptitude); two letters of reference 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 Admission Office. Instructions for applicants are available from the Department of Sociology.

DIVISION OF GRADUATE STUDIES



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 Chairman, 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 chairman 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.

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 continue to occupy space and to receive faculty supervision, but who have not made a final thesis submission at the start of a quarter, shall register for a minimum of three hours. The exact number of hours is determined by staff and facilities needed to support the student.

Graduate Teaching and Research Assistants 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 credits must be posted to the student's permanent record no later than one full term prior to his graduation. It is the student's responsibility to make certain that his department properly notifies the Office of Records & Registration regarding transfer credits.

Common Courses

The University has designated a series of common courses to be used by all departments with graduate programs. These courses, which were adopted too late to be included in this Catalog, are to be used by any student who is advised to register for research or other work as an individual (as opposed to being a member of a regularly scheduled class). Also, special common courses must be used if a student is to receive credit for training as graduate teaching or research assistant. All graduate students must consult their advisers before attempting to register for such courses.

Change of Graduate Degree Program

A student who wishes to change his advanced degree program must obtain a Graduate Change of Program Status Application from the Office of Records and Registration. The change of program is completed upon acceptance of the student by his new department.

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.

S/U Grades in the Graduate Programs

No graduate student may take a course in his major on an S/U basis except for certain courses such as seminars, theses, research projects, practicum, and internship that are specifically approved by the Graduate Council to be given on this basis. The student may apply a maximum of 6 hours of such credit in his major (excluding Research, Design, Practicum, or Internship) toward a master's degree. A graduate student can take courses outside his major on an S/U basis even though the courses are in fulfillment of the degree requirements. To do so, he must have prior approval of the professor of the course, his major professor and the Dean of the College who will approve his degree.

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

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

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 chairman 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 the seven years immediately preceding the awarding of the degree.

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, an original and one copy of the approved 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 his degree. Only after the thesis and the copy have been approved for filing in the University Library can the student be certified for his degree. The thesis must conform to the guidelines in the *Handbook of Graduate Theses and Dissertations* available in the University Bookstore.

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 minimum. 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 chairman of the department or program in which the degree is sought. Notice of the appointment of the Dissertation Committee shall be sent by the chairman 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 chairman 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 is formally admitted to candidacy. This admission is granted when the dissertation committee certifies that the student has successfully completed his comprehensive qualifying examination and in the opinion of his committee he has demonstrated the qualifications necessary to successfully complete his requirements for the degree. The certificate of admission shall be issued by the dean of his 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 typewritten original and one copy of a completed dissertation that has been signed by his committee. An abstract is also required. 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. The dissertation must conform to the guidelines in the *Handbook of Graduate Theses and Dissertations* available in the University Bookstore.

Final 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 chairman 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 chairman 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.



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.

The first line of each description includes the prefix and course number, title, and number of credits. Credits separated by a colon indicate concurrent lecture and laboratory courses taught as a unit:

PHY 201-202. GENERAL PHYSICS (4:1)

Credits separated by commas indicated unified courses offered in different quarters:

HTY 211, 212. AMERICAN HISTORY (4,4)

Credits separated by a hyphen indicate variable credit:

EDR 633. PRACTICUM IN READING

(3-6)

The following abbreviations are utilized in various course descriptions:

- PR Prerequisite
- 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 descriptions are listed under the following department and program headings (prefix in parentheses):

Accounting (ACC)
 Afro-American Studies (AFA)
 Aging Studies (Gerontology) (AGE)
 American Studies (AMS)
 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)
 Developmental Courses:
 Developmental Mathematics (DMA)
 Developmental Study Skills (DRS)
 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)
 Music Education (EDM)
 Natural Science-Mathematics Education (EDN)

Physical Education for Teachers (EDP)
 Measurement-Research-Evaluation (EDQ)
 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 Science Service Courses (ESC)
 Engineering Technology (ETK)
 English (ENG)
 Environment (ENV)
 Finance (FIN)
 Fine Arts (Interdisciplinary) (FNA)
 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)
 History of Ideas (HII)
 Humanities (HUM)
 Interdisciplinary Language-Literature (LLI)
 Linguistics (LIN)
 Management (MAN)
 Marine Science (MSC)
 Marketing (MKT)
 Mass Communications (COM)
 Mathematics (MTH)
 Medical Sciences (MSG)
 Medical Technology (MET)
 Medicine (MED)
 Music (MUS)
 Natural Sciences (NAS)
 Nursing (NUR)
 Off-Campus Term (OCT)
 Philosophy (PHI)
 Physical Education, Elective (PEB)
 Physical Sciences (PHS)
 Physics (PHY)
 Political Science (POL)
 Psychology (PSY)
 Rehabilitation Counseling (REH)
 Religious Studies (REL)
 Ancient Studies (ANC)
 Senior Seminar (CBS)
 Social Sciences, Interdisciplinary (SSI)
 Sociology (SOC)
 Speech Communication (SPE)
 Theatre Arts (TAR)
 Women's Studies (WSP)

Cross-Listing of Departments and Programs Alphabetically by Prefix

ACC Accounting
 AFA Afro-American Studies
 AGE Aging Studies (Gerontology)
 AMS American Studies
 ANC Ancient Studies (Religious Studies)
 ANT Anthropology
 ARA Arabic (Foreign Languages)

ART Art
 AST Astronomy
 BIO Biology
 BOT Botany (Biology)
 CBS Senior Seminar
 CHM Chemistry
 CJP Criminal Justice

CLS	Classics (Foreign Languages)	GLY	Geology
CLY	Communicology	GPY	Geography
COE	Cooperative Education	GRE	Greek (Foreign Languages)
COM	Mass Communications	HEB	Hebrew (Foreign Languages)
DAN	Dance	HEN	Health Education (Education)
DMA	Developmental Mathematics	HII	History of Ideas
DRS	Developmental Study Skills	HTY	History
ECN	Economics	HUM	Humanities
EDA	Art Education (Education)	ITA	Italian (Foreign Languages)
EDC	Curriculum (Education)	LIN	Linguistics
EDE	Elementary Education (Education)	LLI	Interdisciplinary Language-Literature
EDF	Foundations (Education)	MAN	Management
EDG	Guidance (Education)	MED	Medicine
EDH	Junior College Education (Education)	MET	Medical Technology
EDL	Library-Audiovisual Education (Education)	MIC	Microbiology (Biology)
EDM	Music Education (Education)	MKT	Marketing
EDN	Natural Science-Mathematics Education (Education)	MSC	Marine Science
EDP	Physical Education for Teachers (Education)	MSG	Medical Sciences
EDQ	Measurement-Research-Evaluation (Education)	MTH	Mathematics
EDR	Reading Education (Education)	MUS	Music
EDS	Exceptional Child Education (Education)	NAS	Natural Sciences
EDT	English Education and Speech Communication-English Education (Education)	NUR	Nursing
EDV	Vocational & Adult Education (Education)	OCT	Off-Campus Term
EDW	Social Science Education (Education)	PEB	Physical Education, Elective
EDX	Foreign Language Education (Education)	PHI	Philosophy
EDY	Humanities Education (Education)	PHS	Physical Sciences
EGB	Basic Engineering (Engineering)	PHY	Physics
EGE	Electrical & Electronic Systems (Engineering)	POL	Political Science
EGR	Energy Conversion & Mechanical Design (Engineering)	POR	Portuguese (Foreign Languages)
EGS	Industrial Systems (Engineering)	PSY	Psychology
EGX	Structures, Materials & Fluids (Engineering)	REH	Rehabilitation Counseling
ENG	English	REL	Religious Studies
ENV	Environment	ROM	Romance (Foreign Languages)
ESC	Computer Science Service Course (Engineering)	RUS	Russian (Foreign Languages)
ETK	Engineering Technology	SOC	Sociology
FIN	Finance	SPA	Spanish (Foreign Languages)
FNA	Fine Arts (Interdisciplinary)	SPE	Speech Communication
FOL	General Foreign Languages	SSI	Social Sciences, Interdisciplinary
FRE	French (Foreign Languages)	TAR	Theatre Arts
GBA	General Business Administration	WSP	Women's Studies
GER	German (Foreign Languages)	ZOO	Zoology (Biology)

ACCOUNTING (ACC)

Chairperson: L. C. Jurgensen; *Professors:* L. C. Jurgensen, G. E. McClung, K. W. Merriam, R. J. West; *Associate Professors:* J. F. Antonio, L. C. Harris, R. M. Keith, J. D. Siebel, J. L. Smith; *Assistant Professors:* D. M. Dennis, C. E. Hubbard, J. Lasser, J. E. Moon, W. L. Stephens; *Lecturer:* R. L. Hurd, B. W. Roberson, J. E. Watson; *Instructors:* W. R. Danco, G. G. Keane, P. H. Jacobsen, K. L. Padgett, S. J. Pardo, R. J. Siegelski; *Adjunct:* J. D. Sanders. *LAW—Associate Professor:* R. F. Welker; *Assistant Professors:* W. M. Harris, S. C. Kahn; *Lecturers:* E. H. Dunn, A. W. Fisher.

LOWER LEVEL COURSES

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 202. ELEMENTARY ACCOUNTING II (3)

PR: ACC 201. Accounting theory and practices for various equity structures.

UPPER LEVEL COURSES

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 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 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 owner's equity.

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 401. ADVANCED ACCOUNTING (3)

PR: ACC 302; MTH 211 or College Algebra. Quantitative application in accounting, partnerships, governmental accounting and price level changes.

ACC 402. CONSOLIDATED FINANCIAL STATEMENTS (3)

PR: ACC 302. Accounting for home office and branch operations and business combinations.

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.

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 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 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 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 423. AUDITING (4)
PR: ACC 302 and ECN 331. Principles and procedures of internal and public auditing. The ethics, responsibilities, standards and reports of professional auditing.

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 483. SELECTED TOPICS IN ACCOUNTING (1-5)
PR: CI. The course content will depend on student demand and instructor's interest.

FOR SENIORS AND GRADUATE STUDENTS

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 502. ACCOUNTING CONCEPT 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.

FOR GRADUATE STUDENTS ONLY

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 602. MANAGERIAL ACCOUNTING AND CONTROL (3)

PR: ACC 601. 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 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 606. CONTEMPORARY ACCOUNTING THOUGHT (3)

PR: ACC 605 or CI. Concentrated study of current problems areas in the field of accountancy.

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 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 decision. Tax planning and tax research are emphasized.

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 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 681. INDEPENDENT RESEARCH (1-6)

PR: CI. Directed studies along lines of student's research.

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.

AFRO-AMERICAN STUDIES (AFA)

Director: F. U. Ohaegbulam; *Associate Professor:* F. U. Ohaegbulam; *Assistant Professors:* J. W. Dudley, S. J. Garcia, K. R. Glover; *Instructor:* M. E. Metz.

LOWER LEVEL COURSES

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.)

UPPER LEVEL COURSES

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.

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.

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.)

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.

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.

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.

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 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.)

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).

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.

AFA 440. CONTEMPORARY BLACK PHILOSOPHY (4)

Major themes and participants in the Black liberation movement since 1900 (Formerly AFA 410).

AFA 422. 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.

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.

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.

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 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 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 485. DIRECTED READINGS (2-4)

Independent readings in a particular area of Afro-American Studies, selected by student and instructor.

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 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 (GERONTOLOGY) (AGE)

Director: T. A. Rich; *Professors:* T. A. Rich, S. V. Saxon; *Associate Professor:* W. P. Mangum; *Adjunct Assistant Professor:* R. L. Davis.

UPPER LEVEL COURSES

AGE 301. INTRODUCTION TO GERONTOLOGY (3)

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.

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.

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.

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.

AGE 485. DIRECTED READINGS (1-3)

PR: CI. A reading program with topics in gerontology conducted under the supervision of a faculty member.

FOR SENIORS AND GRADUATE STUDENTS

AGE 501. PHYSIOLOGY OF AGING (3)

PR: CI. Lectures and discussion concerned with the biological bases of the aging phenomenon as it occurs on the levels of the cells, organs, tissues, and organism.

AGE 502. PSYCHOLOGY OF AGING (3)

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.

AGE 503. SOCIOLOGICAL ASPECTS OF AGING (3)

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.

AGE 504. AGING AND PERSONALITY (2)

PR: CI. An introduction to personality theory and concepts of adjustment with an overview of counseling techniques and rehabilitative efforts with the aged.

AGE 507. ECONOMICS AND AGING (3)

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.

AGE 509. LEISURE FOR THE AGING (2)

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.

AGE 585. DIRECTED READINGS (1-3)

PR: CI. A reading program with topics in gerontology conducted under the supervision of a faculty member.

FOR GRADUATE STUDENTS ONLY

AGE 603. SOCIAL RESEARCH METHODS APPLIED TO GERONTOLOGY (3)

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 findings—persons whose positions call for the ability to interpret, evaluate, and apply the findings produced by others.

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.

AGE 606. INSTITUTIONAL ADMINISTRATION (3)

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.

AGE 608. HUMAN RELATIONS IN ORGANIZATIONS (3)

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.

AGE 610. ADMINISTRATIVE APPLICATIONS OF DEMOGRAPHY (3)

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.

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.

AGE 612. PROJECTS IN AGING II (1-6)

PR: AGE 611 and CI. A continuation of AGE 611.

AGE 691, 692, 693, 694. SEMINAR IN SOCIAL GERONTOLOGY (2)

PR: CI. Designed to give the graduate student an opportunity to integrate 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.

AGE 695. 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.)

AMERICAN STUDIES (AMS)

Director: H. M. Robertson; *Professors:* D. R. Harkness, J. B. Moore, R. C. O'Hara, H. M. Robertson, E. E. Stanton Jr., R. A. Warner; *Associate Professors:* R. M. Figg III, G. S. Kashdin; *Assistant Professors:* C. E. Conway, W. T. Morgan.

LOWER LEVEL COURSES

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.

UPPER LEVEL COURSES

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 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 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 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 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 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 383. SELECTED TOPICS IN AMERICAN STUDIES (1-5)

Offerings include Cultural Darwinism in America, Creative American Women, American Painting: its social implications, American Jazz Music, American Utopias and Communes.

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 483. SELECTED TOPICS IN AMERICAN STUDIES (1-5)

Offerings include The American Success Myth, The American Counter Culture, The American City: Past, Present and Future, America as seen by Foreign Travelers.

AMS 491. SENIOR SEMINAR IN AMERICAN STUDIES (4)

PR: Senior in American Studies or CI.

AMS 492. SENIOR SEMINAR IN AMERICAN STUDIES (4)

PR: AMS 491.

AMS 493. SENIOR SEMINAR IN AMERICAN STUDIES

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 Professor:* E. S. Kessler; *Assistant Professors:* M. B. Angrosino, J. J. Smith, P. P. Waterman, C. W. Wienker, J. R. Williams; *Instructor:* R. M. Wulff.

LOWER LEVEL COURSES**ANT 201. INTRODUCTION TO ANTHROPOLOGY (4)**

A general survey of physical anthropology, archaeology, linguistics and cultural anthropology.

UPPER LEVEL COURSES**ANT 311. PHYSICAL ANTHROPOLOGY (4)**

PR: ANT 201 or CI. The comparative study of human physical variations and origins.

ANT 321. ARCHAEOLOGY (4)

PR: ANT 201 or CI. The comparative study of past cultures and societies.

ANT 331. CULTURAL ANTHROPOLOGY (4)

PR: ANT 201 or CI. The comparative study of cultures and societies.

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 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 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 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 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 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 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 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 481. INDIVIDUAL RESEARCH (3-6)

PR: CI. Individual guidance in a selected research project.

ANT 485. DIRECTED READING (1-6)

PR: CI. Individual guidance in concentrated reading on a selected topic in anthropology.

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.

FOR SENIORS AND GRADUATE STUDENTS**ANT 571. SEMINAR IN ANTHROPOLOGY (3-6)**

PR: CI. Topics to be chosen by students and instructor.

ANT 581. INDIVIDUAL RESEARCH (3-6)

PR: CI. Individual guidance in a selected research project.

ANT 585. DIRECTED READING (1-6)

PR: CI. Individual guidance in concentrated reading on a selected topic in anthropology.

FOR GRADUATE STUDENTS ONLY**ANT 601. SEMINAR IN ANTHROPOLOGICAL LINGUISTICS (3)**

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 611. SEMINAR IN PHYSICAL ANTHROPOLOGY (3)

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 621. SEMINAR IN ARCHAEOLOGY (3)

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 631. SEMINAR IN CULTURAL ANTHROPOLOGY (3)

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 634. ANTHROPOLOGY TODAY (4)

PR: CI. A graduate level survey of contemporary anthropology primarily intended for graduate students in Social Science Education.

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 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 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 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 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 657. SELECTED TOPICS IN PUBLIC ARCHAEOLOGY (4)

PR: Three of the core courses, or CI. Current topical issues in field archaeology. May be repeated up to 8 credit hours as topics vary. Open to non-majors.

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 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 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 681. GRADUATE RESEARCH (1-15)

PR: Successful passing of comprehensives and approval of a field work proposal by the student's committee. The implementation of a research project including data gathering and analysis, through an appropriate methodological and theoretical framework. May be repeated up to 15 credit hours. Open to majors only.

ANT 699. THESIS (1-6)

PR: Approval by the student's committee. A study in depth in applied anthropology approved by the thesis committee. May be repeated up to 6 credit hours. Open to majors only.

ART (ART)

Chairperson: G. Pappas; *Professors:* O. W. Bailey, H. W. Covington, E. L. Cox, C. J. Fager, G. Pappas, D. J. Saff; *Associate Professors:* R. W. Gelinis, W. M. Hindle, C. W. Houk, J. M. Kronsoble, C. P. Lyman, B. L. Marsh, M. L. Strawn, E. S. Vanderbeek; *Assistant Professors:* J. E. Catterall, P. A. Clinton, L. S. Dietrich, A. B. Eaker, M. A. Miller, B. J. Nickels, C. O. Ringness, T. F. Wujcik; *Instructors:* J. Hayakawa, S. H. Pevnick; *Lecturer:* J. Juristo; *Visiting Lecturer:* D. Martin.

LOWER LEVEL COURSES

ART 201. VISUAL CONCEPTS I (4)

Studio problems supplemented by reading and discussion. Consideration of spatial organization of the two-dimensional surface.

ART 202. VISUAL CONCEPTS II (4)

Studio programs supplemented by reading and discussion. Consideration of three-dimensional organization of space and mass.

UPPER LEVEL COURSES

ART 301. BASIC SEMINAR (2)

Philosophical dimensions of art. Discussion of purposes of art and the relationship of art to life.

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.

ART 310. INTRODUCTION TO ART (3)

An introductory course for the student who does not intend to major in art. (S/U only.)

ART 311. PAINTING I (4)

PR: ART 201 and ART 301. Intermediate problems in painting with an emphasis on the exploration of methods and media and the development of individual concepts.

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 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 340. GRAPHICS I (4)

PR: ART 201 and ART 301. Introduction to the graphics media: Intaglio, Lithography, Silkscreen.

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 development of individual concepts.

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 391. TECHNIQUES SEMINAR: SELECTED TOPICS (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 401. DRAWING II (4)

PR: ART 304. Continued problems in drawing. May be repeated.

ART 411. PAINTING II (4)

PR: ART 311. Continued problems in painting. May be repeated.

ART 421. SCULPTURE II (4)

PR: ART 321. Continued problems in sculpture. May be repeated.

ART 431. CERAMICS II (4)

PR: ART 331. Continued problems in ceramics. May be repeated.

ART 441. LITHOGRAPHY II (4)

PR: ART 340. Continued problems in lithography. May be repeated.

ART 442. INTAGLIO II (4)

PR: ART 340. Continued problems in intaglio. May be repeated.

ART 443. SILKSCREEN II (4)

PR: ART 340. Continued problems in silkscreen. May be repeated.

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 461. PHOTOGRAPHY II (4)

PR: ART 361. Continued problems in photography. May be repeated.

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 465. CINEMATOGRAPHY II (4)

PR: ART 365. Continued problems in cinematography. May be repeated.

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.

ART 470. PREHISTORIC AND ANCIENT ART (4)

A comprehensive study of Paleolithic, Neolithic, Egyptian, Assyrian and Mesopotamian painting, sculpture and architecture.

ART 471. GREEK AND ROMAN ART (4)

A comprehensive study of Aegean, Mycenaean, Etruscan, Greek and Roman painting, sculpture and architecture.

ART 472. MEDIEVAL ART (4)

A comprehensive study of early Christian, Byzantine and Medieval painting, sculpture, architecture and manuscript illumination.

ART 473. RENAISSANCE ART (4)

A comprehensive study of Renaissance and Mannerist painting, sculpture and architecture in Italy and Northern Europe.

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.

ART 475. NINETEENTH CENTURY ART (4)

A comprehensive study of nineteenth century painting, sculpture and architecture in France and England.

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.

ART 477. ORIENTAL ART (4)

An introduction to concepts of the arts of China, Japan and other Far Eastern countries.

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 482. VIDEO ARTS I (4)

PR: ART 201 and ART 301 and CI. A course designed to acquaint the student with the use and maintenance of primary portable equipment and introduction to the design and realization of creative TV presentation as an art form.

ART 483. VIDEO ARTS II (4)

PR: ART 482. An elaboration of portable recording techniques for use in individual art projects.

ART 484. SEMINAR IN VIDEO ARTS (4)

PR: ART 201 and ART 301. An examination of various aspects of transmission of visual images as they relate to the concerns of artists.

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 491. IDEA SEMINAR (2)

PR: ART 301. Readings, discussion. Subjects will change each quarter, determined by mutual student and faculty interests. May be repeated.

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.)

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.)

FOR SENIORS AND GRADUATE STUDENTS

Admission to all 500-level studio courses by Consent of Instructor.

ART 501. DRAWING (4)

PR: ART 401. Advanced problems in various drawing techniques. Emphasis on individual creative expression. May be repeated.

ART 511. PAINTING (4)

PR: ART 411. Advanced problems in the various painting techniques. Emphasis on individual creative expression. May be repeated.

ART 521. SCULPTURE (4)

PR: ART 421. Advanced problems in the various techniques of sculpture. Emphasis on individual creative expression. May be repeated.

ART 531. CERAMICS (4)

PR: ART 431. Advanced problems in the various ceramic techniques, including throw and glaze calculation. May be repeated.

ART 541. LITHOGRAPHY (4)

PR: ART 441. Advanced problems in various lithographic techniques. Emphasis on individual creative expression. May be repeated.

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 543. SILKSCREEN (4)

PR: ART 443. Advanced problems in the various silkscreen techniques. Emphasis on individual creative expression. May be repeated.

ART 561. PHOTOGRAPHY (4)

PR: CI. Advanced work in photography and related media leading to development of personal/expressive statements. May be repeated.

ART 562. ADVANCED EDITING TECHNIQUES (4)

PR: ART 465. Focus on advanced techniques and theory of editing for the film artist. May be repeated.

ART 563. ADVANCED FILM TECHNIQUES (4)

PR: ART 465. Description and demonstration of special film manipulation techniques for the artist. Optical printing, infrared film, computer filmmaking, polyvision, television manipulated film. Students will create original experimental works. May be repeated.

ART 564. ANATOMY OF THE PERSONAL FILM (4)

PR: ART 464 and ART 465. Analysis of all aspects of work produced by individual film artists. May be repeated.

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 566. 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.

ART 567. SEMINAR IN THE PERSONAL FILM (4)

PR: ART 464, ART 465 and ART 566. Discussion of techniques, approaches and motivations open to and pursued by established film artists. May be repeated.

ART 568. SELECTED TOPICS IN THE HISTORY OF FILM (4)

PR: ART 569. In depth investigation of a selected period, development or school in the history of film as art. May be repeated.

ART 569. PURE CINEMA AS AUTONOMOUS VISUAL**EXPRESSION**

(4)

PR: ART 461 or CI. Consideration of historical development in cinematography emphasizing uses of special technical and visual possibilities unique to the aesthetics of the film art. May be repeated.

ART 581. RESEARCH

(1-6)

PR: CC. May be repeated.

ART 582. VIDEO ARTS III

(4)

PR: ART 483. An experimental approach to video-image thinking and the uses of video for the artist, demonstrating advanced special video techniques. May be repeated.

ART 591. TECHNIQUES SEMINAR: SELECTED**TOPICS**

(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.

FOR GRADUATE STUDENTS ONLY**ART 601. DRAWING**

(4)

PR: CI. May be repeated.

ART 611. PAINTING

(4)

PR: CI. May be repeated.

ART 621. SCULPTURE

(4)

PR: CI. May be repeated.

ART 631. CERAMICS

(4)

PR: CI. May be repeated.

ART 641. LITHOGRAPHY

(4)

PR: CI. May be repeated.

ART 642. INTAGLIO

(4)

PR: CI. May be repeated.

ART 643. SILKSCREEN

(4)

PR: CI. May be repeated.

ART 661. PHOTOGRAPHY

(4)

PR: CI. May be repeated.

ART 665. CINEMATOGRAPHY

(4)

PR: CI. May be repeated.

ART 670. ART HISTORY

(4)

PR: CI. May be repeated.

ART 681. RESEARCH

(1-5)

PR: CI. May be repeated.

ART 682. GRADUATE SEMINAR

(2)

PR: CI. Advanced course in the 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 683. GRADUATE SEMINAR: DIRECTED TEACHING

(2)

PR: CI. Students will collaborate with faculty, teaching in areas of their concentration.

ART 684. GRADUATE SEMINAR: 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 699. THESIS: PRESENTATION OF WORK

(1)

PR: Consent of Graduate Committee. The final formal presentation of a body of works completed during the student's program.

ASTRONOMY (AST)

(See also the sections entitled Physical Sciences and Natural Sciences)

Chairperson: H. K. Eichhorn-von Wurmb; *Professors:* H. K. Eichhorn-von Wurmb, J. H. Hunter Jr., S. Sofia, R. E. Wilson; *Associate Professors:* E. J. Devinney Jr., C. A. Williams; *Assistant Professor (Visiting):* H. Smith Jr.; *Adjunct Instructor:* F. W. Fallon; *Planetarium Director:* J. A. Carr.

LOWER LEVEL COURSES**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 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 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.*

UPPER LEVEL COURSES**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 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 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 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 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 313. NAVIGATION

(3)

PR: Some knowledge of geometry, algebra and trigonometry. Timekeeping, use of sextant, constellations, navigation with minimum equipment, some spherical astronomy.

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 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 stars; cosmology. *No credit for astronomy majors or mathematics majors.*

AST 413. GEOMETRY AND KINEMATICS OF THE UNIVERSE

(4)

PR: CI. Astronomical coordinate systems and their mutual relationships, time.

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 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 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 491. ASTRONOMY SEMINAR (1)

PR: Senior or advanced junior standing. May be repeated twice. (S/U only.)

FOR SENIOR AND GRADUATE STUDENTS

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 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 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.

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 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.

FOR GRADUATE STUDENTS ONLY

AST 611. POSITIONAL ASTRONOMY (6)

PR: AST 413 or CI. The accurate determination of relative and absolute star positions and related problems.

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 631. STELLAR ATMOSPHERES (4)

PR: AST 443 and MTH 406 or CI. Basic observational data. Thermodynamics of the gaseous state. Elements of spectroscopy. The transfer equation (continuum and lines). The problem of calculation of atmospheres.

AST 661. PHOTOMETRY (4)

PR: AST 302 or CI. MTH 305. Theoretical, observational and instrumental concepts required in astronomical photometry.

AST 681. GRADUATE RESEARCH (1-15)

PR: CI. May be repeated (S/U only.)

AST 683. SELECTED TOPICS IN ASTRONOMY (1-6)

PR: CI.

AST 689. DIRECTED TEACHING (1-5)

Not applicable toward thesis degree requirements. Supervised teaching for graduate teaching assistants in elementary and/or laboratory courses. A formalized, structured activity wherein a faculty member, by discussion and assignments, considers the principles, rationale, and modus operandi of elementary college courses. Designed to train teaching assistants and to provide help and training to those graduate students who plan to follow a college teaching profession. (S/U only.)

AST 691. GRADUATE SEMINAR (2)

PR: CI. May be repeated. (S/U only.)

AST 699. MASTER'S THESIS (1-9)

PR: CI. (S/U only.)

BIOLOGY (BIO, BOT, MIC, ZOO)

Acting Chairperson: S. L. Swihart; *Professors:* M. R. Alvarez, J. C. Briggs, C. J. Dawes, F. E. Friedl, R. W. Long, N. M. McClung, A. J. Meyerriecks, G. E. Nelson, Jr., J. D. Ray, Jr., C. D. Riggs, W. S. Silver, G. E. Woelfenden; *Associate Professors:* J. V. Betz, L. N. Brown, B. C. Cowell, G. W. Hinsch, C. E. King, J. M. Lawrence, J. R. Linton, R. L. Mansell, R. W. McDiarmid, D. T. W. Merner, G. G. Robinson, S. L. Swihart, J. L. Simon; *Assistant Professors:* G. R. Babbel, F. I. Eilers, S. N. Grove, D. A. Hessinger, K. D. Stuart, H. C. Tipton; *Instructor:* T. B. Michaelides; *Lecturers:* C. Hendry, A. A. Latina; *Adjuncts:* J. S. Binford, Jr., D. F. Martin; *Adjunct Professor:* F. K. Sparrow; *Visiting Professors:* D. S. Correll, J. N. Layne; *Visiting Associate Professor:* L. D. Miller, Jr.; *Visiting Lecturer:* E. C. Hartwig.

Biology (BIO)

LOWER LEVEL COURSES

- BIO 201. FUNDAMENTALS OF BIOLOGY I** (4)
A brief overview of living organisms, respiration, photosynthesis, cell structure, and specialization. Lec.-Lab. Qtr. I, II.
- BIO 202. FUNDAMENTALS OF BIOLOGY II** (4)
Cell division, genetics, reproduction and development, physiology. Lec.-Lab. Qtr. II, III.
- BIO 203. FUNDAMENTALS OF BIOLOGY III** (4)
Neurophysiology, behavior patterns, genetics, and evolution; ecology. Lec.-Disc. Qtr. I, III.
- 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.* Qtr. I-IV.
- 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.* Qtr. I-IV.
- 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.* Qtr. I-IV.
- 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.
- 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.* Qtr. I-IV.
- BIO 271. TOPICS IN BIOLOGY** (4)
Lectures, individual reading, movies, classroom discussion and evaluation of selected biological topics reflecting biological principles. *For non-majors.* Qtr. I-IV.

UPPER LEVEL COURSES

- 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.
- BIO 331. GENERAL GENETICS** (4)
PR: BIO 201-203. Introduction to genetics including the fundamental concepts of Mendelian, molecular and population genetics. Lec. Qtr. I, II, III.
- BIO 345. MAN'S BIOLOGICAL ENVIRONMENT** (4)
PR: BIO 201-203. A biological consideration of man's deterior-

ating relationship with his environment. Emphasis on pollution, pesticides and population.

- 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.*
- BIO 401. CELL BIOLOGY I** (5)
PR: CHM 331, 332, 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.
- 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.
- 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.
- BIO 431. EXPERIMENTAL GENETICS** (4)
PR: BIO 331 or CI. Experimental analysis of genetic systems. Lec.-Lab.: 2 hr. lec.; 2-3 hr. labs.
- 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. Qtr. I, II, III.
- 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.
- BIO 481. UNDERGRADUATE RESEARCH** (1-6)
PR: CI. Individual investigation with faculty supervision. (S/U only).
- BIO 483. SELECTED TOPICS IN BIOLOGY** (1-4)
PR: CI.
- BIO 485. RESEARCH METHODS IN BIOLOGY I** (2)
PR: CI. A laboratory course for advanced students to become acquainted with contemporary biological research, instrumentation and techniques.
- BIO 486. RESEARCH METHODS IN BIOLOGY II** (2)
PR: CI. See BIO 485.
- BIO 491. SEMINAR IN BIOLOGY** (1)
PR: CI. Senior or advanced junior standing. May be repeated once. (S/U only).

FOR SENIORS AND GRADUATE STUDENTS (BIO)

- BIO 510. CYTOLOGY** (4)
PR: BIO 210-203. Survey of the structure and function of cytoplasmic and nuclear components of plant and animal cells. Lec.-Lab.
- 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.
- BIO 522. NEUROPHYSIOLOGY** (4)
PR: ZOO 423. A comparative analysis of the physiochemical basis and evolution of nervous systems and sensory mechanisms. Lec.-Lab. Qtr. I.
- 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.

- 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.
- BIO 583. SELECTED TOPICS IN BIOLOGY** (1-4)
PR: CI. Each topic is a course in directed study under supervision of a faculty member.

FOR GRADUATE STUDENTS ONLY

- BIO 601. HISTORY OF BIOLOGY** (3)
PR: CI. The historical development of biology with emphasis on the origin of important theories and principles.
- BIO 612. CHROMOSOME STRUCTURE AND CHEMISTRY** (4)
PR: BIO 510. Introduction to the molecular organization of the Eukaryotic chromosome.
- 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.
- BIO 616. BIOMETRY** (4)
PR: MTH 211-213 or CI. An introduction to statistical procedures for research in the biological sciences. Experimental design, analysis of data and presentation of results are emphasized. (Formerly ZOO 616)
- 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.
- 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.
- BIO 651. MARINE PLANKTON SYSTEMATICS** (4)
(Also listed as MSC 651, q.v.).
- BIO 653. MARINE PLANKTON ECOLOGY** (4)
(Also listed as MSC 653, q.v.).
- BIO 681. GRADUATE RESEARCH** (1-9)
PR: CI. (S/U Only).
- BIO 683. SELECTED TOPICS IN BIOLOGY** (1-6)
PR: CI.
- BIO 689. DIRECTED TEACHING** (1-5)
Not applicable toward thesis degree requirements. Supervised teaching for graduate teaching assistants in elementary and/or laboratory courses. A formalized, structured activity wherein a faculty member, by discussion and assignments, considers the principles, rationale, and modus operandi of elementary college courses. Designed to train teaching assistants and to provide help and training to those graduate students who plan to follow a college teaching profession. (S/U only).
- BIO 691. GRADUATE SEMINAR IN BIOLOGY** (1)
PR: CI. (S/U only.)
- BIO 781. GRADUATE RESEARCH** (1-15)
PR: CI. Directed research on selected topics. For Ph.D. students only. May be repeated. (S/U only).
- BIO 799. PH.D. DISSERTATION** (1-12)
PR: CI. May be repeated to a maximum of 12 credits. (S/U only).

Biology-Botany (BOT)

UPPER LEVEL COURSES

- BOT 301. TREES AND SHRUBS OF FLORIDA** (3)
Introduction to field and laboratory identification of trees and shrubs, structure of woody plants, forests of Florida, economic uses of principle woods, conservation. (for non-majors).
- BOT 302. EVOLUTIONARY SURVEY OF PLANT KINGDOM** (5)
PR: BIO 201-203. The major plant divisions, including the algae, fungi, mosses, liverworts, ferns and fern allies, and seed plants considered from an evolutionary perspective. Lec.-Lab.

- BOT 311. SYSTEMATIC BOTANY** (5)
PR: BIO 201-203 or CI. Identification and classification of the more interesting vascular plants of Florida; angiosperm evolution; principles of taxonomy. Conducted largely in the field.
- BOT 313. HORTICULTURAL BOTANY** (3)
PR: Course in botany, biology of 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 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.
- 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 417. MYCOLOGY** (5)
PR: BIO 201-203. A survey of the fungi with emphasis on their taxonomy, morphology, physiology and economic importance. Lec.-Lab.
- BOT 419. PLANT ANATOMY** (5)
PR: BIO 201-203. Comparative studies of tissue and organ systems of fossil and present-day vascular plants. Functional and phylogenetic aspects stressed. Lec.-Lab.
- BOT 421. PLANT PHYSIOLOGY** (5)
PR: BIO 201-203, CHM 331-334, or CI. Fundamental activities of plants; absorption, translocation, transpiration, metabolism, growth, and related phenomena. Lec.-Lab.
- BOT 491. SEMINAR IN BOTANY** (1)
PR: Senior or advanced junior standing and CI. May be repeated once. (S/U only).

FOR SENIORS AND GRADUATE STUDENTS

- 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 517. PHYSIOLOGY OF THE FUNGI** (5)
PR: BOT 417 or CI. The biochemical, physiological, and hormonal basis involved in morphogenesis and cellular control in fungi. Lec.-Lab.
- 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 543*. PHYCOLOGY** (5)
PR: BIO 201-203 and 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 546*. PLANT ECOLOGY** (4)
PR: BIO 201-203, 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 547*. MARINE BOTANY** (5)
PR: BIO 201-203, 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.

*Students will be required to pay travel expenses for field trips.

BOT 583. SELECTED TOPICS IN BOTANY (1-4)

PR: CI. Each topic is a course in direct study under supervision of a faculty member.

FOR GRADUATE STUDENTS ONLY**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 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 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 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 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 650. MARINE ALGAL ECOLOGY (3)

(Also listed as MSC 650, q.v.). (Formerly BIO 650)

BOT 699. MASTER'S THESIS (1-15)

PR: CI. (S/U only).

Biology-Microbiology (MIC)**UPPER LEVEL COURSES****MIC 351. INTRODUCTION TO MICROBIOLOGY (5)**

PR: BIO 201-203; 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; basic lab methods in microbiology. Lec.-Lab. Qtr. I, II, III and IV.

MIC 451. APPLIED BACTERIOLOGY (5)

PR: MIC 351. A study of the applications of microbiology to industry, agriculture, medicine, and sanitary engineering. Lec.-Lab. Qtr. IV.

MIC 452. ADVANCED BACTERIOLOGY (5)

PR: MIC 351 and CI. An indepth consideration of structure-function relationships in procaryotes and their significance in the microbial world. Lec.-Lab. Qtr. I. (Formerly MIC 552).

MIC 453. DETERMINATIVE BACTERIOLOGY (5)

PR: MIC 351 or equivalent; CHM 331-336 or equivalent. Survey of bacterial classification; detailed examinations of bacteria important to man in agriculture, in industry and as pathogens. Lec.-Lab. Qtr. II. (Formerly MIC 553.)

MIC 456. MICROBIAL PHYSIOLOGY (5)

PR: MIC 351 or equivalent, CHM 331-334, 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. Laboratory emphasis will be on quantitative methods for the study of microbial activity. Lec.-Lab. (Formerly MIC 556.)

MIC 457. VIROLOGY (5)

PR: MIC 351 or equivalent 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. Lec.-Lab. Qtr. II. (Formerly MIC 557.)

MIC 491. SEMINAR IN MICROBIOLOGY (1)

PR: Senior or advanced junior standing and CI. May be repeated. (S/U only).

FOR SENIOR AND GRADUATE STUDENTS**MIC 518. MEDICAL MYCOLOGY (5)**

PR: MIC 351 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. Lec.-Lab. Qtr. I.

MIC 583. SELECTED TOPICS IN MICROBIOLOGY (1-4)

PR: CI. Each topic is a course in directed study under supervision of a faculty member.

FOR GRADUATE STUDENTS ONLY**MIC 654. BACTERIAL GENETICS (3)**

PR: MIC 331, MIC 351, MIC 456 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. Lec.

MIC 655. ADVANCED IMMUNOLOGY (5)

PR: MIC 351 or equivalent, CHM 331-336 or equivalent. Discussion of the basic immune reaction, nature of antigenicity; basic immunological techniques and their use in biological research and the medical sciences.

MIC 699. MASTER'S THESIS (1-15)

PR: CI. (S/U only).

Biology-Zoology (ZOO)**UPPER LEVEL COURSES****ZOO 311. COMPARATIVE VERTEBRATE ANATOMY (6)**

PR: BIO 201-203. Anatomy of selected vertebrate types emphasizing evolutionary trends. Lec.-Lab. Qtr. I.

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. Qtr. II.

ZOO 321. INTRODUCTORY ANIMAL PHYSIOLOGY (5)

PR: BIO 201-203. Functional histology and the primary functions of the organ systems will be stressed and related to the survival of the whole animal. The approach will be comparative and evolutionary and the emphasis will be on the vertebrates. Lec.-Lab-Disc. Qtr. III.

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.

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 416. VERTEBRATE ZOOLOGY (5)

PR: BIO 201-203. Natural history, morphology, phylogeny and taxonomy of vertebrates. Lec.-Lab. Qtr. II.

ZOO 422. DEVELOPMENTAL BIOLOGY (5)

PR: BIO 401-402. Structural and functional events involved in differentiation and morphogenesis. Lec.-Lab. Qtr. I, III.

ZOO 423. ANIMAL PHYSIOLOGY (5)

PR: BIO 201-203 and CHM 333. Advanced presentation of mechanisms employed by animals to interact with their environment, and to maintain their organization.

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 managements of exploited animal species will be introduced. Designed primarily for students interested in the wildlife and fish management profession.

ZOO 461. ANIMAL SOCIAL BEHAVIOR (5)

PR: CI. An introduction to the physical, chemical, and emphasis on social behavior and the evolutionary behavior. Lec.-Lab.

*Students will be required to pay travel expenses for field trips.

- ZOO 491. SEMINAR IN ZOOLOGY** (1)
PR: Upper level. May be repeated once. (S/U only).
FOR SENIORS AND GRADUATE STUDENTS
- 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.
- 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).
- ZOO 515. LIMNOLOGY** (5)
PR: CI. An introduction to the physical, chemical, and biological nature of fresh-water environments. Lec.-Lab. Qtr. III.
- ZOO 517. ORNITHOLOGY** (4)
PR: BIO 445, ZOO 311, and CI. The biology of birds. Field trips emphasize local avifauna. Lec.-Lab. Qtr. III.
- ZOO 518. MAMMALOLOGY** (5)
PR: BIO 201-203 and CI. The biology of mammals, including systematics, ecology, natural history, and geographical distribution. Lec.-Lab.
- ZOO 519. ICHTHYOLOGY** (5)
PR: ZOO 311. Systematics of fishes, including major classification, comparative anatomy, embryology, and general distribution. Lec.-Lab. (Also offered as MSC 519.)
- 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).
- ZOO 521. COMPARATIVE PHYSIOLOGY** (5)
PR: BIO 401-402. The evolution of physiological mechanisms. Lec.-Lab. Qtr. I.
- ZOO 525. BIOLOGY OF THE AMPHIBIA** (5)
PR: ZOO 311, BIO 445, 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 526. BIOLOGY OF THE REPTILIA** (5)
PR: ZOO 311, BIO 445, 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 545. ZOOGEOGRAPHY** (3)
PR: BIO 445. Zoogeographic principles and general patterns of terrestrial and marine distributions. Qtr. III.
- 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. Qtr. I.

- 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. Qtr. III.
- ZOO 562. MECHANISMS OF ANIMAL BEHAVIOR** (5)
PR: BIO 201-203, CHM 331-333, and CI. A comparative approach to communication and orientation in animals including homing behavior and biological clocks. Lec.-Lab. Qtr. I.
- ZOO 583. SELECTED TOPICS IN ZOOLOGY** (1-4)
PR: CI. Each topic is a program in directed study under supervision of a faculty member.

FOR GRADUATE STUDENTS ONLY

- 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 studied.
- ZOO 618. ADVANCED MAMMALOLOGY** (4)
PR: ZOO 518. Important literature and developments in mammalogy. Students will undertake individual research problems. Lec.-Lab.
- ZOO 620. 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 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 mechanisms. Lec.-Lab.
- 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.
- 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.
- ZOO 661. ADVANCED ANIMAL BEHAVIOR** (4)
PR: ZOO 461 and CI. Recent advances in comparative animal behavior (ethology). Lec.-Lab.
- ZOO 699. MASTER'S THESIS** (1-9)
PR: CI. May be repeated to a maximum of 9 credits. (S/U only).

CHEMISTRY (CHM)

(See also courses in the Physical Science section entitled PHS 209, 211, and 213.)

Chairperson: T. C. Owen; *Distinguished Professor of Chemistry:* W. C. Fernelius; *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:* R. L. Birke, F. M. Dudley, G. R. Jurch, J. A. Stanko, G. R. Wenzinger, K. P. Wong, J. H. Worrell; *Assistant Professors:* D. L. Akins, L. G. Howell, M. D. Johnston, D. O. Lambeth, D. J. Raber, S. W. Schneller, W. E. Swartz, J. O. Tsokos, J. E. Weinzierl, D. S. Wilkinson; *Adjuncts:* R. Davis, W. H. Huang, R. Mansell, L. Monley; *Interim Assistant Professor:* W. Nixon; *Visiting Lecturer:* B. Martin.

LOWER LEVEL COURSES

- 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 211. GENERAL CHEMISTRY I*** (3)
CHM 211 students are expected to have performed well in the 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 212. GENERAL CHEMISTRY II** (3)
PR: CHM 211 or equivalent. Continuation of General Chemistry. Lec. and discussion. Qtr. I, II, III, IV.
- CHM 213. GENERAL CHEMISTRY III** (3)
PR: CHM 212 or equivalent. Continuation of General Chemistry. Lec. and discussion. Qtr. I, II, III, IV.

*Placement examination for admission to CHM 101, 211 or 213 will be offered on the first day of registration before each quarter. Students should consult the Chemistry Office for time and place.

CHM 214. BASIC LABORATORY TECHNIQUES (4)

PR: CHM 212 or equivalent. Fundamental techniques of chemical research, including basic manipulations and equipment. One-quarter course for non-chemistry majors. Lec.-lab.

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 216. ACCELERATED GENERAL CHEMISTRY II (5)

PR: CHM 215. Continuation of Accelerated General Chemistry. Lec.-lab and discussion. Qtr. II.

CHM 217. GENERAL CHEMISTRY I LAB (1)

CR or 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. Lecture and lab may be taken concurrently. Qtr. I, II, III, IV.

CHM 218. GENERAL CHEMISTRY LAB II (1)

PR: CHM 217. CR or PR: CHM 212. Laboratory portion of General Chemistry II. Continuation of chemistry laboratory. Lecture and lab may be taken concurrently. Qtr. I, II, III, IV.

CHM 219. GENERAL CHEMISTRY LAB III (1)

PR: CHM 218. CR or PR: CHM 213. Laboratory portion of General Chemistry III. Continuation of chemistry laboratory. Lecture and lab may be taken concurrently. Qtr. I, II, III, IV.

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 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.

UPPER LEVEL COURSES**CHM 303. ELEMENTARY ORGANIC CHEMISTRY (4)**

PR: CHM 213 or equivalent. Fundamental organic chemistry principles. One-quarter course for non-chemistry majors only. Lec.-lab.

CHM 311. INTERMEDIATE INORGANIC CHEMISTRY (5)

PR: CHM 213/219 or CHM 216. Fundamental principles of inorganic chemistry. Lec.-lab. Qtr. II, IV.

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 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 or may not be taken concurrently. Qtr. I, II, III, IV.

CHM 333-334. ORGANIC CHEMISTRY II (3:2)

PR: CHM 331-332 or equivalent. Continuation of Organic Chemistry and lab. Lecture and lab may or may not be taken concurrently. Qtr. II, III, IV.

CHM 335-336. ORGANIC CHEMISTRY III (3:2)

PR: CHM 333-334 or equivalent. Continuation of Organic Chemistry and lab. Lecture and lab may or may not be taken concurrently. Qtr. I, III, IV.

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 342. ELEMENTARY PHYSICAL CHEMISTRY II (3)

PR: CHM 341. Kinetic behavior of systems, macromolecular solutions, and colloidal dispersions, nuclear chemistry, and spectroscopy.

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.

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.

CHM 354. BASIC BIOCHEMISTRY LABORATORY (3)

PR: CHM 351. Practical work in determination and characterization of important biomolecules, Lec.-lab.

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 411. ADVANCED INORGANIC CHEMISTRY (4)

PR: CHM 441 or CI. An advanced theoretical treatment of inorganic compounds. Lec. Qtr. I, III. (Formerly CHM 511.)

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.)

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.)

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 526 concurrently. Lec. Qtr. I, III. (Formerly CHM 525.)

CHM 426. CLINICAL LABORATORY (2)

PR: CHM 321, 351, and CI. Laboratory experience in some of the most important clinical determinations. CHM 525 must be taken concurrently. Lec.-lab. Qtr. I, III. (Formerly CHM 526.)

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 442. PHYSICAL CHEMISTRY II (4)

PR: CHM 441. Introduction to quantum mechanics and molecular spectroscopy. Lec. Qtr. II, III.

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 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 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 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 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.

*Placement examination for admission to CHM 101, 211 or 215 will be offered on the first day of registration before each quarter. Students should consult the Chemistry Office for time and place.

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 or mathematics is necessary. *No credit for Chemistry majors.*

CHM 481. UNDERGRADUATE RESEARCH (1-6)

PR: CI. (S/U only.) Qtr. I-IV.

CHM 483. SELECTED TOPICS IN CHEMISTRY (1-6)

PR: CI. The course content will depend on the interest of faculty members and student demand.

CHM 485. CLINICAL CHEMISTRY PRACTICE (3-8)

PR: CI. Laboratory practice in clinical chemistry laboratories in the Tampa Bay area. (S/U only.) Qtr. I-IV.

CHM 491. CHEMISTRY SEMINAR (1)

PR: Senior standing. Discussions of selected significant chemical topics of recent interest. (S/U only.) Qtr. II, III.

FOR SENIORS AND GRADUATE STUDENTS**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 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 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 542. APPLICATIONS IN PHYSICAL CHEMISTRY

PR: CHM 443. Applications of chemical theory to chemical systems with emphasis on chemical kinetics and molecular spectroscopy. Lec. Qtr. I.

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.

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 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.

FOR GRADUATE STUDENTS ONLY**CHM 611. STRUCTURAL INORGANIC CHEMISTRY (4)**

PR: CHM 511 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 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 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 623. ELECTROCHEMISTRY (4)

PR: CHM 521. Introduction to the theory of ionic solutions and electrode processes. Theory and applications of electrochemical measurements. Lec. Qtr. III.

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 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 633. ADVANCED ORGANIC CHEMISTRY III. SYNTHESIS (4)

PR: CHM 532. Detailed consideration of modern synthetic methods. Lec. Qtr. I.

CHM 634. ADVANCED ORGANIC CHEMISTRY IV. (4)

PR: CHM 532. The emphasis will vary from year to year.

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 643. QUANTUM CHEMISTRY I (4)

PR: CI. Introduction to elementary quantum mechanism. Atomic structure and spectra. Lec. Qtr. III.

CHM 645. QUANTUM CHEMISTRY II (4)

PR: CHM 643. PR: CI. Introduction to elementary quantum mechanics. Atomic structure and spectra. Lec. Qtr. I.

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.

CHM 654. ADVANCED BIOCHEMISTRY I. ENZYMES (4)

PR: CHM 659 or CI. A study of biochemical systems with emphasis on enzymes. Lec. Qtr. I.

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.

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.

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.)

CHM 658. GENERAL BIOCHEMISTRY II (4)

PR: CHM 657. Continuation of General Biochemistry I. Lec. Qtr. II. (Formerly CHM 552.)

CHM 659. GENERAL BIOCHEMISTRY III (4)

PR: CHM 658. Continuation of General Biochemistry II. Lec. Qtr. III. (Formerly CHM 553.)

CHM 661. MARINE CHEMISTRY (4)

PR: OGY 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 671. ADVANCED LABORATORY TECHNIQUES IN CHEMISTRY (1-3)

PR: Admission to graduate program in Chemistry. Development of advanced competence in the use and application of the special techniques and skills of the practising professional chemist. May be repeated up to a cumulative maximum of 15 hours. (S/U only.)

CHM 681. Graduate Research (1-3)

PR: Completion of M.S. qualifying examination requirements. Directed research involving close interaction with and supervision by faculty. May be repeated up to a cumulative total of 15 hours. (S/U only.)

- 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 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 689. DIRECTED TEACHING (1-3)**
PR: Admission to graduate program. May be repeated up to a cumulative total of 5 hours. (S/U only.)
- CHM 691. GRADUATE SEMINARS IN CHEMISTRY (2)**
PR: Admission to graduate program. Required every quarter (when offered) for all students enrolled in chemistry graduate program. Requires participation in and contribution to a divi-

sional seminar and attendance at the weekly departmental seminar. Must be repeated. (S/U only.)

- 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 699. MASTER'S THESIS (1-5)**
CR or PR: CHM 681. Data collection and development, organization and writing of the thesis under the direction of the student's major professor and committee. May be repeated up to a cumulative total of 15 hours. (S/U only.)
- CHM 781. DOCTORATE RESEARCH (1-5)**
PR: Completion of Ph.D. qualifying examination requirements. Directed research of the Ph.D. student under the supervision of faculty. May be repeated up to a cumulative total of 15 hours. (S/U only.)
- CHM 799. DOCTORATE DISSERTATION (1-5)**
CR or PR: CHM 781. Data collection and development, organization and writing the thesis under the direction of the student's major professor and committee. May be repeated up to a cumulative total of 20 hours. (S/U only.)

COMMUNICOLOGY (CLY)

Speech Pathology-Audiology/Aural (Re)Habilitation

Chairperson: S. W. Kinde; *Professors:* L. H. Ricker, D. C. Shepherd; *Associate Professors:* S. W. Kinde, S. I. Ritterman; *Assistant Professors:* J. B. Crittenden, A. A. Zenner; *Instructors:* R. L. Carlson, P. J. Coulter, C. F. Kuffel; *Lecturers:* E. A. L. Kasan, J. W. Scheuerle; *Adjuncts:* T. M. Edwards; *Interim Professor:* F. X. Frueh; *Interim Associate Professor:* E. T. Gray; *Interim Assistant Professor:* G. H. Horsfall; *Interim Instructor:* J. P. Glover.

LOWER LEVEL COURSES

- CLY 201. SURVEY OF COMMUNICATION DISORDERS (3)**
A general survey course concerning the nature and prevention of disorders of communication.

UPPER LEVEL COURSES

- 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.
- 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.
- CLY 311. ANATOMY OF THE SPEECH AND HEARING MECHANISM (6)**
The neurological and anatomical basis of communication disorders. Comparisons of normal and pathological organic structures and their functional dynamics. Separate sections concentrating on normal and abnormal aural physiology are scheduled for those students with a primary emphasis in audiology.
- CLY 312. INTRODUCTION TO RESEARCH PROCEDURES IN COMMUNICOLOGY (6)**
Perspectives 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.
- CLY 313. APPLIED PHONOLOGY (6)**
An examination of phoneme systems and distinctive features of their allophonic variants with particular emphasis upon those

superfixes and suprasegmental modifiers necessary to the understanding and recording of early developmental and deviant speech patterns.

- 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.
- 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.
- 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.

FOR SENIORS AND GRADUATE STUDENTS

- 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, audio-feedback, video equipment, behavior measuring devices.
- 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.
- 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.
- 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.
- CLY 572. AUDIOLOGY: HEARING SCIENCE (6)**
PR: Admittance to the Program or CI. Introduction to psycho-acoustical phenomenon as it relates to the measurement of

- hearing. Overview of principles and methods of identification audiometry with emphasis on neonatal, pre-school, 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.
- CLY 573. AUDIOLOGY: SPEECH AUDIOMETRY (4)**
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 a clinical setting.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- CLY 581. SUPERVISED RESEARCH (1-12)**
PR: CI. Individualized programs of student research approved and supervised by a faculty member.
- 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.
- 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.
- FOR GRADUATE STUDENTS ONLY**
- 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.
- 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.
- 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.
- CLY 623. DIALECT AS A COMMUNICATION DISORDER (4)**
PR: CI. Research and clinical literature on dialect as a communication disorder.
- 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.
- 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 pseudohypocacus including the use of objective audiometry.
- 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.
- 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.
- CLY 677. HEARING CONSERVATION (4)**
PR: CLY 573 or CI. A comprehensive study of all aspects 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.
- 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.
- CLY 681. GRADUATE RESEARCH (1-12)**
PR: CI. The student plans and conducts an individual research project under the supervision of a speech pathology or audiology faculty member.
- 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.
- 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.
- 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 698. PRACTICUM (1-12)**
PR: CI. Participation in speech pathology and audiology practicum in the University clinical laboratory and selected field settings.
- CLY 699. THESIS (1-9)**

COOPERATIVE EDUCATION (COE)

Coordinating Staff: G. F. Lentz, G. R. Card, K. S. Ash, D. A. Haney, P. D. Jackson.

- COE 171. COOPERATIVE EDUCATION, 1ST TRAINING PERIOD** (0)
PR: 24 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.)
- COE 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)

Director: M. Silverman; *Professor:* H. Vetter; *Associate Professors:* W. R. Blount, M. C. Dertke, J. T. Reilly, M. Silverman, L. Territo, M. Vega; *Assistant Professors:* H. Harper, I. J. Silverman; *Instructor:* D. Agresti; *Interim Lecturer:* S. Oster.

LOWER LEVEL COURSES

- CJP 200. MAN, CRIME, AND SOCIETY** (4)
PR: None. Designed to give the undergraduate non-major a non-technical 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.*

UPPER LEVEL COURSES

- CJP 300. SURVEY OF CRIMINAL JUSTICE SYSTEM** (5)
PR: PSY 201, 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.)
- 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.
- CJP 302. LEGAL FOUNDATIONS OF CRIMINAL JUSTICE** (4)
PR: CJP 300, POL 201 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.
- 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.)

CJP 410. THEORY AND PRACTICE OF LAW

ENFORCEMENT

- 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.

CJP 412. THE LAW ENFORCEMENT OFFICER AND THE COMMUNITY

- 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.

CJP 420. THEORY AND PRACTICE OF CORRECTIONS

- 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.

CJP 421. JUVENILE CORRECTIONS

- PR: Junior standing plus CJP 420, or CI. Provides an indepth 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.

CJP 422. THE PROBATION AND PAROLE PROCESS

- 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.

CJP 425. INDIVIDUAL AND GROUP PROCESSES IN CORRECTIONAL TREATMENT I

- PR: Senior standing, PSY 201, CJP 421. Designed to introduce the student to theories and methods underlying treatment modalities currently employed in corrections.

CJP 426. INDIVIDUAL AND GROUP PROCESSES IN CORRECTIONAL TREATMENT II

- 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 480. RESEARCH METHODS IN CRIMINAL JUSTICE

- 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.

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.

CJP 485. DIRECTED READINGS (1-5)

PR: CI. This course is specifically designed to enable advanced students the opportunity to do indepth 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.

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.)

CJP 499. INTERSHIP 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.)

FOR GRADUATE STUDENTS ONLY

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.

CJP 602. INTRODUCTION TO RESEARCH AND EVALUATION IN CRIMINAL JUSTICE (4)

An introduction to research, evaluation, statistics, data management 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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

CJP 681. 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.)

CJP 691. CRIMINAL JUSTICE INTERSHIP* (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.)

*Practicum is required of all students 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.

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.

CJP 699. THESIS**(1-15)**

1 hour required for all students. This course will provide the student an opportunity to perform an original piece of research under the direction of a faculty committee. A minimum of 22 hours of graduate work in Criminal Justice must be completed prior to enrollment. Mandatory in all sub-specialties. Repeatable. (S/U only.)

DANCE (DAN)

Chairperson: W. G. Hug; *Professor:* W. G. Hug; *Assistant Professors:* C. Robinson, R. Sias.

LOWER LEVEL COURSES

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.

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.

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.

UPPER LEVEL COURSES

DAN 301. INTERMEDIATE MODERN (3)

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.

DAN 302. INTERMEDIATE BALLET (3)

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. Material covered as practical work in class with concerts and performances. Rehearsal hours to be arranged. May be repeated.

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.

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 311. REPERTORY (1)

The development and performance of solo and/or group dances. Open to all University students by audition. May be repeated.

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 313. WORLD HISTORY OF DANCE (3)

Study of the development of dance from its inception through the Middle Ages. Reading, lecture.

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.

DAN 371. HATHA YOGA (2)

A course to experience and practice the basic *asanas* (bodily postures), *pranayama* (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.

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 style 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. (Formerly DAN 401 and DAN 461.)

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. (Formerly DAN 402 and DAN 462.)

DAN 403. CHOREOGRAPHY III (3)

PR: DAN 303 or CI. 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 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 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.

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 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 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 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 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.

DEVELOPMENTAL COURSES

DMA 001. BASIC CONCEPTS OF ALGEBRA (0)

A programmed learning course in Algebra from a modern point of view for the convenience of persons without adequate knowledge of simple algebraic manipulations and for persons without adequate preparation for MTH 101.

DMA 002. ANALYTICAL TRIGONOMETRY (0)

A programmed learning course in the study of the trigonometric functions as functions of real numbers and their

application to triangles.

DRS 001. DEVELOPMENTAL STUDY SKILLS (0)

Designed to help students develop efficient learning methods needed for college success. Includes instruction and practice, in effective study techniques, ranging from developing proper attitude toward studying, listening, and taking notes to preparation for and taking exams.

ECONOMICS (ECN)

Chairperson: T. D. Curtis; *Professors:* J. M. Blair, G. C. Brunhild, T. D. Curtis, H. S. Dye; *Associate Professors:* R. H. Burton, J. P. Cooke, J. A. Dalton, W. J. Herman, J. B. Kennedy, G. H. Mellish, R. J. Murphy, R. F. Shannon, E. W. Shows, G. C. Steinike; *Assistant Professors:* J. A. Anderson, K. W. Davey, E. J. Ford, Jr., E. A. Hanni, R. James, F. G. Whartenby; *Instructors:* C. B. Hawley, R. L. Moss.

LOWER LEVEL COURSES

ECN 100. CONTEMPORARY ECONOMIC PROBLEMS (5)

Problem of scarcity, role of ethical values, economic processes, specific economic problems, alternative solutions, and evaluating economic performance.

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.

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.

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.

UPPER LEVEL COURSES

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.

ECN 311. LABOR ECONOMICS (4)

PR: CI. History of the trade union movement; economic analysis of trade union philosophies and practices; examina-

tion of basic influences affecting labor force, real wages and employment; collective bargaining and labor law.

ECN 313. COLLECTIVE BARGAINING (5)

PR: ECN 311. The administration of labor-management arguments, mediation and arbitration of industrial disputes and governmental role in collective bargaining.

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.

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.

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.

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.

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.

ECN 361. 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.

- ECN 371. AMERICAN ECONOMIC HISTORY (4)**
The growth and evolution of American economic institutions from Colonial times to the present.
- ECN 373. ECONOMICS OF THE URBAN ENVIRONMENT (5)**
PR: CI. Economic analysis of urban problems including: land use, transportation, Urban Labor Markets, and the local public sector.
- ECN 401. HISTORY OF ECONOMIC THOUGHT (5)**
PR: ECN 201-202. 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.
- 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.
- 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.
- ECN 423. PUBLIC FINANCE (5)**
PR: ECN 301, 323. 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.
- ECN 425. MONETARY THEORY (5)**
PR: ECN 301, 323. An examination of the impact of the financial sector upon real economic magnitudes. 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.
- 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.
- 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.
- ECN 451. INTERNATIONAL COMMERCIAL POLICIES (4)**
PR: ECN 351. An advanced analysis of balance of payments equilibrating mechanisms and of international commercial policy.
- 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.
- 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.

- ECN 489. SEMINAR IN SELECTED ECONOMIC TOPICS (3-5)**
PR: Senior standing and CI. Topics to be selected by the instructor or instructors on pertinent economic issues.

FOR SENIORS AND GRADUATE STUDENTS

- 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.
- ECN 502. MACROECONOMICS (3)**
PR: 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.
- ECN 503. STATISTICS FOR BUSINESS (3)**
PR: ECN 231 and College Algebra. Statistical inference and decision theory applied to problems of business management.
- 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.
- 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.
- 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.
- ECN 519. INDUSTRIAL ORGANIZATION I—STRUCTURE (4)**
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.
- 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.
- 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.
- 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.

FOR GRADUATE STUDENTS ONLY

- 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.
- 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.
- 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.
- 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.
- 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.
- ECN 607. AGGREGATE ECONOMICS (3)**
PR: ECN 201-202 or ECN 501-502. An analysis of the macro-

economic interrelationships determining the level of income, employment, prices, and interest rates over time and the impact of governmental policy activities upon these variables. The course emphasizes forecasting the movement of these variable in the interest of improving the planning process as carried out by the individual business firm.

- 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.
- 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 underemployment.
- ECN 623. PUBLIC FINANCE (5)**
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, income distribution, stability and economic growth.
- 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.
- 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.
- ECN 699. THESIS (6-9)**
PR: CC.

COLLEGE OF EDUCATION

Professors: E. C. Anderson, M. L. Austin, J. W. Barnard, J. A. Battle, W. F. Benjamin, W. K. Bott, L. E. Bowers, H. F. Boyd, M. E. Crickenberger, D. G. Ferguson, J. C. Follman, J. A. Howell, C. W. Hunnicutt, R. M. Jaeger, G. O. Johnson, H. J. Keeler, D. L. Lantz, D. R. Lichtenberg, C. C. Manker, J. L. Mazur, H. C. Merriam, L. E. Monley, D. D. Neville, R. L. Ober, D. E. Orlosky, R. A. Patouillet, D. M. Purdom, J. H. Robinson, R. L. Shannon, J. T. Sisco, A. G. Smith, B. O. Smith, D. E. Stone, R. A. Urbanek, C. Weingartner, W. W. West, R. W. Wiley, R. E. Wilk; *Associate Professors:* L. V. Anderson, W. W. Beasley, J. C. Bondi, H. G. Brady, B. C. Brantley, F. D. Breit, V. A. Bridges, R. G. Bruce, J. T. Bullock, W. W. Burley, C. H. Busha, J. A. Chambers, C. J. Craig, W. P. Danenburg, J. C. Dickinson, V. J. Drapela, L. D. Dubois, R. C. Dwyer, C. W. Engel, T. D. Freijo, J. K. Gates, O. G. Geiger, F. S. Goforth, B. W. Hall, H. A. Hoffman, D. P. Jaeschke, E. V. Johnningmeier, R. E. Johnson, H. G. Karl, L. T. Karns, T. W. Keene, F. B. Keiter, E. Kimmel, G. H. Kincaid, M. Kleg, S. E. Klesius, C. D. Lavelly, B. Lax, J. Levy, B. Lichtenberg, R. Linder, J. A. Long, R. L. Loveless, A. J. Lowe, L. McClellan, P. E. McClendon, W. J. Musgrove, P. J. Newcombe, R. E. Palmer, E. E. Panther, D. D. Peterson, H. P. Pfost, J. Selman, S. H. Silverman, S. P. Singh, D. D. Sisk, C. D. Smith, H. E. Steiner, C. M. Story, J. C. Stovall, P. W. Tanner, T. S. Tocco, R. C. Toothman, A. M. Troutman, A. E. Uprichard, A. Ward, V. W. Whitney, T. C. Wilson; *Assistant Professors:* C. L. Anderson, B. L. Beasley, D. E. Bostow, W. T. Bridges, H. C. Bryant, L. Campbell, D. L. Carroll, L. P. Cleary, R. Cline, C. H. Collier, L. J. Cotton, J. Croft, P. Czyzewski, M. W. Durso, F. W. Freshour, L. C. Greabell, S. P. Harter, T. K. Hearn, R. Hill, M. S. Holland, F. F. Johnson, B. W. Kazanis, M. L. Mann, J. A. Merica, R. I. Mumme, J. A. Olson, G. E. Patterson, E. R. Phillips, R. F. Pride, F. L. Prince, D. J. Puglisi, R. A. Scott, I. M. Sexton, H. A. Sproles, D. J. Stapleton, M. S. Swafford,

S. Thompson, B. Thorstenberg, G. M. Towery, A. E. Unruh, G. W. Vanover, M. G. Villeme, G. M. Weeks, H. Weinberg; *Instructors:* G. R. Barkholz, J. Gowen, E. C. Guetzloe, A. F. Kerns, J. Klesius, B. V. LeBaron, J. E. Lima, G. S. Marin, W. E. Pearcey, J. E. Radloff, C. J. Schwartz, E. K. Tivnan; *Lecturers:* J. Borg, R. E. Dwyer, C. A. Gordon, J. C. Moore, C. J. Pierce, J. S. Pope, L. R. Stewart, F. Totten, J. F. Young; *Counselor Advisor:* L. G. Roberts; *Teaching Associates:* R. G. Brightwell, N. Cooke, B. B. Lightfoot, M. P. Nesman, P. M. Robertson.

Art Education (EDA)**UPPER LEVEL COURSES**

- 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 communicative skills, both verbal and visual. Focus will be on the individual and potential alternatives in the teaching of art. (Formerly EDA 377).
- 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.

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.

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, visual 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).

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.

EDA 452. ART MEDIA FOR CHILDREN (5)

PR: EDE 421 or EDA 308. An in-depth study of arts and craft media for children. Emphasis will be placed on innovative use of new materials. (Formerly EDA 521.)

EDA 455. EXPERIMENTAL FILMMAKING FOR CHILDREN (5)

PR: EDA 308 or EDE 421 or EDE 435 (suggested: COM 550). 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.)

FOR GRADUATE STUDENTS ONLY

EDA 660. HISTORICAL AND PHILOSOPHICAL FOUNDATION OF ART EDUCATION (4)

Past and contemporary philosophies and practices in art education.

EDA 661. ADMINISTRATION AND SUPERVISION OF ART EDUCATION (4)

Principles of administration and supervision of art programs in the school.

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.

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 programs, planned workshop and research.

Curriculum (EDC)

LOWER LEVEL COURSES

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.)

UPPER LEVEL COURSES

EDC 401. CURRICULUM AND INSTRUCTION (5)

PR: EDG 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.

EDC 480. DIRECTED STUDY (1-4)

PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

EDC 481. INDIVIDUAL RESEARCH (1-4)

PR: Senior standing and consent of program coordinator.

EDC 485. DIRECTED READINGS (1-4)

May be repeated for a total of 4 quarter hours.

EDC 498. SENIOR SEMINAR IN EDUCATION (3)

PR: Senior standing. Synthesis of teacher candidate's courses in his complete college program. Required concurrently with student teaching.

EDC 499. SUPERVISED TEACHING (1-12)

One full quarter of student teaching in a public or private school. Student teacher 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.)

FOR SENIORS AND GRADUATE STUDENTS

EDC 501. CURRICULUM AND INSTRUCTION: ELEMENTARY OR SECONDARY (5)

Curriculum scope, sequence and interrelationships, with a critical evaluation of current trends.

EDC 510. HEALTH PROBLEMS IN CHILDREN (4)

Health problems prevalent in the culturally disadvantaged child and the teacher's role in referral or educational adaptation in classroom activities.

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.

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.

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.

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.)

FOR GRADUATE STUDENTS ONLY

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.

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.

EDC 671. PRINCIPLES OF EDUCATIONAL ADMINISTRATION (5)

Educational administration as a profession. Consideration is given to organization control, and support of the educational system.

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.

EDC 675. SCHOOL FINANCE (4)

PR: Principles of Educational Administration of CI. A study of the support of public education programs through local, state, and federal sources; principles guiding the distribution of funds for equal educational opportunity; methods of budget preparation and administration; and projecting future funding requirements.

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.

EDC 681. DIRECTED STUDY (1-4)

Extensions of competency in teaching field. (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.

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.

EDC 689. SUBJECT SPECIALIZATION PLANNING SECONDARY (4)

Individually planned course in a secondary school subject area for in-service teachers.

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.)

EDC 695. 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.

EDC 699. THESIS (1-9)**EDC 781. GRADUATE RESEARCH (1-5)**

PR: CC. Directed study related to educational research, including participation in regular seminars. May be repeated for credit to a maximum of 15 hours.

EDC 783. SELECTED TOPICS (1-5)

PR: CC. Selected topics in advanced Education. May be repeated for credit to a maximum of 15 hours.

EDC 791. GRADUATE SEMINAR (1-5)

PR: CC. Seminar in advanced Education. May be repeated for credit to a maximum of 15 hours.

EDC 799. DISSERTATION (1-5)

PR: CC. May be repeated for credit to a maximum of 15 hours.

Elementary Education (EDE)**LOWER LEVEL COURSES****EDE 201. INTRODUCTION TO EARLY CHILDHOOD EDUCATION (4)**

An overview of early childhood education with emphasis on its historical development, current theories, and practices.

UPPER LEVEL COURSES

EDE 409 through EDE 440 open only to upper-level majors in Early Childhood, Elementary, or Exceptional Child Education.

EDE 409. READING FOR THE CHILD (5)

PR: Admission to College of Education and EDF 305. Readiness, word recognition (phonics, structural, and contextual analysis) word meanings, basic study skills, comprehension abilities and reading interests: in-school work required.

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.

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.

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.

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.

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.

EDE 421. ART FOR THE CHILD (4)

PR: Admission to College of Education. Art and the intellectual, creative, emotional, and esthetic growth of children.

EDE 423. MUSIC FOR THE CHILD: SKILLS (2)

PR: Admission to College of Education. Voice production, music reading, creative composition and some instrumental experience. School song materials used to support this work.

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.

EDE 425. HEALTH, PHYSICAL EDUCATION FOR THE CHILD (4)

PR: Admission to College of Education. Motivating factors of play; knowledge and skill in basic rhythmic activities; games and stunts; health instruction for the child.

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.

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.)

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 440. TEACHING METHODS IN THE ELEMENTARY SCHOOL (4)

PR: Admission to the College of Education. Suggested co-requisite: 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. (S/U only.)

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.)

FOR SENIORS AND GRADUATE STUDENTS**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.

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.

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.

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.

FOR GRADUATE STUDENTS ONLY

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.

EDE 609. TRENDS IN READING IN THE ELEMENTARY SCHOOL (4)

PR: EDE 409 or equivalent. Extensive study of recent trends in materials, approaches, and procedures in teaching reading in the elementary school.

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.

EDE 613. CREATIVE ARTS INSTRUCTION (4)

Creative processes in the teaching of visual arts, music, dance, and drama to elementary school pupils.

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.

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.

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.

EDE 621. ART FOR THE ELEMENTARY SCHOOL TEACHER (4)

Exploration of various materials and techniques in relationship to current theories about art and the intellectual, creative, emotional and esthetic growth of children.

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.

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.

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.

EDE 641. PROBLEMS IN SUPERVISION (4)

PR: EDF 607 or equivalent and EDC 661. Problems in supervising for curriculum improvement within the elementary school.

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.)

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.)

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.

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 687. SUBJECT SPECIALIZATION PLANNING: ELEMENTARY (4)

Individually planned course in an elementary school subject area for in-service teachers.

English Education (EDT)

UPPER LEVEL COURSES

EDT 431. CURRENT TEACHING OF ENGLISH LANGUAGE AND MEDIA (4)

PR: CI. Acceptance into College of Education. Methods of teaching language and media. Includes current findings on teaching usage, dialect, grammar, and semantics, as well as approaches to media in English. (Formerly EDT 531.)

EDT 447. TEACHING METHODS IN THE SECONDARY SCHOOL—ENGLISH (4)

PR: EDC 401 or concurrent registration in EDC 401. Techniques and materials of instruction in English Education. In addition it includes reading instruction in the subject area.

EDT 463. TEACHING METHODS IN THE SECONDARY SCHOOL—JOURNALISM (4)

PR: EDC 401 or concurrent registration in EDC 401. Techniques and materials of instruction in journalism.

FOR SENIORS AND GRADUATE STUDENTS

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 advisor.

FOR GRADUATE STUDENTS ONLY

EDT 631. CURRENT TRENDS IN SECONDARY ENGLISH EDUCATION (4)

Curricular patterns and instructional practices in secondary English.

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.

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.

Exceptional Child Education (EDS)**UPPER LEVEL COURSES****EDS 311. EXCEPTIONAL CHILDREN IN THE SCHOOLS (4)**

PR: EDF 305 or CI. Characteristics and needs of the Culturally Disadvantaged, Emotionally Disturbed & Socially Maladjusted, Gifted, Hearing Impaired, Mentally Retarded, Physically Handicapped, Speech Impaired, & Visually Limited.

EDS 322. INTRODUCTION TO MENTAL RETARDATION (4)

PR: EDF 305, EDS 311, or CI. Classification, diagnosis, characteristics, and treatment of the mentally retarded.

EDS 329. UNDERGRADUATE SUPERVISED PRACTICUM IN MENTAL RETARDATION (6)

Supervised Practicum experiences in the educational, social and vocational planning of mentally retarded individuals.

EDS 350. INTRODUCTION TO GIFTED CHILDREN (4)

PR: Junior class standing. Diagnosis, characteristics, and educational provision of the gifted and talented.

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.

EDS 389. UNDERGRADUATE SUPERVISED PRACTICUM IN SPECIFIC LEARNING DISABILITIES (6)

PR: EDS 311, EDS 481, and CI. Supervised practicum experiences in classes for children with specific learning disabilities.

EDS 411. EDUCATIONAL ASSESSMENT OF EXCEPTIONAL CHILDREN (4)

PR: EDF 305, EDS 311, and Special Educational 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.

EDS 423. PROCEDURES AND MATERIALS FOR ELEMENTARY AGE EDUCABLE MENTALLY RETARDED CHILDREN (4)

PR: EDS 329 and CI. Special class organization, curriculum development, procedures and materials for elementary age educable mentally retarded children. (Formerly EDS 423 I.)

EDS 424. EDUCATIONAL PROCEDURES FOR THE TRAINABLE MENTALLY RETARDED (4)

PR: EDS 322 or CI. Special class organization, curriculum adjustments, methods and techniques of teaching the trainable retarded.

EDS 425. PROCEDURES AND MATERIALS FOR SECONDARY AGE EDUCABLE MENTALLY RETARDED YOUTH AND ADULTS (4)

PR: EDS 329 and CI. Special class organization, curriculum development, procedures and materials for secondary age educable mentally retarded youth and adults. (Formerly EDS 423 II.)

EDS 431. CLASSROOM MANAGEMENT OF CHILDREN AND YOUTH WITH BEHAVIOR DISORDERS (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.

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 Emotionally Disturbed, concurrent enrollment in EDS 439. 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.

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.

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.

EDS 481. THEORIES IN SPECIFIC LEARNING DISABILITIES (4)

PR: Senior standing and CI. Characteristics, needs and abilities of children with specific learning disabilities. Emphasis is on theories, issues, trends, and philosophy of problems for such children. (Formerly EDS 581.)

EDS 482. SKILLS IN DIAGNOSIS AND INSTRUCTION FOR CHILDREN WITH SPECIFIC LEARNING DISABILITIES (4)

PR: EDS 481 and CI. Instructional diagnosis and individualizing instruction for children with specific learning disabilities. (Formerly EDS 582.)

FOR SENIORS AND GRADUATE STUDENTS**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.

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.

EDS 531. BEHAVIOR DISORDERS IN THE SCHOOLS (4)

PR: EDF 305 or EDF 377 or PSY 201 or CI. Survey of emotional and social disorders in children and the implications for educational programs. Students may not receive credit for both EDS 531 and PSY 613. Behavioral Disorders of Children.

EDS 541. THE CULTURALLY DISADVANTAGED AND THE SCHOOLS (4)

Characteristics and needs of the culturally disadvantaged and their implications for educational programming.

EDS 550. NATURE AND NEEDS OF THE GIFTED (4)

Characteristics and educational needs of gifted children and youth.

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.

EDS 559. SUPERVISED PRACTICUM FOR THE GIFTED (1-14)

Planned supervised participation in activities related to specific areas of the gifted.

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. (Formerly EDS 660)

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.

EDS 562. TEACHING THE CEREBRAL PALSID CHILD (4)

PR: EDS 311 or CI. Introduction to the educational, psychological aspects of cerebral palsy and its implications for classroom teachers. (Formerly EDS 662)

FOR GRADUATE STUDENTS ONLY

EDS 610. SEMINAR IN SPECIAL EDUCATION (4)

A critical survey of the literature related to the psychological, sociological, and education problems of exceptional children.

EDS 611. PSYCHO-EDUCATIONAL APPRAISAL OF EXCEPTIONAL CHILDREN (4)

PR: EDS 311 or EDS 610, EDS 411, EDF 607 or CI. Educational planning for exceptional children based on diagnostic information. Includes both lecture and practicum experiences in evaluative and instructional techniques for exceptional children.

EDS 612. SUPERVISION OF EXCEPTIONAL CHILD PROGRAMS (4)

PR: CI. Principles of supervision and their application to exceptional child education.

EDS 613. ADMINISTRATION OF EXCEPTIONAL CHILD PROGRAMS (4)

PR: CI. Procedure which local, state, and national administrators may use to implement services for exceptional children.

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.

EDS 621. SOCIOLOGICAL AND EDUCATIONAL ASPECTS OF MENTAL RETARDATION (4)

PR: EDS 311, CI. Evaluation of relevant literature.

EDS 622. ADVANCED EDUCATIONAL PROCEDURES FOR THE MENTALLY RETARDED (4-8)

PR: EDS 423, experience in teaching the retarded, identification of a problem prior to registration, or CI. Specific curriculum and methodological problems in teaching the retarded.

EDS 623. CURRENT TRENDS AND ISSUES IN THE EDUCATION OF THE MENTALLY RETARDED (4)

PR: EDS 610 and CI. Survey of current trends and issues related to the education of the mentally retarded.

EDS 631. EDUCATIONAL IMPLICATIONS OF THE PSYCHOPATHOLOGIES OF EXCEPTIONAL CHILDREN (4)

PR: EDS 531 and CI. In-depth survey of childhood psychopathology covering autism, schizophrenia and psychotic behavior. Guided exploration of exemplary services, treatment and methodology.

EDS 632. EDUCATIONAL PROGRAMMING FOR EMOTIONALLY DISTURBED CHILDREN I (4)

PR: EDS 531 and CI. Personality dynamics and research findings as related to the interpretation of disturbed behavior; techniques for the management of individual, small group, and classroom behavior.

EDS 633. EDUCATIONAL PROGRAMMING FOR EMOTIONALLY DISTURBED CHILDREN II (4)

PR: EDS 531, 632, or CI. Personality dynamics and learning theory as related to the facilitation of learning and communication; techniques for teaching both individuals and groups with emphasis on improved interpersonal relations, academic learning, and communication skills.

EDS 639. FIELD WORK IN EMOTIONALLY DISTURBED (1-14)

PR: EDS 531 (may be taken concurrently) and CI. Supervised graduate practicum experiences with emotionally disturbed children. A one hour per week Seminar is required concurrent with practicum.

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 will 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.

EDS 649. FIELD WORK WITH POTENTIALLY HANDICAPPED (CULTURALLY DISADVANTAGED) (1-9)

Teaching and participation in activities related to teaching disadvantaged young children (N-3).

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.

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.

EDS 681. 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.

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.

EDS 700. PHILOSOPHY AND PROCESS IN THE PREPARATION OF SPECIALISTS IN SPECIAL 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.

EDS 710. SEMINARS IN SPECIAL 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.

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.

EDS 714. EDUCATIONAL IMPLICATIONS OF PSYCHO-SOCIAL 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.

EDS 719. FIELDWORK WITH EXCEPTIONAL CHILDREN (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.

EDS 783. SELECTED TOPICS AND GRADUATE**RESEARCH STUDIES IN SPECIAL 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.

EDS 785. SPECIALIZED STUDY IN: MENTAL RETARDATION, EMOTIONALLY DISTURBED, 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.

EDS 799. DISSERTATION. (1-16)

PR: CI. The supervised writing of a doctoral dissertation. May be repeated for a maximum of 16 hours.

Foreign Language Education (EDX)**UPPER LEVEL COURSES****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.

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.

FOR GRADUATE STUDENTS ONLY**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)**UPPER LEVEL COURSES****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 305. HUMAN DEVELOPMENT AND LEARNING (4)

PR: SSI 201, 203 or 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, micro-teaching. Credit cannot be earned for both EDF 305 and EDF 377.

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 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 311. COMPARATIVE EDUCATION (4)

PR: Upper level standing. A comparison of contemporary educational systems of selected countries with that of the United States.

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 377. EDUCATIONAL PSYCHOLOGY (4)

PR: Upper Level standing. The application of behavioral principles to human behavior in educational institutions, home and community settings. Credit cannot be earned for both EDF 305 and EDF 377. (For non-education majors only.)

EDF 379. BEHAVIOR MODIFICATION TECHNIQUES (4)

PR: EDF 305. Special techniques in behavior modification for children with learning difficulties.

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.)

FOR SENIORS AND GRADUATE STUDENTS**EDF 502. ADOLESCENCE (4)**

A study of the educational, intellectual, personality, physical, social and vocational factors in adolescence.

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 585. PROGRAMMED INSTRUCTION AND TEACHING MACHINES (4)

Principles for programming in the several academic subjects.

FOR GRADUATE STUDENTS ONLY**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 607. FOUNDATIONS OF EDUCATIONAL RESEARCH (4)

PR: EDF 605. Major types of educational research, with emphasis upon understanding the experimental method.

EDF 611. PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (4)

Selected topics in psychology of human development and learning.

EDF 612. CHILD DEVELOPMENT (4)

PR: EDF 611 or CI. Educational, emotional, hereditary, intellectual, social and physical factors influencing child growth and development.

EDF 613. PRINCIPLES OF LEARNING (5)

A consideration of several theories of learning and related research studies in regard to classroom application.

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 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 621. SOCIO-ECONOMIC FOUNDATIONS OF AMERICAN EDUCATION (4)

Significant socio-economic factors as they relate to major problems facing American education.

EDF 623. HISTORICAL FOUNDATIONS OF AMERICAN EDUCATION (4)
 Historical and comparative problems in American education which are relevant to contemporary issues.

EDF 625. PHILOSOPHICAL FOUNDATIONS OF AMERICAN EDUCATION (4)
 Major philosophies of education which are relevant to an understanding of contemporary educational issues.

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 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 635. BEHAVIOR THEORY AND CLASSROOM LEARNING (4)
 PR: EDF 613 or CI. Theoretical and practical application of behavior modification. 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 modification—critical analysis; field work.

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 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 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.

Guidance (EDG)

UPPER LEVEL COURSES

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.

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.

EDG 404. PROBLEMS IN RESIDENCE HALL MANAGEMENT (2)
 PR: CI. In-depth study of problems related to residence hall living.

FOR SENIORS AND GRADUATE STUDENTS

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.

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)

FOR GRADUATE STUDENTS ONLY

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.

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.

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.

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 administration. Guidance roles and relationships of members of the school staff.

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.

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.

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.

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.

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.

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.)

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.)

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. (S/U only.) May be repeated for credit for a maximum of 6 hours.

EDG 681. 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.)

Health Education (HEN)

LOWER LEVEL COURSES

HEN 201. CONTEMPORARY HEALTH SCIENCE (4)

PR: None. A comprehensive approach to health concerns and problems in contemporary society, including methods of assessing individual health needs. (S/U only.)

UPPER LEVEL COURSES

HEN 310. PROCESSES AND PROGRAMS IN HEALTH EDUCATION (5)

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.)

HEN 311. STRUCTURE AND FUNCTION OF THE HUMAN BODY (4)

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.)

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.)

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.)

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.)

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.)

HEN 333. SOCIETY: CHILD AND PUBESCENT HEALTH (2)

PR: Admission to the program of CI. Seminar for students, supervisors and professionals from health related disciplines. (S/U only.)

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.)

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.)

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.)

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.)

HEN 423. SOCIETY AND HEALTH: ADULTS (2)

PR: Admission to the program or CI. A seminar for students, physicians, social workers, health educators from public and private agencies, nutritionists, health care personnel, etc., for the exchange of program information and new developments in health information and research. (S/U only.)

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.)

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)

UPPER LEVEL COURSES

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)

FOR GRADUATE STUDENTS ONLY

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 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)

UPPER LEVEL COURSES

EDL 400. THE LIBRARY, EDUCATIONAL TECHNOLOGY AND SOCIETY (3)

PR: CI, or entrance into program. The place of the library in comparison with other educational institutions in society. Impact of educational technology on change in educational practices and the building of an instructional materials center (or school media center) concept.

EDL 410. INTRODUCTION TO EDUCATIONAL TECHNOLOGY (3)

PR: EDL 412 or CI. The importance of educational technology for the media specialist. History, concepts, and relevance for the implementation of behavioral objectives.

EDL 411. SCHOOL LIBRARY ADMINISTRATION AND SERVICE (5)

PR: Admission to College of Education. Development, philosophy, objectives, standards and current trends in school libraries. Introduction to library operations, programs and services in the school and the community.

EDL 412. SCHOOL MEDIA CENTER ADMINISTRATION (5)

PR: EDL 400 or CI. Media quarters (materials center), facilities and equipment. Identification of staff services and examination of practices and methods for providing such services.

EDL 413. GENERAL REFERENCE SOURCES (4)
Examination of the types and functions of basic reference materials with emphasis on encyclopedias, dictionaries, year-books, manuals, and basic bibliographical tools; emphasis will be placed on materials of reference value in school media centers. (Formerly EDL 513.)

EDL 414. SELECTION OF MATERIALS FOR ELEMENTARY SCHOOL CHILDREN (4)
Emphasis on the selection of materials to be used in grades 1-6 by school media personnel and other resource teachers. Stress on selection for curricular needs and other special learning needs of the child. (Formerly EDL 514.)

EDL 415. CATALOGING OF NON-BOOK MATERIALS FOR THE SCHOOL MEDIA CENTER (2)
PR: CI. Practice in the cataloging of all non-book materials used in media centers. Survey of systems for pre-cataloging and their acquisition procedures.

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.

EDL 419. AUDIOVISUAL MATERIALS OF INSTRUCTION (4)
PR: Admission to College of Education. Selection, utilization and care of audio-visual materials and equipment.

EDL 423. PREPARATION AND PRODUCTION OF INSTRUCTIONAL MATERIALS (4)
Basic techniques for the preparation of a variety of instructional materials for use in the classroom. (Formerly EDL 523.)

EDL 424. STORYTELLING FOR ELEMENTARY SCHOOL CHILDREN (4)
Techniques and materials for the beginner in storytelling for elementary school children. For the teacher as well as for the school media professional. (Formerly EDL 524.)

EDL 440. METHODS OF TEACHING IN THE SCHOOL MEDIA CENTER (4)
PR: Must be taken concomitantly with EDL 480 or CI. Methods unique to working with pupils within the school media suite. Facilitating cooperation with teachers.

EDL 455. BASIC CATALOGING AND INTRODUCTION TO TECHNICAL SERVICES FOR SCHOOL MEDIA CENTERS (5)
Designed to give the student basic knowledge of major technical services activities in school media centers with emphasis on principles of cataloging and classification. (Formerly EDL 515.)

EDL 459. INTRODUCTION TO MEDIA FOR YOUNG ADULTS (5)
Examination and evaluation of both print and non-print media for young adults as used in secondary school libraries. Basic principles of selection and utilization. Identification and use of bibliographic sources essential in the selection process. (Formerly EDL 519.)

EDL 480. PRE-INTERNSHIP IN A SCHOOL LIBRARY (4)
Practice in school libraries.

FOR SENIORS AND GRADUATE STUDENTS

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.)

EDL 508. TELEVISION IN THE SCHOOL (4)
Utilization of open and closed circuit broadcasting in the instructional process.

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.

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.

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.

FOR GRADUATE STUDENTS ONLY

EDL 601. SELECTION OF LIBRARY MATERIALS (4)
Bibliographical sources, evaluative criteria for books and principles of book selection for libraries.

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.

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.

EDL 605. HISTORY OF CHILDREN'S LITERATURE (5)
Historical bibliographical survey of imaginative and informational literature for children.

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.)

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.

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-audio-visual education.

EDL 609. SUPERVISED FIELD WORK (4)
PR: Completion of General Program Requirements and CI.

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.

EDL 611. ADVANCED INFORMATION SOURCES AND SERVICES (4)
PR: EDL 606. Reference materials in the humanities, social sciences, science, and technology.

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.

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.)

EDL 614. TECHNICAL SERVICES IN LIBRARIES (5)
Principles of general library practice in technical services operations. Emphasis on descriptive cataloging and use of unabridged Dewey Decimal Classification. (Formerly EDL 515.)

EDL 615. CLASSIFICATION AND CATALOGING OF NON-BOOK MATERIALS (3)
PR: EDL 614. Principles and practice in the cataloging of non-book materials.

EDL 616. ADVANCED CATALOGING (4)
PR: EDL 614 or consent of the instructor. 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.

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.)

EDL 618. PREPARING INSTRUCTIONAL MEDIA (4)
Fundamentals of preparing and using audiovisual as they relate to the communication process. (Formerly EDL 523.)

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.

EDL 620. FOUNDATIONS OF EDUCATIONAL TECHNOLOGY (4)
Traces historical development and the application of educational technology to school media services.

EDL 621. AUDIOVISUAL ADMINISTRATION (5)
PR: EDL 618 and EDL 607 or CI. Audiovisual administrative practices in school systems and junior colleges.

EDL 622. AUDIOVISUAL UTILIZATION (4)
Examination (and utilization) of non-print media. Characteristics of media equipment and paradigms of use.

EDL 623. ADVANCED PREPARATION AND PRODUCTION OF INSTRUCTIONAL MATERIALS (4)
By permission of instructor. Designed for the media specialist. Advanced techniques for the preparation of audiovisual materials of instruction.

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.)

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.

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.

EDL 630. INFORMATION SOURCES AND SERVICES IN THE HUMANITIES (4)
PR: EDL 606 and EDL 611 or consent of the instructor. 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.

EDL 631. INFORMATION SOURCES AND SERVICES IN THE SOCIAL SCIENCES (4)
PR: EDL 606 and EDL 611 or consent of the instructor. 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.

EDL 632. INFORMATION SOURCES AND SERVICES IN SCIENCE AND TECHNOLOGY (4)

PR: EDL 606 and EDL 611 or consent of the instructor. Study of representative reference sources in pure and applied sciences with equal attention given to typical problems encountered in scientific and technological reference service.

EDL 640. SEMINAR IN PUBLIC LIBRARIES (3)
PR: General Program Requirements 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.

EDL 650. SEMINAR IN ACADEMIC LIBRARIES (3)
PR: General Program Requirements 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.

EDL 660. SEMINAR IN SPECIAL LIBRARIES (3)
PR: General Program Requirements 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.

EDL 680. PRACTICUM IN SCHOOL MEDIA CENTERS (5)
Supervised experiences in a school media center.

EDL 681. INDIVIDUAL RESEARCH AND INDEPENDENT STUDY (1-5)
PR: 20 hours earned in program and consent of adviser.

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 680 or CI.

Music Education (EDM)

UPPER LEVEL COURSES

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.

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.

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 431. INSTRUMENTAL MUSIC IN THE ELEMENTARY SCHOOL (5)

†EDM 432. INSTRUMENTAL MUSIC IN THE JUNIOR HIGH SCHOOL (5)

†EDM 433. INSTRUMENTAL MUSIC IN THE SENIOR HIGH SCHOOL (5)

†EDM 435. VOCAL MUSIC IN THE ELEMENTARY SCHOOL (5)

†EDM 437. VOCAL MUSIC IN THE JUNIOR HIGH SCHOOL (5)

†EDM 439. VOCAL MUSIC IN THE SENIOR HIGH SCHOOL (5)

†Each class meets as a performing group. Score reading, conducting, organizational procedures, historical relationships, and methods at the appropriate grade levels. Teaching techniques concerning the presentation of elements of theory, general music, and literature.

FOR GRADUATE STUDENTS ONLY**EDM 601. TECHNIQUES OF RESEARCH IN MUSIC EDUCATION** (4)

Professional bibliography and individual research projects.

EDM 603. MUSIC SUPERVISION AND ADMINISTRATION (3)

The music curriculum in relation to the total school program; staff and budgetary needs.

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.

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.

EDM 633. CURRENT TRENDS IN SCHOOL INSTRUMENTAL MUSIC (3)

New materials, equipment, techniques of teaching and recent historical trends in instrumental music.

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)**UPPER LEVEL COURSES****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.

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.

EDN 441. TEACHING MATHEMATICS IN MIDDLE GRADES (4)

PR: 24 quarter hours of mathematics or CC. Instructional procedures and materials for teaching mathematics in the middle grades.

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.

EDN 451. TEACHING METHODS IN THE SECONDARY 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.

EDN 452. INTERPRETING MATHEMATICAL SYMBOLISMS (2)

PR: EDR 407, EDN 451 or concurrent registration in EDN 451. Methods of teaching interpretation of symbolism. (Formerly EDN 551.)

EDN 459. TEACHING METHODS IN THE SECONDARY SCHOOL—SCIENCES (4)

PR: EDC 401 or concurrent registration in EDC 401. Techniques and materials of instruction in secondary schools sciences.

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.)

FOR SENIORS AND GRADUATE STUDENTS**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.

EDN 583. SELECTED TOPICS IN SCIENCE EDUCATION (1-5)

May be repeated when topics are not duplicated.

FOR GRADUATE STUDENTS ONLY**EDN 616. TEACHING OF PRE-SECONDARY SCHOOL MATHEMATICS I** (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.

EDN 617. TEACHING OF PRE-SECONDARY SCHOOL MATHEMATICS II (5)

PR: EDN 616. Continuation of EDN 616.

EDN 618. TEACHING OF PRE-SECONDARY SCHOOL MATHEMATICS III (5)

PR: EDN 617. Continuation of EDN 616-617.

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.

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.

EDN 637. CURRENT TRENDS IN SECONDARY MATHEMATICS EDUCATION (4)

Curricular patterns and instructional practices in secondary mathematics.

EDN 639. CURRENT TRENDS IN SECONDARY SCIENCE EDUCATION (4)

PR: EDN 425 or 427. Curricular patterns and instructional practices in secondary science.

EDN 641. CASE STUDIES IN SCIENCE (4)

Case studies from the Natural Sciences with implications for science teaching.

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.

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)**LOWER LEVEL COURSES****†EDP 255. FIRST AID** (3)

Meets the American Red Cross certification requirements in standard and advanced first aid.

UPPER LEVEL COURSES**†EDP 311. SEMINAR AND FIELD EXPERIENCE IN PHYSICAL EDUCATION** (5)

Approximately two hours per day are spent teaching in an elementary school which provides a variety of experiences designed to lead students to an understanding of children and how they learn in the elementary school.

†Enrollment in these courses requires admission to the Physical Education Program.

†EDP 312. HUMAN KINETICS I (6)

The development and integration of the neuromuscular and the associated 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.

†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.

†EDP 321. SEMINAR AND FIELD EXPERIENCE IN PHYSICAL EDUCATION (5)

Elementary school physical education teaching experiences are provided for students. Seminars emphasize planning and teaching methodology. Health and recreation as they relate to elementary school children are studied.

†EDP 322. HUMAN KINETICS II (6)

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.

†EDP 331. SEMINAR AND INTERNSHIP IN PHYSICAL EDUCATION (5)

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. (S/U only.)

†EDP 332. HUMAN KINETICS III (6)

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.

†EDP 365. AQUATICS (3)

Includes analysis and methodology of teaching swimming skills, conducting class activities, and the organization and conducting of aquatic programs in the school and the community.

†EDP 411. SEMINAR AND FIELD EXPERIENCE IN PHYSICAL EDUCATION (5)

Students spend approximately two hours a day at either the junior or senior high school level working in team teaching situations. Emphasis is placed on understanding the secondary level student and how teaching behavior can affect the learner.

†EDP 412, 422, 432. APPLIED HUMAN KINETICS (4,4,4)

A three course sequence which stresses the biomechanical analysis, motoric learning, the teaching techniques of dance, and the skills and strategies common to a number of individual and team sports.

†EDP 421. SEMINAR AND INTERNSHIP IN PHYSICAL EDUCATION (5)

Student reverse teaching levels from EDP 411 so that they will have experience at both junior and senior high school levels. Team teaching prevails, however, a transition is made to teaching larger numbers of students. Seminars emphasize individualized techniques. (S/U only.)

†EDP 431. SEMINAR AND INTERNSHIP IN PHYSICAL EDUCATION (5)

Students have an option of teaching at the elementary, junior or senior high school level as well as teaching mentally retarded students. Students will teach for a full day for a period of from one to three weeks. (S/U only.)

EDP 458. SCIENTIFIC BASIS OF COACHING (5)

The application of principles from exercise physiology, kinesiology, and psychology to competitive athletics. (Formerly EDP 558.)

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.

EDP 460. HEALTH EDUCATION PROJECT (5)

PR: CI. A practicum in health education through field experiences with official and voluntary health agencies.

EDP 468. COACHING OF SWIMMING (3)

Methods of organizing and coaching a competitive swimming team.

EDP 469. COACHING OF FOOTBALL (5)

Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching football.

EDP 478. COACHING OF WRESTLING (4)

Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching wrestling.

EDP 479. COACHING OF SOCCER (3)

Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching soccer.

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.

EDP 488. COACHING OF TRACK AND FIELD (4)

Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching track.

EDP 489. COACHING OF BASKETBALL (3)

Theory and practice of the fundamental techniques, organizational problems and strategy in coaching basketball.

EDP 499. COACHING OF BASEBALL (3)

Theory and practice of the fundamental techniques, organizational problems and strategy involved in coaching baseball.

FOR GRADUATE STUDENTS ONLY**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.

EDP 610. BIO-KINETICS OF HUMAN MOVEMENT (4)

Integration of basic kinesiological foundations applied to 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.

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.

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.

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.

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.

† Enrollment in these courses requires admission to the Physical Education Program.

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.

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.

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.

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.

EDP 699. RESEARCH THESIS (1-9)

Measurement—Research—Evaluation (EDQ)

FOR GRADUATE STUDENTS ONLY

EDQ 601. 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.

EDQ 603. ADVANCED MEASUREMENT—AFFECTIVE AREA (4)

Measurement, assessment theory and procedures appropriate to the affective domain, i.e., feelings, attitudes, interests, personal characteristics.

EDQ 605. 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.

EDQ 607. STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH II (4)

PR: EDQ 605. Application of statistical techniques to the study of educational problems: Multiple correlation and regression, Introductory Factor Analysis and selected non-parametric techniques.

EDQ 608. STATISTICAL ANALYSIS FOR EDUCATIONAL RESEARCH III (4)

PR: EDQ 607. Application of statistical techniques to the study of educational problems: Trend analysis, analysis of variance models and expectation of mean squares; analysis of covariance; method of least squares; Bayesian statistics (introduction).

EDQ 609. DESIGN OF EXPERIMENT-PRODUCT RESEARCH IN EDUCATION (4)

PR: EDQ 608. Basic Experimental research design theory and models appropriate for education.

EDQ 611. DESIGN OF DESCRIPTIVE-PROCESS RESEARCH (4)

PR: EDQ 608. Theory and procedures for conducting descriptive research in education.

EDQ 613. 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.

EDQ 620. 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.

EDQ 621. 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.

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.

Reading Education (EDR)

UPPER LEVEL COURSES

EDR 407. READING IN SECONDARY CONTENT AREAS (2)

PR: CI and content area PR or CR. Provides basic instruction in phonics, word recognition, readability, interest, corrective procedures, reading behavior, comprehension, etc. Offered *only* in conjunction with special content reading courses. (Formerly EDR 507.)

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. (Formerly EDR 508.)

EDR 409. 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 509.)

EDR 430. CORRECTIVE READING FOR THE CHILD (4)

PR: EDE 409 or equivalent. Procedures for meeting individual differences through classroom organization, differentiated instruction and selective use of materials. (Formerly EDR 530.)

FOR GRADUATE STUDENTS ONLY

EDR 630. CORRECTIVE READING FOR CLASSROOM TEACHERS (4)

PR: EDE 409 and EDR 430. Use of diagnostic and prescriptive procedures with individual and group reading instruction. (Formerly EDR 530.)

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.

EDR 632. TECHNIQUES OF REMEDIAL READING (4)

PR: EDE 609, EDF 605, EDR 409, 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.

EDR 633. PRACTICUM IN READING (4)

PR: EDE 609, EDF 605, EDR 409, EDR 631, EDR 632 and CI. Remediation of severe reading disability cases, tutoring of individuals and small groups, interview techniques, preparation of case reports.

EDR 634. CURRICULUM AND SUPERVISION PROBLEMS IN READING (4)

PR: EDE 609, EDF 605, EDR 409, EDR 631, and EDR 632. Planning and administering programs and preparation as consultants in reading. Intensive work on individual project required.

EDR 635. SURVEY OF READING RESEARCH (4)

PR: EDF 605 and EDF 607, most of EDR courses and CI. Course deals with research in reading—a review of research is conducted by student and presented in written form.

EDR 709. READING AS A SYMBOLIC PROCESS (4)

PR: EDR 409 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.

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)**UPPER LEVEL COURSES****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.

FOR SENIORS AND GRADUATE STUDENTS**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.

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.

EDW 549. EVALUATION AND IMPLEMENTATION OF MEDIA IN SOCIAL STUDIES (4)

PR: EDL 419, admission to the Middle School Program or CI. Techniques of evaluating and using various media in the Social Studies.

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.

FOR GRADUATE STUDENTS ONLY**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.

EDW 645. REVIEW OF RESEARCH IN SOCIAL SCIENCE EDUCATION (4)

PR: EDF 303 or EDF 605, EDF 607, Graduate Students in Education, or CI. Investigation into and an evaluation of the research in Social Science Education.

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.

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.

EDW 659. SEMINAR IN SOCIAL SCIENCE EDUCATION (4)

PR: EDF 303 or EDF 605, EDF 607 or CI. To increase general technological knowledge of graduate students in Social Science Education.

Speech Communication-English Education (EDT)**UPPER LEVEL COURSES****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)

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.)

FOR GRADUATE STUDENTS ONLY**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.

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)**LOWER LEVEL COURSES****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.

UPPER LEVEL COURSES**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.

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.

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.

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.)

EDV 431. SUPERVISED FIELD EXPERIENCE:**(Specialization) (4-8)**

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.

†EDV 443. SPECIAL TEACHING METHODS:**(Specialization) (5)**

Methods, techniques, and materials for skill development.

†EDV 445. METHODS OF TEACHING: (Specialization) (4)

Methods, techniques, and materials for instruction. This course will specialize in Diversified Cooperative Training.

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, and evaluation. Emphasis is placed on the qualifications needed for efficient business office operations.

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.

FOR SENIORS AND GRADUATE STUDENTS**†EDV 503. CURRICULUM CONSTRUCTION:****(Specialization) (4)**

Planning and organizing an instructional program for the purpose of developing an occupational competency.

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.

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.

†EDV 506. PROGRAM MANAGEMENT: (Specialization) (4)

Organization, co-ordination, and budgeting of adult, co-operative, and special programs.

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.

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.

FOR GRADUATE STUDENTS ONLY**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.

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.

EDV 631. CURRENT TRENDS (4)

Historical information, issues, current trends, new dimensions and problems in the area of specialization.

EDV 641. STAFF DEVELOPMENT (4)

Implementation of new procedures addressed to discreet developmental needs of the staff as identified by an educational agency.

†EDV 651. PRACTICUM: (Specialization) (4-8)

A problem-centered field study in the local community, school, government, office, social agency, business or industry.

EDV 661. SUPERVISION OF LOCAL PROGRAMS: ADULT OR VOCATIONAL (4)

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.

EDV 671. ADMINISTRATION OF LOCAL PROGRAMS:**ADULT OR VOCATIONAL (4)**

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.

EDV 687. SEMINAR (4)

PR: EDF 605 & 607. Applied research techniques and investigation of important current issues of theses is the area of specialization.

†Areas of specialization in these courses are: Adult Education, Business Education, Distributive Education, and Industrial-Technical Education.

ENGINEERING

Professors: J. L. Allen, M. W. Anderson, J. C. Bowers, G. A. Burdick, T. M. Chen, M. R. Donaldson, L. F. Doty, P. M. Downey, R. F. Filipowsky, J. E. Griffith, E. W. Kopp, J. A. Llewellyn, B. E. Ross, L. A. Scott, N. C. Small, R. J. Wimmert, G. Zobrist; *Associate Professors:* G. K. Bennett, J. C. Busot, O. N. Garcia, S. J. Garrett, H. Glass, J. O. Gonzalez, R. E. Henning, V. K. Jain, S. C. Kranc, J. H. Lane, L. W. Oline, D. H. Parr, C. E. Payne, S. Phillips, Jr., J. L. Ratliff, D. H. Rimbey, D. W. Rogers, W. A. Smith, J. F. Twigg, L. A. Weaver; *Assistant Professors:* H. S. Bierenbaum, R. A. Crane, J. F. Devine, J. T. Franques, D. C. Naehring, H. A. Nienhaus, J. E. Sergeant, W. H. Skelton, C. A. Smith; *Lecturers:* W. R. Abbey, C. F. Bean, H. Frazee, A. D. Kraus, R. L. Miller, Wilma Smith.

Basic and Interdisciplinary Engineering Course Work (EGB)

LOWER LEVEL COURSES**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 session. Lec-Lab.

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.

EGB 103. GRAPHIC ANALYSIS III (3)

CR: 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.

EGB 104. GRAPHIC ANALYSIS IV (3)

Continuation of EGB 103.

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.)

EGB 201. ENGINEERING PROBLEMS I (2)

CR: MTH 351. Elective course for engineering majors. Applied problems paralleling mathematics sequence.

EGB 204. ANALYSIS & COMPUTATION I (3)

PR: None. Basic computer operation and programming concepts. Use of FORTRAN in solving engineering type problems.

EGB 204. ANALYSIS & COMPUTATION I (3)

PR: None. Basic computer operation and programming concepts. Use of FORTRAN in solving engineering type problems.

EGB 208. INTRODUCTION TO ENGINEERING I (3)

PR: None. To present an overview of Engineering, its role and its concepts. Experimental program; see adviser.

EGB 209. INTRODUCTION TO ENGINEERING II (3)

PR: EGB 208. Continuation of EGB 208. (Experimental program.)

UPPER LEVEL COURSES

EGB 301. ENGINEERING PROBLEMS II (2)

CR: MTH 352. Continuation of EGB 201.

EGB 302. ENGINEERING PROBLEMS III (2)

CR: MTH 353. Continuation of EGB 301.

EGB 303. ENGINEERING PROBLEMS IV (2)

CR: MTH 354. Continuation of EGB 302.

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.

EGB 306. ENGINEERING STATISTICS I (3)

PR: MTH 352. An introduction to the basic concepts of statistical analysis. Probability, distribution functions. (Formerly EGS 461.)

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.

EGB 312. INTRODUCTION TO ELECTRICAL SYSTEMS II (4)

PR: EGB 311. Continuation of EGB 311.

EGB 313. INTRODUCTION TO ELECTRICAL SYSTEMS III (4)

PR: EGB 311. Continuation of EGB 311 or EGB 312.

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.

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.

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.

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.

EGB 340. SOLID MECHANICS I (3)

PR: MTH 351. Principles of statics, mechanical equilibrium, forces, moments, plane trusses. Lec.-problem.

EGB 341. SOLID MECHANICS II (3)

PR: EGB 340. Dynamics of discrete particles and distributed mass bodies; spatial kinematics and kinetics. Lec.-problem.

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.

EGB 343. FLUIDS I (4)

PR: EGB 341. Fundamental and experimental concepts in ideal and viscous fluid theory; momentum and energy consideration, introduction to hydraulics, pipe flow. Lecture.

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.

EGB 345. MATERIALS ENGINEERING II (3)

PR: EGB 342. Continuation of EGB 342.

EGB 346. FLUIDS II (4)

PR: EGB 343. Compressible flow and free surface flow.

EGB 401. ENGINEERING ANALYSIS I (4)

PR: MTH 353. Application of differential equations.

EGB 405. NUMERICAL METHODS I (3)

PR: EGB 401. Study and application of matrix algebra, differential equations and calculus of finite differences. (Formerly EGS 541.)

EGB 481. PROFESSIONAL ENGINEERING SEMINAR I (1-5)

PR: CI. A lecture-discussion seminar on modern trends in the engineering profession.

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 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.

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.

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.)

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.)

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.)

EGB 699. RESEARCH OR DESIGN (1-9)

PR: CC. Supervised independent research or design. May be repeated. (S/U only.)

EGB 798. RESEARCH AND DISSERTATION (1-12)

PR: Admission as candidate for Ph.D. program. Supervised independent research. May be repeated for credit. (S/U only.)

Electrical and Electronic Systems (EGE)**UPPER LEVEL COURSES**

- EGE 301. LABORATORY I** (1)
PR: EGB 311.
- EGE 302. LABORATORY 2** (1)
PR: EGB 312.
- EGE 303. LABORATORY 3** (1)
PR: EGE 301.
- 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.
- 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.
- 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.
- EGE 404. LABORATORY 4** (1)
PR: EGE 302; CR: EGE 420.
- EGE 405. LABORATORY 5** (1)
PR: EGE 302; CR: EGE 421.
- EGE 406. LABORATORY 6** (1)
PR: EGE 302; CR: EGE 430.
- EGE 410. SEE EGE 310.**
- 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 420. SEE EGE 320.**
- EGE 421. COMMUNICATION CIRCUITS** (3)
PRE: EGE 420. Provides further study in electronic circuits. Includes oscillator, modulator, and detector analysis and design.
- EGE 425. COMMUNICATION ENGINEERING** (3)
PRE: EGE 421. System considerations of electronic circuits; radio propagation; antennas; transmitters and receivers.
- EGE 426. COMMUNICATIONS LABORATORY** (1)
CR: EGE 425. Experiments in amplitude modulation, frequency modulation, pulse communications and data transmission.
- EGE 430. SEE EGE 330.**
- EGE 432. DISTRIBUTED NETWORKS** (3)
PR: EGE 330, EGE 410. Transmission lines standing waves, impedance, waveguides.
- 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.)
- 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.)
- 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.
- EGE 441. CONTROL LABORATORY** (1)
CR: EGE 440.
- EGE 444. LOGIC DESIGN** (3)
PR: EGB 312. Non-majors may enroll with the consent of the Chairman. Binary number system; truth functions; Boolean algebra; canonical forms; minimization of combinational logic circuits; logic circuits in computers.
- EGE 445. LOGIC LABORATORY** (1)
CR: EGE 444.
- EGE 450. MICROELECTRONICS ENGINEERING** (3)
PR: EGE 330, 410, 420, PHY 323. Principles of microminiaturization of electrical circuits. Fabrication techniques, component realization, component isolation, parasitics.
- EGE 451. MICROELECTRONICS LABORATORY** (1)
CR: EGE 450.
- EGE 460, 462, 464. ELECTROMECHANICS I, II, III** (3,3,3)
PR: EGE 313. Theory of electromechanical energy conversion. Characteristics and control of rotating electrical machines, transformers, electromagnets, loudspeakers, microphones, transducers.
- EGE 461, 463, 465. ELECTROMECHANICS LAB 1, 2, 3** (1,1,1)
CR: EGE 460, 462, 464, respectively.
- 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.
- EGE 471. COMPUTER SYSTEMS LAB** (1)
PR: EGB 304, MTH 353 or CC. Linked course with EGE 470. Computer systems and programming laboratory.
- EGE 472. INTRO TO SYSTEMS PROGRAMMING** (3)
PR: EGE 470. Introduction to systems programming, design of assemblers, loaders, linking, data structures and operating systems.
- 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.
- EGE 474, 476, 478. SYSTEMS ANALYSIS I, II, III** (5, 5, 5)
CR: CC. A course series to permit non-electrical majors to take advanced course work in the electrical area.
- EGE 475, 477, 479. SYSTEMS LABORATORIES 1, 2, 3** (1,1,1)
CR: EGE 474, 476, 478 respectively.
- EGE 480, 481, 482. SPECIAL ELECTRICAL TOPICS I, II, III** (1-4 each)
PR: CC.
- EGE 498. COMPUTER SCIENCE PROJECT** (3)
Projects intended to develop individual interests and abilities in computer science involving either computer hardware or software aspects of a well defined proposal.
- 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.
- EGE 520. PULSE CIRCUIT PRINCIPLES** (3)
PR: EGE 411, 421. An introduction to the analysis and design of pulse and timing circuits with applications.
- 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.
- EGE 531. UHF LABORATORY** (1)
CR: EGE 530.
- EGE 540. NONLINEAR CONTROL SYSTEMS** (3)
PR: EGE 440. Principles of state-variables, phase-plane and describing functions.
- EGE 541. CONTROL LABORATORY** (1)
CR: EGE 540.
- 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.
- EGE 544. DIGITAL COMPUTERS** (3)
PR: EGE 444. Digital arithmetic; computer subsystems, arithmetic units; control units; memory units; general purpose computers.

- EGE 545. DIGITAL LABORATORY** (1)
CR: EGE 544.
- 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.)
- 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.
- EGE 548. ELECTRICAL MEASUREMENTS** (2)
PR: EGE 411. Techniques and principles of electronic measurement.
- EGE 549. MEASUREMENTS LABORATORY** (1)
CR: EGE 548.
- EGE 560. POWER SYSTEMS ANALYSIS** (3)
PR: CC. Analysis techniques for AC power systems.
- 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.
- EGE 570. TOPICS IN COMPUTERS AND PROGRAMMING** (4)
PR: CC. Machine organization, assembly and machine language, data structures, systems programming, operating systems.
- 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.)
- EGE 580, 581, 582. SPECIAL ELECTRICAL TOPICS I, II, III** (1-3 each)
PR: CC.
- EGE 585. ENGINEERING SEMINAR** (1)
PR: CC.
- EGE 599. RESEARCH OR DESIGN** (1-9)
PR: CC. (S/U only.)
- 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.
- EGE 612. NONLINEAR CIRCUITS** (3)
PR: CC. Analytical and topological approaches to nonlinear circuits; nonlinear resonance; relaxation oscillations.
- EGE 614, 615, 616. NETWORK 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.
- EGE 620. INFORMATION THEORY** (3)
PR: CC. Concepts of information, information channels, channel capacity, information sources and Shannon's fundamental theorem.
- EGE 622. NOISE THEORY** (3)
PR: CC. Electrical noise and signals through linear filters and electronic systems.
- 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.
- EGE 624. CODING THEORY II** (3)
PR: EGE 623. Convolutional codes; threshold decoding and sequential decoding. Burst error codes. Arithmetic codes.
- 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.
- 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.
- 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.
- EGE 636. ELECTRICAL LABORATORY** (1)
CR: EGE 635.
- EGE 637. MICROWAVE COMPONENTS** (3)
PR: CC. A study of directional couplers, junctions, cavities and other passive microwave components including microwave integrated circuits.
- EGE 638. MICROWAVE NETWORKS** (3)
PR: CC. Scattering and transfer representations of n-ports. Odd and even mode theory. Wave filters.
- 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.
- EGE 640. DIGITAL CONTROL SYSTEMS** (3)
PR: EGE 440 or CC. Sample-data and digital control processes.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- EGE 647. SIMULATION TECHNIQUES FOR ELECTRICALS** (3)
PR: CC. Theory of simulation of systems characterized by lumped and distributed parameters.
- EGE 648. ELECTRICAL MEASUREMENTS** (2)
PR: CC. Advanced techniques and principles of electronic measurement.

- EGE 649. MEASUREMENTS LABORATORY** (1)
CR: EGE 648.
- EGE 650, 651, 652. SOLID STATE ELECTRONICS I, II, III** (3, 3, 3)
PR: CC. Theory of operation and application of circuits and devices.
- EGE 653, 654. PRINCIPLES OF SEMICONDUCTOR DEVICE MODELING I, II** (3, 3)
PR: EGE 411, 430. A course sequence which emphasizes systematic methods for obtaining models which relate device physics to terminal behavior and which provide appropriate compromises between accuracy and simplicity.
- 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 of a complete digital computer.
- 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.
- 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.
- EGE 658. PATTERN RECOGNITION THEORY** (3)
PR: CC. Theory of pattern recognition. Parametric and non-parametric methods, training theorems, unsupervised learning. Biomedical and other engineering applications. (Formerly EGB 631.)
- 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.)
- 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.
- EGE 663. LIGHTNING AND SURGE PROTECTION** (3)
PR: CC. Methods of protection against overvoltages due to lightning. Ground wire shielding, systems and tower grounding, lightning arresters. Dynamic overvoltages, switching phenomena and system recovery voltages.
- 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.
- EGE 670. PULSE COMMUNICATIONS SYSTEM** (3)
PR: CC. Sampling theory, pulse waveform generation and modulation. PAM, PWM, PPM, related multiplex systems, telemetry applications.
- EGE 671. DATA TRANSMISSION** (3)
PR: EGE 670. Quantization theory, binary coding systems, ideal binary transmission, on-off keying, FSK, PSK, PCM, applications.
- 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.
- EGE 675. DATA STRUCTURES** (3)
PR: CC. Representation of information and information structures in a computer system, linear linked lists, multi-linked lists, algorithms for list manipulation, stacks, deques and queues, trees and binary trees, tree traversing algorithms.
- EGE 676. OPERATING SYSTEMS** (3)
PR: CC. Operating systems functions and design, resource

management, protection systems, process communication and deadlocks.

- 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.
- 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.)
- 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.)
- EGE 680. SPECIAL ELECTRICAL PROBLEMS** (1-3)
PR: CC.
- EGE 681. SELECTED ELECTRICAL TOPICS** (1-3)
PR: CC.
- EGE 698. ADVANCED ENGINEERING SEMINAR** (1-3)
PR: CC.
- EGE 699. RESEARCH OR DESIGN** (1-18)
PR: CC. (S/U only.)
- EGE 799. DOCTORAL DISSERTATION** (1-15)
PR: CC. (S/U only.)

Energy Conversion and Mechanical Design (EGR)

UPPER LEVEL COURSES

- EGR 311. THERMODYNAMICS III** (3)
PR: EGB 322. 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.
- EGR 315. HEAT TRANSFER I** (4)
PR: EGB 322. 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.
- 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.
- EGR 348. PHYSICAL MEASUREMENTS I** (3)
PR: EGB 311. Basic Electrical Measurements, Oscilloscopes, Recorders, Temperature Measurement, Displacement Measurement, Pressure Measurement, Flow Measurement. Lec.-lab.
- EGR 350. ENERGY CONVERSION LABORATORY I** (3)
CR: EGB 322. Introduction to engineering laboratory measurements with emphasis on the use of the library and the writing of technical reports. Experiments in the measurement of temperature, pressure, fluid flow, psychrometric properties of air, concentration, viscosity. Determination of mass-energy balances of simple systems. Preparation of formal engineering reports covering laboratory work.
- EGR 411 THERMODYNAMICS IV** (3)
PR: EGR 311 or CI. Introduction to Chemical Engineering Thermodynamics; Maxwell relations, properties of real substances and solutions, description of multicomponent systems in equilibrium. Qtr. III, IV.
- EGR 413. FLUID MACHINERY I** (4)
PR: EGB 343. 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.
- 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.
- EGR 417. FUELS AND COMBUSTION (3)**
PR: EGB 322 or CI. A study of chemical reactions as sources of energy. Emphasis on the combustion characteristics of gaseous, solid and liquid fuels and equipment needed to safely and economically control combustion processes. Lec-lab. Qtr. I, IV.
- 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.
- EGR 421. INTRODUCTION TO NUCLEAR ENGINEERING I (3)**
Neutron density and thermalization parameters; criticality calculations; transient flux parameters; reactor operation; control instrumentation.
- 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.
- EGR 428. MACHINE ANALYSIS AND DESIGN (3)**
PR: EGB 344. Stress analysis, stress strain relations, deflection analysis, shock and impact, selection of materials, strength of materials. Principles of design. Lec-lab.
- 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.
- EGR 441. ANALOG AND DIGITAL SIMULATION I (3)**
PR: EGB 325, EGR 348, of CI. The use of analog and digital computers as tools for the solution of engineering problems by means of simulation. Lec-lab. Qtr. II, III.
- 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.
- 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.
- 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.
- EGR 453. MECHANICAL CONTROL (3)**
PR: EGB 311, 325. Analysis of devices for measurement and control. Transmitters, error detectors, controllers and final control elements. Block diagram representation.
- EGR 454. CONTROLS LABORATORY (1)**
PR: EGB 325. CR: EGR 453. Familiarization with and performance testing of automatic control systems.
- 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.)
- 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.
- EGR 472. TRANSPORT PHENOMENA (4)**
PR: EGR 311, or EGB 343, or EGR 473. A comparative study of transport phenomena with emphasis in the macroscopic applications of the balance and flux equations of momentum, energy and mass. Qtr. I, II.
- EGR 473. MASS TRANSFER (3)**
PR: EGR 472. Study of molecular and turbulent diffusion in fluids, diffusion in solids, mass transfer coefficients and inter-phase mass transfer. Qtr. II, III.
- 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.
- 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.
- 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. Qtr. I, II.
- EGR 478. DESIGN AND CASE PROBLEMS (3)**
PR: 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" connotes a specific engineering problem situation actually experienced by someone in the past or present. The student must generate his own individual approach to problem solving, benefitting from those of others in the class. Qtr. III, IV. (Formerly EGR 577.)
- EGR 481. SPECIAL TOPICS ENERGY CONVERSION I (1-4)**
PR: CC.
- EGR 482. SPECIAL TOPICS ENERGY CONVERSION II (1-4)**
PR: CC.
- 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.
- 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.
- 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.
- 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.

- 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.
- 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.
- 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 motions. A complete force analysis will be made of an internal combustion engine.
- EGR 528. MECHANICAL DESIGN II** (3)
PR: EGR 429. A continuation of EGR 429. Lec.-lab.
- EGR 529. PROJECT DESIGN** (3)
PR: EGR 429. Correlation of previously acquired mechanical design experiences with a creative design project. Lec.-lab.
- 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.
- 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.
- 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.
- EGR 554. HYDRAULIC CONTROL** (3)
PR: EGR 453 or CI. Hydraulic control system components and their effects on closed loop system performance. Lec.-lab.
- EGR 560. POWER UTILIZATION SYSTEMS** (3)
PR: EGB 311. Standard electrical voltages, NEMA standards, motor parameters, motor control, control system elements, interlocks, conductors, raceways, National Electrical Code. Protective devices.
- EGR 581. SPECIAL TOPICS ENERGY CONVERSION III** (1-4)
PR: CC.
- EGR 582. SPECIAL TOPICS ENERGY CONVERSION IV** (1-4)
PR: CC.
- 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.
- 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.
- EGR 613. PROCESS HEAT TRANSFER I** (3)
PR: EGR 315. Review of conduction and convection heat transfer, counterflow, 1-2 parallel-counterflow, flow arrangements for increased heat recovery, calculations for process conditions, condensation and evaporation.
- 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.
- 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).
- 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.)
- EGR 617. ENERGY TRANSFORMATION AND STORAGE** (3)
PR: CC. Analysis of direct energy conversion systems; photo-electric cells, thermocouples, fuel cells, thermionic converters, magnetohydrodynamic devices, solar energy cells, rectifiers, inverters, energy storage devices.
- 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.
- EGR 622. ACOUSTICS AND NOISE CONTROL II** (3)
PR: EGR 522. Continuation of EGR 522, acoustics and Noise Control I.
- EGR 623. NOISE CONTROL DESIGN** (1-3)
PR: EGR 522, EGR 622. Practical solutions to real noise problems occurring 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.
- 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, multi-zone systems, double duct and variable volume systems.
- 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.
- 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.
- 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.
- 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.
- EGR 635. LUBRICATION II** (3)
PR: EGR 535. A continuation of EGR 535 with emphasis on hydrodynamic squeeze film theory and gas lubricated bearings.
- 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.
- 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.

EGR 642. DIMENSIONAL ANALYSIS AND MODEL THEORY I (3)

PR: CC. Theory of dimensional analysis, similitude, and design of models.

EGR 648. DIRECT DIGITAL CONTROL (3)

PR: EGR 455 or CI. Application of digital computers to control of engineering processes. Includes study of digital filtering, Z-transforms, supervisory control, A/D and D/A conversion.

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.

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.

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.

EGR 659. ADVANCED MECHANICAL CONTROL (3)

PR: EGR 445 or CI. Application of state space techniques to analysis and design of energy transfer control systems. Includes study of optimal control and adaptive control.

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.

EGR 676. REACTING SYSTEMS II (4)

PR: EGR 476 or CI. Dynamics of heterogeneous reaction. Economic factors in the design of chemical reactors. Simulation of complex reacting systems.

EGR 678. DESIGN AND CASE STUDIES (4)

PR: EGR 478. Plant and Process Design with emphasis on computer aided design.

EGR 681. SPECIAL PROBLEMS I (1-4)

PR: CC.

EGR 682. SPECIAL PROBLEMS II (1-4)

PR: CC.

EGR 698. ADVANCED SEMINAR (1-3)

PR: CC.

EGR 699. RESEARCH OR DESIGN (1-9)

PR: CC. (S/U only.)

Industrial Systems (EGS)

UPPER LEVEL COURSES

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.

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.

EGS 404. PRODUCTION DESIGN II (3)

PR: EGS 403. Continuation of EGS 403. Lec.-lab.

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.

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.

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.

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.

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. (Formerly EGS 609.)

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.

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.

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.

EGS 422. COMPUTER SIMULATION I (3)

PR: EGB 304. Use of computers in physical and industrial systems. Simulation languages and their applications. (Formerly EGS 521.)

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.

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.

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.

EGS 427. FORTRAN APPLICATIONS I (3)

PR: EGB 304, MTH 352. Solution of engineering problems using digital computers. Numerical methods using FORTRAN.

EGS 429. COMPUTER PROJECTS (3)

PR: EGS 407, 421, 422, 424. Special projects involving the use and operation of digital computers.

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.

EGS 441. OPERATIONS RESEARCH I (3)

PR: EGB 405. An introduction to the basic operations research techniques—linear programming, dynamic programming, simulation and queueing.

EGS 442. OPERATIONS RESEARCH II (3)

PR: EGS 441, 462. Continuation of EGS 441.

EGS 462. ENGINEERING STATISTICS II (3)

PR: EGB 306. Estimating and testing procedures, regression and correlation analysis.

EGS 463. DESIGN OF EXPERIMENTS I (3)

PR: EGB 306. Development of the basic experimental designs. Randomized block, latin squares and factorial designs. (Formerly EGS 561.)

EGS 465. STATISTICAL QUALITY CONTROL (3)

PR: EGB 306. Application of statistical techniques to the con-

- trol of industrial processes. Control charts and acceptance procedures. Sequential sampling. For undergraduates.
- 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 non-linear programming.
- 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.
- EGS 505. INVENTORY CONTROL** (3)
PR: EGS 406 or equivalent. Properties of inventory systems and the fundamentals of deterministic and probabilistic inventory models.
- EGS 507. ENGINEERING VALUATIONS STUDIES** (3)
PR: CC. The analysis of economic considerations affecting engineering decision making. Not open to students who have had EGS 407.
- 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.
- EGS 510. COMPUTER OPERATION** (4)
PR: Graduate engineering or science status. EGB 232 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.
- EGS 522. COMPUTER SIMULATION II** (3)
PR: EGS 422. Continuation of material in EGS 422.
- 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.
- EGS 540. OPERATIONS RESEARCH** (3)
PR: CC. Linear programming, game theoretic models, economic optimization. Not open to students who have had EGS 422.
- EGS 542. NUMERICAL METHODS II** (3)
PR: EGB 405. Continuation of material in EGB 405.
- 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.
- 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.
- EGS 562. DESIGN OF EXPERIMENTS II** (3)
PR: EGS 463. Continuation of material in EGS 463.
- 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.
- 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.
- 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.
- EGS 580, 581, 582. SPECIAL INDUSTRIAL PROJECTS I, II, III** (1-3 each)
PR: CC.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- EGS 641. LINEAR PROGRAMMING** (3)
PR: EGS 442 or equivalent. The simplex method, degeneracy, duality theory; applications of linear programming to industrial problems.
- EGS 642. NONLINEAR AND DYNAMIC PROGRAMMING** (3)
PR: EGS 641. Optimization procedures using nonlinear and dynamic programming. Analysis of multi-stage systems.
- 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.
- EGS 646. MULTIVARIABLE OPTIMIZATION** (3)
PR: EGS 562, 563. Optimum seeking methods; search methods, response surfaces, ridge analysis and stochastic approximations.
- 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.
- 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.
- 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.
- EGS 665. STATISTICAL ASSURANCE PLANS** (3)
PR: EGS 565 or equivalent. Advanced techniques in sequential quality control systems and acceptance sampling plans.
- 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.
- EGS 668. SPECIAL TOPICS IN STATISTICS** (3)
PR: CC. Special topics in statistics related to research in engineering.
- EGS 680, 681, 682. SPECIAL INDUSTRIAL TOPICS I, II, III** (1-3 each)
PR: CC.

- 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.
- EGS 698. ADVANCED ENGINEERING SEMINAR** (1-3)
 PR: CC
- EGS 699. RESEARCH OR DESIGN** (1-12)
 (S/U only.)

Structures, Materials and Fluids

- 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.
- 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.
- 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.
- EGX 403. FLUID MECHANICS II** (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.)
- 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.
- 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.)
- EGX 406. ENGINEERING ANALYSIS SMF** (4)
 PR: EGB 204, EGB 401. Computational methods for engineering problems found in Structures, Materials and Fluids. Lec.-lab.
- 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.)
- 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.)
- 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.
- 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.
- 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.)
- EGX 413. PRESTRESSED STRUCTURES** (5)
 PR: EGX 410. Analysis and design of prestressed structural systems. Emphasis on prestressed concrete. Lec.-lab. (Formerly EGX 513.)
- 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.)
- 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.)
- EGX 416. STRUCTURAL DESIGN IN METALS** (4)
 PR: EGX 411, 412. Design of ductile metallic structural elements and systems. Lec.-lab. (Formerly EGX 516.)
- 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.)
- 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.
- 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.
- 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.
- 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.)
- 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.)
- 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.)
- 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.)
- 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.)
- 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.
- EGX 430. FLUID MECHANICS III** (4)
 PR: EGB 343. Mathematical hydrodynamics, inviscid flow. Lec.-lab. (Formerly EGX 530.)
- 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.)
- EGX 436. WATER RESOURCES ENGINEERING II (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 water uses, engineering economy, and regional water resource development. Lecture. (Formerly EGX 536.)
- EGX 437. INTRODUCTION TO AIR POLLUTION CONTROL (4)**
PR: EGB 322 or CI. Behavior and effects of atmospheric contaminants and the principals 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.
- EGX 438. AERODYNAMICS (3)**
PR: EGB 343. Fundamentals of compressible flow and flight dynamics. Structural Design; materials consideration. Lecture. (Formerly EGX 538.)
- EGX 440. EXPERIMENTAL SMF I (4)**
PR: EGB 343. An introduction to the experimental methods used in the study of structures, materials, fluids. Lec.-lab. (Formerly EGX 504.)
- EGX 441. EXPERIMENTAL SMF 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.)
- 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.)
- 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.)
- EGX 480. SPECIAL TOPICS IN SMF (1-4)**
PR: CC. (Formerly EGX 580.)
- EGX 481. TRANSPORTATION I (4)**
PR: EGB 401, CI. Introduction to Transportation Engineering. Lecture.
- EGX 482. TRANSPORTATION II (4)**
PR: EGX 481. Transportation system planning. Lecture. (Formerly EGX 581.)
- 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.
- 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 486.)
- EGX 499. RESEARCH IN SMF (1-4)**
PR: CC. (Formerly EGX 599.)
- EGX 570. INTRODUCTION TO CONTINUUM (3)**
PR: CI. Development of techniques of applied mathematics to SMF problems; partial differential equations, complex variable, vector and tensor analysis. Lecture.
- 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.
- 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.
- 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, isotenoid domes. Lecture.
- 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.
- EGX 610. STRESSED SURFACE STRUCTURES (5)**
PR: EGX 401. Elastic and plastic behavior of plate and shell structures, smooth and ribbed surfaces. Lec.-lab.
- EGX 611. STRUCTURAL STABILITY (5)**
PR: EGX 412. Elastic and inelastic stability of trusses and frames, local buckling of structural members and plates. Lecture.
- EGX 612. STRUCTURAL DYNAMICS (4)**
PR: EGX 412. Behavior of structural components and systems when subjected to periodic dynamic loads. Introduction to random dynamic loads. Lecture.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- EGX 630. FLUID MECHANICS IV (4)**
PR: CI. Flow of Newtonian and Non-Newtonian viscous fluids. Lec.-lab.
- EGX 631. GAS DYNAMICS (3)**
PR: CI. Fundamentals of compressible flow. Wave and shock motion in unsteady and steady flow. Subsonic and supersonic speeds. Lecture.
- 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.
- EGX 640. EXPERIMENTAL SMF III (4)**
PR: EGX 440. Moire and photoelastic experimental techniques. Lec.-lab.
- EGX 641. EXPERIMENTAL SMF IV (4)**
PR: EGX 440. Theory and application of photoelasticity. Lec.-lab.
- EGX 642. EXPERIMENTAL SMF V (4)**
PR: EGX 440. Three dimensional stress analysis methods. Lec.
- EGX 643. EXPERIMENTAL SMF VI (4)**
PR: EGX 440. Theory and application of holography and optical imagery. Lec.-lab.
- 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.

EGX 651. NONLINEAR DYNAMICS (3)

PR: EGX 405. Non-linear restoring force, viscous friction, Duffing and Vander Pol's equations, perturbation methods. Lecture.

EGX 660, 661, 662. HYDROSPACE (3,3,3)

PR: CI. Advanced analysis of structural, material and fluid systems for marine environment, including underwater acoustics. Lecture.

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.

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.

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.

EGX 673. ADVANCED ELASTIC ANALYSIS (3)

PR: CI. Contemporary elasticity theory and applications. Lecture.

EGX 674. APPLIED TENSOR ANALYSIS (3)

PR: CI. Tensor analysis applied to structures, materials, fluids. Lecture.

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.

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.

EGX 677. WATER TREATMENT THEORY AND DESIGN (5)

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.

EGX 678. WASTEWATER TREATMENT THEORY AND DESIGN (5)

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.

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.

EGX 680. SPECIAL TOPICS IN SMF (1-4)

PR: CC.

EGX 698. ADVANCED ENGINEERING SEMINAR (1-3)

PR: CC.

EGX 699. RESEARCH IN SMF (1-9)

PR: CC.

EGX 798. RESEARCH AND DISSERTATION (1-9)

PR: CC. Supervised independent research.

EGX 799. RESEARCH AND DISSERTATION (1-12)

PR: CC. Supervised independent research.

Computer Courses (ESC)

UPPER LEVEL COURSES

ESC 301. INTRODUCTION TO COMPUTERS I (3)

Basic principles of computer operation, program structure, machine and assembly language.

ESC 302. COMPUTER PROGRAMMING-FORTRAN (3)

PR: ESC 301. Programming of scientifically oriented problems using FORTRAN. Introduction to the use of the systems library.

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.

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.

ESC 307. COMPUTER PROGRAMMING-RPG (3)

PR: ESC 301. Analysis, design and implementation of data processing systems using RPG.

ESC 308. COMPUTER PROGRAMMING-PL/I (3)

PR: ESC 301. Programming of both business and scientifically oriented problems. Manipulation of data records. Control sequencing and transmission of data.

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.

ESC 310. INTRODUCTION TO COMPUTERS II (3)

PR: ESC 301. 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.)

ESC 311. INTRODUCTION TO COMPUTERS III (3)

PR: ESC 310. Continuation of the material in ESC 310. (No credit for engineering majors.)

ESC 312. INTRODUCTION TO COMPUTERS IV (3)

PR: ESC 311. Continuation of the material in ESC 311. (No credit for engineering majors.)

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.)

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.

ESC 551. COMPUTERS FOR RESEARCH I (3)

PR: Graduate Student Status. The use of FORTRAN IV and WATFIV languages in solving research problems.

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)

UPPER LEVEL COURSES

ETK 361. THE ROLE OF ANALYSIS IN TECHNOLOGY (3)

PR: MTH 213 or equivalent or CI. The application of determinants, exponentials, natural logarithms, complex numbers and elementary differential equations to technical problems.

ETK 401. INDUSTRIAL SYSTEMS (3)

Introduction to organizational planning and control functions in industrial systems.

ETK 421. PRINCIPLES OF INDUSTRIAL OPERATIONS I (3)

PR: ETK classification or CC. Techniques of work measurement and methods design.

ETK 422. PRINCIPLES OF INDUSTRIAL OPERATIONS II (3)

PR: ETK classification or CC. Techniques of production control and inventory control.

ETK 423. PRINCIPLES OF INDUSTRIAL OPERATIONS III (3)

PR: ETK 421, ETK 422. Techniques of plant location and layout.

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.

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.

ETK 443. AIR CONDITIONING SYSTEMS DESIGN I (3)

PR: ETK 441 or CI. 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.

ETK 444. AIR CONDITIONING SYSTEMS DESIGN II (3)

PR: ETK 443 or CI. Heating and air conditioning load calculations, 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.

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.

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.

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.

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.

ETK 454. ACOUSTICS IN CONSTRUCTION TECHNOLOGY (2)

Fundamentals of architectural acoustics, behavior of sound in closed spaces, noise control, and noise reduction.

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.

ETK 480. SPECIAL TOPICS IN TECHNOLOGY I (1-5)

PR: CC.

ETK 481. SPECIAL TOPICS IN TECHNOLOGY II (1-5)

PR: CC.

ETK 482. SPECIAL TOPICS IN TECHNOLOGY III (1-5)

PR: CC.

ETK 522. INTRODUCTION TO ELECTRONICS FOR SCIENTISTS (5)

PR: None. 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.

ETK 601. SPECIAL TECHNICAL TOPICS I (1-4)

PR: CC.

ETK 602. SPECIAL TECHNICAL TOPICS II (1-4)

PR: CC.

ETK 603. SPECIAL TECHNICAL TOPICS III (1-4)

PR: CC.

ENGLISH (ENG)

Chairperson: J. R. Clark; *Assistant to the Chairperson:* H. H. Popovich; *Director of Freshman English:* W. J. Heim; *Director of Graduate Program:* J. G. Bentley; *Professors:* J. G. Bentley, J. R. Clark, W. F. Davis, I. Deer, 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; *Associates:* L. R. Broer, R. E. Chisnell, R. W. Cole, H. A. Deer, R. F. Dietrich, F. J. Fabry, R. M. Figg, III, S. R. Fiore, W. Garrett, R. E. Hall, S. J. Hall, J. S. Hatcher, D. L. Kaufmann, M. G. Ochshorn, H. H. Popovich, W. D. Reader, S. J. Rubin, R. D. Wyly, Jr.; *Assistants:* A. G. Bryant, J. C. Cafilisch, III, P. J. Collins, S. M. Deats, M. C. Harmon, W. J. Heim, F. T. Mason, J. N. Palmer, W. T. Ross, T. E. Sanders, J. D. Walther, D. A. Wells, F. J. Zbar; *Interim Instructors:* J. J. Dietz, D. A. Enholm, K. E. Kay; *Lecturers:* I. F. Ceconi, V. W. Valentine.

LOWER LEVEL COURSES

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.

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.

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.)

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)

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 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 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 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.)

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 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 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 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.)

UPPER LEVEL COURSES

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.)

ENG 301. HIGHLIGHTS OF BRITISH LITERATURE 1750 TO 1945 (5)

An introductory course consisting of selected highlights of English literature from 1750 to 1945. (Formerly ENG 311.)

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 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 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 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, Tolkein, Thurber, Heller, Barthelme, Berger, and Kesey are examined.

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*.

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.)

ENG 311. EARLY ENGLISH LITERATURE (5)

A survey of representative works of poetry, prose, and drama of the Old English, Middle English, and early Renaissance to 1557, including *Beowulf*, Chaucer, Malory, More, Hooker, Skelton, Wyatt, among others. (Formerly ENG 201.)

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.)

ENG 313. THE RISE AND DECLINE OF NEOCLASSICAL LITERATURE (5)

A survey of Neoclassical English literature beginning with Marvell and the late work of Milton, and ending with the late Neoclassicism of Johnson, Boswell, and Goldsmith. (Formerly ENG 202.)

ENG 314. THE ROMANTIC WRITERS (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.)

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. (Formerly ENG 203.)

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.)

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.

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.)

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, Dreiser, Wharton, Robinson. (Formerly ENG 306.)

- 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.)
- 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.)
- 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.)
- 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 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 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.
- ENG 350. ADVANCED EXPOSITORY WRITING** (5)
Techniques and strategies of exposition; methods and styles of writing the article, the report, the formal and informal essay, and the persuasive argument. (Formerly ENG 325.)
- 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.)
- 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.
- ENG 353. IMAGINATIVE WRITING: FICTION** (5)
Introduction to the writing of fiction. This course will introduce students to the variety of forms and techniques in the writing of imaginative prose.
- 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 Nikki Giovanni.
- 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.
- 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.)
- 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.
- 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.)
- 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.)
- 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.)
- ENG 378. SEXUAL POLITICS 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.)
- ENG 379. SEXUAL POLITICS 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.)
- 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 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 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.
- ENG 389. LITERATURE AND CENSORSHIP** (5)
A study of significant works of modern literature which have been suppressed by censorship; focusing on the writing of such prominent literary figures as D. H. Lawrence, Celine, Henry Miller, Allen Ginsberg, William Burroughs, Lenny Bruce, and others.
- 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.
- ENG 392. LITERATURE AND PSYCHOLOGY** (5)
A study of conscious and unconscious dynamics of personality as reflected in the works of such writers as Shakespeare, Blake, Dostoyevsky, Twain, Melville, and Conrad, with parallel readings in the works of Freud, Jung, and Erich Fromm.
- 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*.
- 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 (Aggadah), but some general background in Talmudic structure and history is also provided. No previous knowledge of Judaism or religious texts is required.
- ENG 397. VOCABULARY** (3)
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.
- ENG 400. OLD ENGLISH LITERATURE** (5)
PR: ENG 300 or ENG 311. A study of representative works translation. (Formerly ENG 500.)

- 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. (Formerly ENG 502.)
- ENG 402. CHAUCER** (5)
PR: ENG 300 or ENG 311. An intensive study of *The Canterbury Tales* and major critical concerns. (Formerly ENG 501.)
- 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. (Formerly ENG 506, 508.)
- 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 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. (Formerly ENG 503, 504.)
- 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*. (Formerly ENG 507.)
- 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. (Formerly ENG 519, 520.)
- 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. (Formerly ENG 521, 559.)
- 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.)
- 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. (Formerly ENG 513.)
- ENG 419. ROMANTIC LITERATURE: MAJOR WRITERS** (5)
PR: ENG 301 or ENG 314. A concentrated study of two or more representative Romantic writers from among Burns, Blake, Wordsworth, Coleridge, Scott, Austen, Byron, Shelley, Hazlitt, and Keats. (Formerly ENG 513.)
- 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. (Formerly ENG 523.)
- 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 Brontës, Eliot, Meredith, and Hardy. (Formerly ENG 430.)
- ENG 426. REPRESENTATIVE THEMES IN VICTORIAN LITERATURE** (5)
PR: ENG 301 or ENG 315. A study of representative works in Victorian prose, poetry, drama, and fiction, with particular attention to an important unifying theme, idea, or concern. (Formerly ENG 523.)

- ENG 430. AMERICAN LITERATURE OF THE COLONIAL-FEDERAL PERIOD** (5)
PR: ENG 300, ENG 302, or equivalent. The social, philosophical, 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 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 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 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 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 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, Ellison, Donleavy, Nabokov, Bellow, Pynchon, O'Connor, Malamud, and Updike.
- 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. (Formerly ENG 528.)
- 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. (Formerly ENG 527.)
- 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. (Formerly ENG 527.)
- 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 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 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. (Formerly ENG 585.)

ENG 451. WORKSHOP IN FICTION

(5)

PR: ENG 350 or ENG 351. 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. When the course is offered twice in the same academic year, the second offering is open only to students who took the course in the previous quarter. (Formerly ENG 423.)

ENG 452. WORKSHOP IN POETRY

(5)

PR: One advanced writing course. 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 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. (Formerly ENG 531.)

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. (Formerly ENG 517.)

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. (Formerly ENG 515.)

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. (Formerly ENG 518.)

ENG 481. INDIVIDUAL RESEARCH

(1-5)

PR: 12 hours of literature. Directed study in special projects. Special permission of chairman required.

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 485. DIRECTED READING

(5)

PR: Junior standing. Readings in special topics. (Formerly ENG 585.)

FOR GRADUATE STUDENTS ONLY**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.

ENG 602. PROBLEMS IN THE 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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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 681. GRADUATE RESEARCH

(1-5)

PR: CI and Graduate standing. Directed study in special projects. Special permission of chairman required.

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.

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 685. DIRECTED READING (1-10)

PR: Graduate standing. Directed reading in authors or literary movements. Students must have a prior agreement with an instructor on the specific subject for study.

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.

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 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 691. GRADUATE SEMINAR IN ENGLISH (5-10)

PR: Consent of graduate adviser. May be retaken with different subject matter to a maximum of ten hours.

ENG 693. BIBLIOGRAPHY FOR ENGLISH STUDIES (2)

PR: Graduate standing. Detailed study of bibliographies of cultural milieus, genres, periods, and authors.

ENG 699. MASTER'S THESIS (5)

PR: Admission to the English Masters graduate program. Writing a Master of Arts thesis in the field of English. Taking this course and the M.A. thesis are optional.

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.

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 791. DOCTORAL SEMINAR (5-10)

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 799. DISSERTATION (1-15)

PR: Consent of Department. The supervised writing of a doctoral dissertation. (S/U only.)

ENVIRONMENT (ENV)

ENV 301. DIALOGUE IN ENVIRONMENTAL SURVIVAL (4)

A multi-disciplinary course dealing with environmental problems. For non-science majors. (S/U only.)

FINANCE (FIN)

Chairperson: J. R. Longstreet; *Professors:* J. A. Close, J. R. Longstreet; *Associate Professors:* A. Beenhakker, J. C. Deiter, P. Kares, R. L. Meyer, F. B. Power, C. T. Smith; *Assistant Professors:* C. E. Deaux, E. F. Dunham, D. A. Johnson, W. G. Modrow, L. W. Small; *Instructor:* J. F. Feller.

LOWER LEVEL COURSES

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 202. INTRODUCTION TO INVESTMENTS (4)

Designed for non-business administration students who have not taken accounting or corporation finance, it emphasizes the operations of the security markets in the U.S. and the risks and returns of alternative investment media. Not available for credit to upper level students who have been admitted to the College of Business Administration.

UPPER LEVEL COURSES

FIN 301. PRINCIPLES OF FINANCE (5)

PR: ACC 300, and ECN 201. Fundamental tools and techniques applicable to financial planning. Emphasizes the problems of acquisition, supervision, and allocation of resources, and the management of the liquidity and profitability of firms.

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 socioeconomic environment.

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 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 351. INTERNATIONAL FINANCE (5)

PR: ECN 202 or CI. Principles of acquisition, supervision, and allocation of funds by multi-national firms.

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.

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 421. PRINCIPLES OF INVESTMENT

(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.

FIN 431. FINANCIAL INSTITUTIONS

(4)

PR: FIN 321. A study of the interrelationship of financial intermediaries and their role in the capital market in the saving allocation, investment and financial decision making process.

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 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 471. PORTFOLIO MANAGEMENT

(3)

PR: FIN 421. Study of portfolio policies and strategies of individual and institutional investors emphasizing techniques of diversification. This course utilizes both the quantitative and case study approaches to problem solving.

FIN 489. SPECIAL STUDIES IN FINANCE

(1-5)

PR: CI. Independent study program under the guidance of departmental staff. Experimental courses will periodically be offered under this number.

FOR SENIORS AND GRADUATE STUDENTS**FIN 501. BUSINESS FINANCE**

(3)

PR: ACC 501 and ECN 501 or their equivalent. 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.

FOR GRADUATE STUDENTS ONLY**FIN 601. FINANCIAL MANAGEMENT**

(3)

PR: ECN 503, FIN 501 or their equivalent. An examination of financial practice at the level of the individual firm with emphasis on quantitative analysis of the variables affecting solvency and profitability.

FIN 602. CAPITAL MARKETS

(3)

PR: ECN 501 and 502 or their equivalent. An investigation of the capital markets and their relationship to the external financing of firms.

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 mergers, acquisitions, recapitalization, and reorganization. It will also involve case studies of financial decisions such as dividend policy, leasing, and external financing.

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 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 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 agreed to by the student and the responsible member of the faculty. Will include both special lecture series, and independent research activities under the direction of the department.

FINE ARTS (INTERDISCIPLINARY) (FNA)

Lecturers: L. Bray, J. W. Coker, A. S. Jennings, D. A. Rose.

UPPER LEVEL COURSES**FNA 301. THE ARTS TODAY**

(2)

A survey of the current activity in the arts, both performing

and visual, offering the student the opportunity to become more aware of the scope and variety of the arts, both nationally and internationally. Current newspapers, periodicals, and broadcast media will be utilized. May be repeated once. (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. Grothman, C. de la Menardiere, C. E. Scruggs, J. C. Tatum; Assistant Professors: C. J. Cano, W. Hampton, D. Ierardo, D. Schenck, L. A. Seminario, W. O. Price; Interim Instructors: A. Hechiche, V. Punto.

General Foreign Languages (FOL)**UPPER LEVEL COURSES****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 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 language or for workshops in professional interpreting.

FOR SENIORS AND GRADUATE STUDENTS**FOL 585. DIRECTED STUDY**

(1-3)

PR: FOL 483 or equivalent.

Arabic (ARA)**UPPER LEVEL COURSES****ARA 390. MODERN ARABIC**

(1-4)

PR: None. An intensive study of the basic grammar, syntax, pronunciation and development of reading and oral skills.

ARA 391. MODERN ARABIC II

(1-4)

PR: ARA 390.

Classics (CLS)**COURSES IN TRANSLATION****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.

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.

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.

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.

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****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 410. FRANCE IN THE MODERN WORLD (4)

PR: None. Readings and discussion in *English*. A survey of the developing social and cultural issues in contemporary France. Adapted to non-majors as well as majors in French.

LOWER LEVEL COURSES**FRE 101. BEGINNING FRENCH I (3-4)**

The first course in the study of elementary French. Emphasis on the development of basic skills in comprehension, speaking and reading. Three hours without lab; four hours with lab.

FRE 102. BEGINNING FRENCH II (3-4)

PR: FRE 101 or equivalent. A continuation of French 101. Three hours without lab; four hours with lab.

FRE 103. BEGINNING FRENCH III (3-4)

PR: FRE 102 or equivalent. A continuation of French 101 and 102. Three hours without lab; four hours with lab.

FRE 199. FRENCH FOR READING (3)

Designed to provide a reading ability in French that will support research in other disciplines.

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 202. INTERMEDIATE FRENCH II (4)

PR: French 103 or equivalent. Readings in French on the intermediate level. May be taken concurrently with FRE 201.

UPPER LEVEL COURSES**FRE 301. COMPOSITION I (4)**

A fundamental composition course for students who have completed FRE 201 or 202.

FRE 303. CONVERSATION I (4)

Designed to teach conversation at an early stage in the student's training. May accompany or follow FRE 201 or FRE 202.

FRE 401. COMPOSITION II (4)

Continuation of French composition. This course is designed to follow FRE 301.

FRE 403. CONVERSATION II (4)

PR: FRE 303 or equivalent proficiency. Conversation practice with concentration on current idiomatic usage.

FRE 405. SURVEY OF FRENCH LITERATURE (4)

Earliest monuments through 18th Century Enlightenment.

FRE 406. SURVEY OF FRENCH LITERATURE (4)

Romanticism to present.

FRE 416. MODERN USAGE (4)

PR: FRE 401. The various components of style together with practical training.

FOR SENIORS AND GRADUATE STUDENTS**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.

FRE 502. LITERATURE OF THE RENAISSANCE (4)

PR: FRE 405. A study of Renaissance French humanism including Rabelais, Montaigne, and the Pleiade poets.

FRE 521. CLASSICAL PROSE AND POETRY (4)

PR: FRE 405. Emphasis on Malherbe, La Fontaine, Boileau, Descartes and Pascal.

FRE 522. CLASSICAL DRAMA (4)

PR: FRE 405. Corneille, Moliere and Racine.

FRE 531. 18th CENTURY LITERATURE (4)

PR: FRE 405. The classical tradition and the new currents of thought in the Age of Enlightenment.

FRE 532. PRE-ROMANTICISM (4)

PR: FRE 405. The precursors of romanticism. Emphasis on Rousseau, Bernardin de St. Pierre, Chenier and Chateaubriand.

FRE 541. ROMANTICISM (4)

PR: FRE 406. A study of the romantic movement with emphasis on Lamartine, Vigny, Musset and Hugo.

FRE 542. REALISM (4)

PR: FRE 406. A detailed study of realism with emphasis on Balzac and Flaubert.

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.

FRE 551. THE 20th CENTURY NOVEL (4)

PR: FRE 406. Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet.

FRE 552. 20th CENTURY POETRY AND THEATRE (4)

PR: FRE 406. Valery, Claudel, Anouilh, Montherlant, Sartre, Ionesco.

FRE 583. SELECTED TOPICS (1-4)

PR: Senior or graduate standing. An examination in detail of a particular author, theme, or movement.

FRE 585. DIRECTED STUDY (1-4)

PR: Senior or graduate standing. Approval of Department.

FOR GRADUATE STUDENTS ONLY**FRE 601. OLD FRENCH (4)**

PR: Graduate standing. An introduction to the Old French language and literature. Readings from representative texts.

FRE 612. MEDIEVAL LITERATURE (4)

PR: Graduate standing. A study in depth of Old French literature of the Middle Ages.

FRE 622. SEMINAR ON CLASSICAL DRAMA (4)

PR: Graduate standing. A study of the works of Corneille, Racine or Moliere.

FRE 691. GRADUATE SEMINAR (4)

PR: Graduate standing. Topics vary and are chosen by the students and professor. May be repeated.

German (GER)**COURSES IN TRANSLATION****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, Grimmshausen, Lessing, Goethe, Kant, Hegel, Nietzsche, Mann, Heidegger, Kafka, Hesse, and contemporary writers of current interest. Elective for students in all departments.

LOWER LEVEL COURSES**GER 101. BEGINNING GERMAN I (3-4)**

The first course in the study of elementary German. Emphasis

on the development of basic skills in comprehension, speaking and reading. Three hours without lab; four hours with lab.

GER 102. BEGINNING GERMAN II (3-4)

PR: GER 101 or equivalent. A continuation of GER 101. Three hours without lab; four hours with lab.

GER 103. BEGINNING GERMAN III (3-4)

PR: GER 102 or equivalent. Continuation of GER 102. Three hours without lab; four hours with lab.

GER 199. GERMAN FOR READING (4)

Designed to provide a reading ability in German that will support research in other disciplines.

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 202. INTERMEDIATE GERMAN II (4)

PR: GER 103 or equivalent. Readings in German on the intermediate level. May be taken concurrently with GER 201.

UPPER LEVEL COURSES

GER 301. GERMAN COMPOSITION I (4)

A fundamental course for students who have completed GER 201 or 202.

GER 303. CONVERSATION I (4)

Designed to teach conversation at an early stage in the student's training. May accompany or follow GER 201 or 202.

GER 401. COMPOSITION II (4)

Practical training in modern German usage and differences of style.

GER 403. CONVERSATION II (4)

Free conversation based on the current German idiom.

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 Barock; the classical period.

GER 406. SURVEY OF GERMAN LITERATURE II (4)

The romantic period, 19th and 20th centuries.

GER 416. MODERN USAGE (4)

PR: GER 401. The various components of style together with practical training.

FOR SENIORS AND GRADUATE STUDENTS

GER 513. HISTORY OF THE GERMAN LANGUAGE (4)

A diachronic approach to the study of the German language. The course follows the history and development of the language from Indo-European through Germanic, Old, Middle and New High German.

GER 521. FAUST I (4)

Sources, form, content, and literary significance of *Urfaust* and *Faust I*.

GER 531. GOETHE (4)

Selected novels, poems: *Werther*, *Wahlverwandtschaften*, *Wilhelm Meister*, *Weststlicher Divan*.

GER 532. SCHILLER (4)

Selected dramas, philosophical and aesthetical writings.

GER 535. THE ENLIGHTENMENT (4)

Selected dramas and critical writings by Lessing, Wieland, Kant.

GER 543. ROMANTICISM (4)

Jenaer circle and Heidelberger circle; the late romantic period, the writers between Classicism and Romanticism.

GER 544. REALISM (4)

Selected works by Grillparzer, Grabbe, Buchner, Hebbel, Heine, Immerman, Stifter, Keller, Meyer, Storm, Raabe, Hulschoff and Morike.

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.

GER 553. 20th CENTURY LITERATURE

1945-PRESENT (4)

Study of major trends in German literature since WWII with

emphasis on Borchert, Frisch, Durrenmatt, Boll, Uwe Johnson, Grass, Aichinger, Eich, Enzensberger, Bachmann.

GER 583. SELECTED TOPICS (1-4)

PR: Senior or graduate standing. CI.

GER 585. DIRECTED STUDY (1-4)

PR: Senior or graduate standing; approval of Department.

FOR GRADUATE STUDENTS ONLY

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).

GER 631. FAUST II (4)

An analysis of Goethe's last work: mythology, literary significance and critical evaluation.

GER 691. GRADUATE SEMINAR (4)

Topics vary. May be repeated.

Greek (GRE)

LOWER LEVEL COURSES

GRE 101. BEGINNING GREEK I (3-4)

PR: None. An introductory course in classical Greek grammar with appropriate readings. Three hours without lab; four hours with lab. or equivalent.

GRE 102. BEGINNING GREEK II (3-4)

PR: GRE 101 or equivalent. An introductory course in classical Greek grammar with appropriate readings. Three hours without lab, four hours with lab or equivalent.

GRE 103. BEGINNING GREEK III (3-4)

PR: GRE 102 or equivalent. An introductory course in classical Greek grammar with appropriate readings. Three hours without lab, four hours with lab or equivalent.

GRE 201. INTERMEDIATE GREEK I (4)

PR: GRE 103 or equivalent. Review of grammar; readings in Plato and Homer.

GRE 202. INTERMEDIATE GREEK II (4)

PR: GRE 201 or equivalent. Review of grammar; readings in Plato and Homer.

GRE 203. INTERMEDIATE GREEK III (4)

PR: GRE 202 or equivalent. Review of grammar; readings in Plato and Homer.

UPPER LEVEL COURSES

GRE 390. MODERN GREEK I (1-4)

An intensive study of the basic grammar, syntax, pronunciation and development of reading and oral skills.

GRE 391. MODERN GREEK II (1-4)

PR: GRE 390.

Hebrew (HEB)

UPPER LEVEL COURSES

HEB 390. MODERN HEBREW I (1-4)

An intensive study of the basic grammar, syntax, pronunciation and development of reading and oral skills.

HEB 391. MODERN HEBREW II (1-4)

PR: HEB 390.

Italian (ITA)

COURSES IN TRANSLATION

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*.

ITA 311. MASTERPIECES OF 20th CENTURY ITALIAN LITERATURE IN TRANSLATION (4)

Studies of the works of Pirandello, Silone, Moravia, Lampe-dusa, Levi, etc.

ITA 410. ITALIAN CIVILIZATION (4)

Topics may cover art, politics, sociology, religion, industry, science, etc. separately, or culture in general, depending upon student demand and instructor's interest. (The course is conducted in English.)

- ITA 412. DANTE—DIVINE COMEDY I** (4)
The allegorical, poetic, religious, historical, mythological, and classical aspects of the *Inferno* are read and discussed. A bilingual text is used.

LOWER LEVEL COURSES

- ITA 101. BEGINNING ITALIAN I** (3-4)
The first course in the study of elementary Italian. Emphasis is on the development of basic skills in comprehension, speaking and reading. Three hours without lab; four hours with lab.
ITA 102. BEGINNING ITALIAN II (3-4)
PR: ITA 101 or equivalent. A continuation of ITA 101. Three hours without lab; four hours with lab.
ITA 103. BEGINNING ITALIAN III (3-4)
PR: ITA 102 or equivalent. A continuation of ITA 101 and 102. Three hours without lab; four hours with lab.
ITA 201. INTERMEDIATE ITALIAN I (4)
PR: ITA 103 or equivalent. A review of the basic structure of spoken and written Italian.

UPPER LEVEL COURSES

- 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 303. ITALIAN CONVERSATION I (4)
To develop fluency and correctness in spoken Italian.
ITA 401. ITALIAN COMPOSITION II (4)
The study of syntax is intensified and the vocabulary is expanded.
ITA 403. CONVERSATION II (4)
PR: ITA 303 or equivalent determined by the professor. Free and directed conversation in Italian on contemporary topics.
ITA 405. SURVEY OF ITALIAN LITERATURE I (4)
Origins of Italian Literature, together with general aspects of the literature of the Middle Ages and of the Renaissance.
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.
ITA 483. SELECTED TOPICS (1-4)
PR: Senior standing. An in-depth study of an author, movement or theme.
ITA 485. DIRECTED STUDY (1-4)
The student is accommodated with whatever topic or subject he needs. It is an independent study course with supervision of the instructor.

Latin (LAT)

LOWER LEVEL COURSES

- LAT 101. BEGINNING LATIN I** (3-4)
An introductory course in Latin grammar with appropriate readings. Three hours without lab; four hours with lab or equivalent.
LAT 102. BEGINNING LATIN II (3-4)
PR: LAT 101 or equivalent. An introductory course in Latin grammar with appropriate readings. Three hours without lab; four hours with lab or equivalent.
LAT 103. BEGINNING LATIN III (3-4)
PR: LAT 102 or equivalent. An introductory course in Latin grammar with appropriate readings. Three hours without lab; four hours with lab or equivalent.
LAT 201. INTERMEDIATE LATIN I (4)
PR: LAT 103 or equivalent. Review of grammar; Readings in Vergil, Ovid and Martial.
LAT 202. INTERMEDIATE LATIN II (4)
PR: LAT 201 or equivalent. Review of grammar; Readings in Vergil, Ovid and Martial.
LAT 203. INTERMEDIATE LATIN III (4)

PR: LAT 202 or equivalent. Review of grammar; Readings in Vergil, Ovid and Martial.

UPPER LEVEL COURSES

- LAT 304. ROMAN ELEGIAC POETS I: CATULLUS** (4)
PR: Basic knowledge of Latin. Readings in Catullus. Study of techniques and tradition in Roman lyric poetry.
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.
LAT 309. HORACE (4)
PR: Basic knowledge of Latin. Readings in the Odes and Epodes of Horace; study of the ode's traditions.
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.
LAT 319. ROMAN COMEDY II: TERENCE (4)
PR: Basic knowledge of Latin. Readings of selected plays by Terence.
LAT 332. CICERO (4)
PR: Basic knowledge of Latin. Readings in the epistles of Cicero.
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.
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.
LAT 421. ROMAN SATIRE I (4)
PR: Basic knowledge of Latin. Readings in the *Satyricon* of Petronius. Introduction to the nature of satire.
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.
LAT 463. LIVY (4)
PR: Basic knowledge of Latin. Readings in the ideas and artistry of this Roman historian.
LAT 483. SELECTED TOPICS (1-4)
Course content depends on student needs; may range over the whole field of ancient languages, literatures, and civilizations—with particular attention to Latin, Greek. Enrollment may be repeated for different topics.
LAT 485. DIRECTED READING (1-4)
Readings in special topics chosen by the student, in co-operation with the instructor. Permission of the department necessary prior to registration.

Portuguese (POR)

COURSES IN TRANSLATION

- POR 406. BRAZILIAN LITERATURE** (4)
PR: POR 327. Emphasis on Machado de Assis and later writers, in English.

UPPER LEVEL COURSES

- PRO 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 327. ACCELERATED PORTUGUESE II (4)
PR: POR 326. Continues development of reading and oral skills.
POR 401. COMPOSITION (4)
PR: POR 327. Emphasis on syntax, verb morphology and accurate writing.
POR 405. PORTUGUESE LITERATURE (4)
PR: POR 327. Emphasis on Camoens and later writers.

FOR SENIORS AND GRADUATE STUDENTS

- POR 585. DIRECTED STUDY** (1-4)
PR: POR 327. Approval of the department.

Romance (ROM)**FOR SENIORS AND GRADUATE STUDENTS**

- ROM 517. ROMANCE PHILOLOGY** (4)
PR: Senior or graduate standing.
ROM 518. MEDIEVAL AND EARLY ROMANCE LITERATURE (4)
PR: ROM 517.

FOR GRADUATE STUDENTS ONLY

- ROM 685. DIRECTED STUDY** (1-4)
PR: Senior or graduate standing.
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**

- RUS 310. RUSSIAN CLASSICS IN TRANSLATION** (4)
Masterpieces of 19th century Russian literature in translation. The major works of Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, Tolstoy, and Chekhov. Elective for all students in all departments.
RUS 311. SOVIET LITERATURE IN TRANSLATION (4)
Masterpieces of 20th century Soviet literature in translation. The major works of Gorky, Babel, Sholokhov, Bulgakov, Pasternak, and Solzhenitzyn. Elective for all students in all departments.
RUS 453. DOSTOYEVSKY (4)
Selected readings from such works as *Crime and Punishment*, *The Brothers Karamazov*, and *The Idiot*. Taught in English. For majors and non-majors.
RUS 454. TOLSTOY (4)
Reading and discussion of such works as *War and Peace*, *Anna Karenina*, *The Death of Ivan Illyich*. Lectures in English; readings in English for non-Russian majors, readings in Russian for credit towards major.

LOWER LEVEL COURSES

- RUS 101. BEGINNING RUSSIAN I** (3-4)
The first course in the study of elementary Russian. Emphasis on the development of basic skills in comprehension, speaking and reading. 3 hrs. without lab; 4 hrs. with lab.
RUS 102. BEGINNING RUSSIAN II (3-4)
PR: RUS 101 or equivalent. A continuation of rus 101. 3 hrs. without lab; 4 hrs. with lab.
RUS 103. BEGINNING RUSSIAN III (3-4)
PR: RUS 102 or equivalent. Continuation of RUS 102. 3 hrs. without lab; 4 hrs. with lab.
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 202. INTERMEDIATE RUSSIAN II (4)
PR: RUS 103 or equivalent. Readings in Russian on the intermediate level. May be taken concurrently with RUS 201.

UPPER LEVEL COURSES

- RUS 301. RUSSIAN COMPOSITION I** (4)
Practice in writing paragraphs and short essays in Russian.
RUS 303. CONVERSATION I (4)
Elementary discussion of various topics in Russian; everyday themes.
RUS 401. RUSSIAN COMPOSITION II (4)
Practice in writing in various styles according to correct present-day Russian usage.

- RUS 403. CONVERSATION II** (4)

PR: RUS 303 or equivalent. Free and directed conversation in Russian on contemporary topics.

- RUS 405. SURVEY OF RUSSIAN LITERATURE I** (4)

A study of the development of Russian literature from its beginnings through sentimentalism and romanticism. Works to be studied range from the earliest tales and religious works with emphasis on later secular writings. A basic knowledge of the Russian language is required.

- RUS 406. SURVEY OF RUSSIAN LITERATURE II** (4)

19th and 20th century Russian realistic literature and contemporary Soviet works in novel and short story form. Authors include Gogol, Dostoevsky, Tolstoy, Pasternak, Solzhenitzyn, and others. A basic knowledge of the Russian language is required.

- RUS 410. RUSSIAN CIVILIZATION** (4)

A study of the contribution of literature, music, and art to Russian culture.

- RUS 483. SELECTED TOPICS** (1-4)

PR: Senior standing. An in-depth study of an author, movement, or theme.

- RUS 485. DIRECTED STUDY** (1-4)

PR: Senior or graduate standing; approval of Department.

Spanish (SPA)**COURSES IN TRANSLATION**

- SPA 310. SPANISH MASTERPIECES IN TRANSLATION** (4)
Outstanding literary works of Spain, in English. Open to all non-majors.
SPA 313. LATIN AMERICAN LITERATURE IN TRANSLATION (4)
Outstanding works of Brazil and Spanish America, in English. Open to all non-majors.
SPA 410. HISPANIC CIVILIZATION (4)
The culture and civilization of Spain and Latin America, in English.
SPA 526. THE QUIXOTE (4)
Cervantes' masterpiece *Don Quijote de la Mancha*, in English. Also open to non-majors.

LOWER LEVEL COURSES

- SPA 101. BEGINNING SPANISH I** (3-4)
The first course in the study of elementary Spanish. Emphasis on the development of basic skills in comprehension, speaking and reading. 3 hrs. without lab; 4 hrs. with lab.
SPA 102. BEGINNING SPANISH II (3-4)
PR SPA 101 or equivalent. A continuation of SPA 101. 3 hrs. without lab; 4 hrs. with lab.
SPA 103. BEGINNING SPANISH III (3-4)
PR: SPA 102 or equivalent. Continuation of SPA 102. 3 hrs. without lab; 4 hrs. with lab.
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.
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.

UPPER LEVEL COURSES

- SPA 301. COMPOSITION I** (4)
PR: SPA 202. To improve ability in writing and increase accuracy in grammatical elements.
SPA 303. CONVERSATION I (4)
PR: SPA 102. For development of basic conversational skills.
SPA 401. COMPOSITION II (4)
PR: SPA 301 or equivalent. A study of syntax, grammar, and stylistic devices of the Spanish language.
SPA 403. CONVERSATION II (4)
PR: SPA 303 or equivalent. To improve fluency in spoken Spanish.

- SPA 405. SURVEY OF SPANISH LITERATURE I** (4)
PR: SPA 202 or equivalent. From the origins through the 17th century.
- SPA 406 SURVEY OF SPANISH LITERATURE II** (4)
PR: SPA 202 or equivalent. From the 18th century to the present.
- 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.
- SPA 416. MODERN USAGE** (4)
PR: SPA 401.

FOR SENIORS AND GRADUATE STUDENTS

- SPA 501. PHONOLOGY** (4)
PR: SPA 301. A study of the Spanish sound system.
- SPA 524. GOLDEN AGE DRAMA** (4)
PR: SPA 405. Lope de Vega, Alarcon, Tirso, Calderon, and others.
- SPA 540. ROMANTICISM** (4)
PR: SPA 406. Poetry and drama of the first half of the 19th century.
- SPA 542. REALISM** (4)
PR: SPA 406. Prose fiction of the 19th century.
- SPA 546. GENERATION OF 1898 AND AFTER** (4)

- PR: SPA 406. From Ganivet to Lorca.
- SPA 552. POST CIVIL WAR LITERATURE** (4)
PR: SPA 406. The drama and novel since 1936.
- SPA 570. MEXICAN LITERATURE** (4)
PR: SPA 407. Major writers of all genres. Emphasis on modern writers.
- SPA 575. LITERATURE OF ARGENTINA AND URUGUAY** (4)
PR: SPA 407. Emphasis on the gaucho theme in the River Plate countries.
- SPA 583. SELECTED TOPICS** (1-4)
PR: Senior or graduate standing.
- SPA 585. DIRECTED STUDY** (1-4)
PR: Senior or graduate standing; approval of Department.

FOR GRADUATE STUDENTS ONLY

- SPA 601. HISTORY OF THE SPANISH LANGUAGE** (4)
Development of Spanish from its Latin origins to the present. Required of all M.A. candidates.
- SPA 624. SEMINAR ON GOLDEN AGE DRAMA** (4)
A specialized study of a major Golden Age theme or dramatist.
- SPA 625. THE PICARESQUE NOVEL** (4)
Realistic prose-fiction of the Renaissance and Golden Age.
- SPA 691. GRADUATE SEMINAR** (4)
Topics vary. May be repeated.

GENERAL BUSINESS ADMINISTRATION (GBA)

LOWER LEVEL COURSES

- 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.

UPPER LEVEL COURSES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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 489. INDIVIDUAL RESEARCH** (1-2)
Individual research in the student's major area supervised by an appropriate faculty member.
- 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.

FOR SENIOR AND GRADUATE STUDENTS

- GBA 501. CBA WORKSHOP** (1-6)
Professional applications workshop in various areas of finance, marketing, economics, accounting, management. May be repeated when subjects differ.
- GBA 570. ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT COUNSELING** (2-4)
Provides 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 analyses of the same small business firm.

FOR GRADUATE STUDENTS ONLY

- 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.
- 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.
- 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.

GBA 615. INTEGRATIVE SEMINAR (3)

PR: C.I. 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.

GBA 683. SELECTED TOPICS IN BUSINESS AND GENERAL ADMINISTRATION (1-6)

The course content will depend on student demand and instructor's interest.

GBA 699. THESIS (6)

GEOGRAPHY (GPY)

Chairperson: J. W. Stafford; *Professors:* R. H. Fuson, S. C. Rothwell; *Associate Professors:* J. W. Stafford, D. M. Stowers, Jr.; *Assistant Professors:* H. Harry Kim, C. E. Palmer, H. J. Schaleman, Jr.; *Instructors:* R. Holmes, L. D. Limoges.

LOWER LEVEL COURSES

GPY 100. GEOGRAPHY OF CURRENT EVENTS (4)

Application of basic geographic principles of the analysis of contemporary events in various parts of the world.

UPPER LEVEL COURSES

GPY 301. SYSTEMATIC GEOGRAPHY (5)

Principles and concepts of the discipline; maps, earth-sun relations, weather, and climate.

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.

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.

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 nonmajors. A student may enroll for a maximum of five hours (5 sections) during any quarter. (S/U only.)

GPY 371. GENERAL GEOGRAPHY (5)

Varied topics in regional and topical geography. May be repeated as topics vary, but the same topic may not be repeated for credit. Open to anyone in the University.

GPY 403. PHYSICAL GEOGRAPHY (5)

PR: GPY 301-302 or CI. Courses include meteorology, climatology, physiography, biogeography, soils, water bodies. May be repeated as courses vary, but the same course may not be repeated for credit.

GPY 405. CULTURAL GEOGRAPHY (5)

PR: GPY 301-302-303 or CI. Courses include economics, political, urban, population, settlement, conservation, and historical geography. May be repeated as courses vary, but the same course may not be repeated for credit.

GPY 407. REGIONAL GEOGRAPHY (5)

PR: GPY 301-302 or CI. Synthesis and analysis of the physical and cultural elements in a selected geographic region such as Africa, South America, Europe, Soviet Union, North America. May be repeated as regions vary, but the same region may not be repeated for credit.

GPY 409. GEOGRAPHIC TECHNIQUES AND METHODOLOGY (5)

PR: GPY 301-302-303 or CI. Courses include cartography, graphics, map design and analysis, air photo interpretation, field methods, quantitative analysis, seminar. May be repeated as courses vary, but same course may not be repeated for credit.

GPY 481. INDIVIDUAL RESEARCH (1-5)

PR: 30 hours in geography and chairperson's permission prior to registration. May be repeated.

GPY 485. DIRECTED READING (1-5)

PR: 30 hours in geography and chairperson's permission prior to registration. May be repeated.

FOR SENIORS AND GRADUATE STUDENTS

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.

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.

GPY 505. METHODOLOGY II: CARTOGRAPHIC (4)

PR: Senior or graduate standing in geography, GPY 409 (Cartography), or CI. Application of various techniques for presenting graphic illustrations as research tools.

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.

GPY 581. INDIVIDUAL RESEARCH (1-5)

PR: 30 hours in geography and CI, or graduate standing in geography. Arrangement must be made with chairperson prior to registration. May be repeated.

GPY 585. DIRECTED READING (1-5)

PR: 30 hours in geography and CI, or graduate standing in geography. Arrangement must be made with chairperson prior to registration. May be repeated.

FOR GRADUATE STUDENTS ONLY

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.

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 lithosphere. May be repeated once for credit, but topic may not be repeated.

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.

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.

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.

GPY 689. DIRECTED TEACHING (1-9)

GPY 699. THESIS (1-9)

GEOLOGY (GLY)

Chairperson: R. A. Davis, Jr.; *Professors:* R. A. Davis, W. J. Ragan; *Associate Professors:* W. H. Huang, S. B. Upchurch; *Assistant Professors:* E. O'Donnell, R. J. Patterson, D. P. Spangler, R. G. Stevenson, Jr.; *Interim Assistant Professor:* T. V. Mayou; *Adjunct:* W. H. Taft.

LOWER LEVEL COURSES

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.*

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 203. THE EARTH: PAST, PRESENT AND FUTURE (4)

A general introduction to the history of the earth as demonstrated by the changes recorded in the rocks and the evolution of organisms preserved. Students may elect to enroll in GLY 202 concurrently. *No credit for geology majors.*

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 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 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 aeolian environments, and the resulting landforms. Designed for science majors. Lec.-lab.

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.

UPPER LEVEL COURSES

GLY 302. PRINCIPLES OF INVERTEBRATE 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 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, 203, 205 or 371 be taken prior to enrollment in GLY 310. No credit for geology majors.*

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, 203, 205 or 371 be taken prior to enrollment in Gly 320. *No credit for geology majors.*

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 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 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.*

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, reconnaissance surveys, interpretation of geologic structure. Lec.-lab, field trips.

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 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 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 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 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 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 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 431. PRINCIPLES OF STRATIGRAPHY (4)

PR: GLY 405. Emphasis on classical principles of litho- and biostratigraphy, stratigraphic nomenclature, development of stratigraphic philosophy, and paleogeographic reconstruction of sedimentary basins. Lec.-lab., field trips. (Formerly GLY 531.)

GLY 433. GEOMORPHOLOGY (4)

PR: Senior or advanced junior standing and CC. Origin, evolution and distribution of landforms. (Formerly GLY 533.)

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 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 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 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 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.)

FOR SENIORS AND GRADUATE STUDENTS

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 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 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 541. GEOPHOTO INTERPRETATION (5)

PR: Senior standing, or CI. Geo-analysis of air photos and earth data, including some acquired by remote sensing techniques. Analysis of chemical and physical sample data. Lec.-lab.

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 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 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 575. GEOTECHNICS (4)

PR: Senior or advanced Junior standing or CI. Concept of soil and rock mechanics, and their relationship to geological conditions influencing the location, design, construction, and maintenance of engineering projects. Lec.-field-lab.

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 591. GEOLOGY SEMINAR (1)

PR: Senior or advanced junior standing and CC. May be repeated once. (S/U only.)

FOR GRADUATE STUDENTS ONLY

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 processes and resulting morphology of sediment bodies. Lec.-lab, field trips.

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 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 611. ADVANCED IGNEOUS PETROGENESIS (4)

PR: CI. Detailed study of igneous rocks and their origin.

GLY 612. ADVANCED METAMORPHIC PETROGENESIS (4)

PR: CI. Detailed study and interpretation of metamorphism and the origin of metamorphic rock complexes, utilizing thin section microscopy, X-ray diffraction, and chemical analyses.

GLY 620. MARINE PALEOECOLOGY (4)

PR: GLY 302, 403 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 621. MARINE MICROPALAEONTOLOGY (4)

PR: 302 or CI. Morphology and geologic distribution of foraminifera, conodonts, ostracods, chitinozoans, discoasters, and coccolithophores. Lec.-lab, field trips.

GLY 625. PALEONTOLOGIC SYSTEMATICS AND TECHNIQUES (4)

PR: GLY 302 or CI. Principles of taxonomic paleontology including synonymies and morphologic descriptions. Preparation of fossils for photographing and camera lucida drawings.

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 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 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 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 675. GEOLOGY OF FLORIDA (4)

PR: 24 hours of earth science credits or CI. Designed for teachers of earth science. Mineralogy, structure, stratigraphy, paleontology, geomorphology, tectonics, and petrology of Florida and contiguous areas. Lec.-field-lab. Alternate years.

GLY 681. GRADUATE RESEARCH GEOLOGY (1-15)

PR: CC. (S/U only.)

GLY 683. SELECTED TOPICS IN GEOLOGY (1-6)

PR: CI. May be repeated for credit.

GLY 689. DIRECTED TEACHING (1-5)

Not applicable toward thesis degree requirements. Supervised teaching for graduate teaching assistants in elementary and/or laboratory courses. A formalized, structured activity wherein a faculty member, by discussion and assignments, considers

the principles, rationale, and modus operandi of elementary college courses. Designed to train teaching assistants and to provide help and training to those graduate students who plan to follow a college teaching profession. (S/U only.)

- GLY 691. GRADUATE SEMINAR** (2)
PR: CC. May be repeated for credit. (S/U only.)
GLY 699. THESIS (1-9)
PR: CC (S/U only.)

HISTORY (HTY)

Chairperson: R. R. Trask; *Professors:* C. B. Currey, G. H. Mayer, J. W. Silver, R. R. Trask; *Associate:* J. M. Belohlavek, E. B. Billingsley, T. P. Dilkes, G. H. Kleine, L. A. Perez, Jr., E. M. Silbert, J. M. Swanson; *Assistants:* D. R. Carr, J. A. DellaGrotte, R. P. Ingalls, S. F. Lawson, K. A. Parker, G. K. Tipps, B. C. P. Tsangadas, R. J. VanNesté, C. J. Wrong; *Instructor:* D. C. Jordan.

LOWER LEVEL COURSES PART I

- 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.
- 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.
- 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.
- 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.
- HTY 251, 252. LATIN AMERICAN HISTORY I, II** (4, 4)
A thematic study of the Spanish-Portuguese New World from the 15th through the 20th century. 251 examines the Iberian New World with special emphasis on the Spanish-Portuguese invasions and conquests, cultural clash, New World colonial societies, and the Wars for Independence. 252 studies the emergence of the Latin American states; emphasis is on Latin America within a Third World context: political-social change, under-development, imperialism and revolution.

UPPER LEVEL COURSES PART II

- 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.
- 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.
- 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.
- 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.
- 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.
- HTY 309. AMERICAN FOREIGN RELATIONS TO 1898** (4)
The development of American Foreign Relations in the Agricultural era. (Formerly HTY 409.)
- HTY 310. AMERICAN FOREIGN RELATIONS SINCE 1898** (4)
A history of American Foreign Relations in the Industrial era. (Formerly HTY 410.)
- 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.
- 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.
- 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.
- 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.
- HTY 319. THE EMERGENCE OF MODERN AMERICA** (4)
A study of the transition of American society from the era of Reconstruction to WWI focusing on industrialization, expansion and urbanization.
- HTY 320. THE GROWTH OF MODERN AMERICA** (4)
A study of American Society from WWI to the Present with special emphasis on the emergence of the United States as a world power.
- 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.
- HTY 322. HELLENISTIC GREECE** (4)
A study of the career of Alexander The Great and of major developments in the Hellenistic period.
- 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.
- 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.
- 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.
- 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.

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.

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.

HTY 352. IMPERIAL SPAIN AND PORTUGAL (4)

A study of the peoples of the Iberian Peninsula from the late Medieval Period to 1898. (Formerly HTY 324.)

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.

HTY 354. CARIBBEAN HISTORY (4)

A thematic study of major political and socio-economic developments in the Caribbean area.

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.

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).

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.

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.)

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.)

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.)

HTY 363. HISTORY OF NINETEENTH CENTURY EUROPE (4)

A comparative study of major economic, political, and socio-cultural developments in 19th Century Europe.

HTY 364. HISTORY OF TWENTIETH CENTURY EUROPE (4)

A comparative study of major economic, political and socio-cultural developments in 20th Century Europe. (Formerly HTY 430.)

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.

HTY 366. IMPERIAL BYZANTIUM (4)

A study of the Byzantine Empire during the period 867-1453. Emphasizing causes for its decline and fall.

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.)

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.)

HTY 371. CONTEMPORARY PROBLEMS IN HISTORICAL PERSPECTIVE (4)

Topics of contemporary significance are explored in terms of their historical development.

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.

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.

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.

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.

HTY 485. DIRECTED READING (1-4)

PR: CI. Arrangement with instructor prior to registration. Readings in special topics.

PART III

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.)

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. Topics vary within each field. (Formerly HTY 591.)

HTY 492. RESEARCH IN HISTORY (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.)

FOR GRADUATE STUDENTS ONLY

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.

HTY 601. THEORY AND INTERPRETATION (4)

A systematic examination and evaluation of various schools of historical interpretation.

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.

HTY 685. READINGS IN HISTORY (1-4)

Arrangement with instructor prior to registration and CC. Individual reading and discussion of selected problems. May be repeated for credit.

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.

HTY 699. THESIS IN HISTORY (1-8)

Required of all candidates for the Master's degree in History.

HISTORY OF IDEAS (HII)

Director: J. B. Camp, Associate Professor.

UPPER LEVEL COURSES

HII 301, 302. INTRODUCTION TO THE HISTORY OF IDEAS, I & II (4, 4)

301: A study of the principal forces shaping Western thought before 1700, concentrating on the developments of the Hellenic philosophical idea of Mind and the Christian idea of Will.

302: A study of principal forces shaping Western thought since 1700—especially Modern Science and its derivative ideas.

HII 305. THE IDEA OF PROGRESS (4)

A study of the ways in which the idea of progress has affected philosophical, social, political, and literary theory since the Enlightenment. Among major authors considered are: Bacon, Descartes, Kant, Hegel, Marx, Condorcet, Helvetius, Comte, Mill, Darwin and Huxley.

HII 306. THE IDEA OF UTOPIA (4)

A study of the idea of utopia involving (1) an examination of various positive and negative examples of the utopian literary genre and (2) analysis of the idea in relation to the idea of historical progress. Among major authors considered are: Plato, More, Bellamy, Skinner, Huxley and Butler.

HII 315. THE IDEA OF FREEDOM (3)

An analysis of the idea of freedom, both in general and particular. Various philosophical, literary, and journalistic aspects will be analyzed: metaphysical, ethical, political, social, religious and economic.

HII 401. INTRODUCTION TO THE IDEA OF NATURE, I (4)

An introduction to the study of the idea of nature, concentrating on the three major pre-twentieth century conceptions of nature in their logical and historical aspects—hierarchy, mechanism, organism.

HII 402. INTRODUCTION TO THE IDEA OF NATURE, II (4)

Acting Chairperson: H. B. Gowen; Professors: T. B. Hoffman, J. J. Iorio, H. Juergensen, G. S. Kashdin, E. M. MacKay, J. B. Moore, E. E. Smith; Associate Professors: A. J. Davis, F. J. Fabry, S. R. Fiore, H. B. Gowen, D. Rutenberg, R. D. Wyly, Jr.; Assistant Professors: T. J. Burns, C. E. Conway, C. B. Cooper, S. M. Deats, S. L. Gaggi, M. C. Harmon, M. P. Rose, J. R. Spillane, F. J. Zbar, S. A. Zylstra.

UPPER LEVEL COURSES

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 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 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

An introductory investigation of the impact of twentieth century scientific theory on the idea of nature, with special attention on the post-modern idea of nature as indeterminate (or ambiguous).

HII 411. THE IDEA OF THE SELF (4)

An investigation of the idea of the self as revealed in the works of major writers, philosophers and psychologists of the nineteenth century, with emphasis on the impact of this idea on contemporary thought.

HII 483. SELECTED TOPICS (2-5)

PR: CI. Course content determined by student's need and instructor's interest.

FOR GRADUATE STUDENTS ONLY

HII 610. LANGUAGE AND NATURE (5)

PR: Graduate standing. A study of the idea of nature in European literature in relation to the development of language as an instrument ordering human consciousness of the world, with emphasis on the dialectic, relational, and polar modes of conceptual representation.

HII 611. SEMINAR: LANGUAGE AND NATURE (5)

PR: Graduate standing and HII 610 or CI. Studies concerning the relation between language and the idea of nature. Students will select topics or problems on which to prepare critical papers for presentation to the seminar for discussion.

HII 620. LANGUAGE AND LIMIT (5)

PR: Graduate standing. A study of the relation between two concepts of transfinite limit—Deity and Utopia—to each other and in relation to their bases in the language-induced order of consciousness: as reflected in the religious, aesthetic, and philosophical literature of their expression.

HII 685. DIRECTED READING AND RESEARCH (1-10)

PR: Graduate standing and consent of the program of the candidate's major, and consent of the History of Ideas program. Individual studies in the history of ideas.

HUMANITIES (HUM)

forms. Typical course focus is on architecture, drama, and intellectual prose. (Formerly CBS 315.)

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. (Formerly CBS 316.)

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 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 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 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 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 419, 420. THE ENLIGHTENMENT

(4, 4)

PR: Sophomore standing or CI. Case studies in the arts and letters of the Enlightenment.

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 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 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 481. DIRECTED STUDY

(1-5)

Specialized individual study determined by the student's needs and interests.

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 491. SELECTED PROBLEMS IN HUMANITIES

(3)

Problems in the interrelationships among the fine arts and the natural, social and behavioral sciences. A senior essay for humanities majors.

FOR SENIORS AND GRADUATE STUDENTS**HUM 535, 536, 537. HUMANITIES IN AMERICA**

(4, 4, 4)

Case studies in the arts and letters of the United States.

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 539, 540. SELECTED NON-WESTERN HUMANITIES

(4, 4)

Materials chosen from the arts and letters of Asia, Oceania, and the Middle East. May be repeated for credit with change of content.

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 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 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 545. LATIN AMERICAN ARTS AND LETTERS

(4)

Analysis of selected Latin American works of art in their cultural context.

FOR GRADUATE STUDENTS ONLY**HUM 611. STUDIES IN CONTEMPORARY ARTS AND LETTERS**

(4)

Concentration on major artists and recent trends.

HUM 623. STUDIES IN THE RENAISSANCE

(4)

Masterpieces and major artists of the Renaissance in Continental Europe and England.

HUM 681. DIRECTED STUDY

(1-4)

Specialized independent study determined by the student's needs and interests.

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.

INTERDISCIPLINARY LANGUAGE-LITERATURE (LLI)**LOWER LEVEL COURSES****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.)

UPPER LEVEL COURSES**LLI 383. SELECTED TOPICS**

(3-5)

Course contents depend on student's need and instructor's

interest. Agreement with instructor required prior to registration.

FOR SENIORS AND GRADUATE STUDENTS**LLI 583. SELECTED TOPICS**

(2-5)

Course contents depend on student's need and instructor's interest. Agreement with instructor required prior to registration.

LINGUISTICS (LIN)

Director: R. W. Cole; *Professors:* A. M. Gessman, R. C. O'Hara; *Associate Professors:* R. W. Cole, S. I. Ritterman; *Assistant Professors:* J. P. Broderick, J. C. Caflisch III, J. J. Smith; *Visiting Assistant Professor:* R. H. Dudley.

UPPER LEVEL COURSES**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 321. LANGUAGE AND MEANING

(4)

A survey introduction for non-specialists to the basic principles

of semantics and the way language conveys ideas.

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 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 485. DIRECTED READING

(3-5)

PR: CI. Readings in special topics. Must be arranged prior to registration.

FOR SENIORS AND GRADUATE STUDENTS**LIN 511. 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.

LIN 530. 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.

LIN 540. 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.

LIN 541. 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.

LIN 543. SEMIOTICS (4)

PR: CI. Introduction to kinesics and paralinguistics: the linguistic structure of gesture, proxemics, and other significant areas of non-verbal communication and signaling behavior.

LIN 545. 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.

LIN 551. STUDIES IN COMPARATIVE STRUCTURE (5)

PR: CI. 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.

LIN 581. INDIVIDUAL RESEARCH (3-5)

PR: CI. Specialized individual work in area of student's interest.

LIN 583. SELECTED TOPICS (3-5)

PR: CI. Course content depends upon students' needs and instructor's interest and may range over the entire field of linguistics. Study of languages not otherwise offered, such as Japanese and Hindi. May be repeated.

LIN 585. DIRECTED READING (4)

PR: CI. Readings in special topics. Must be arranged prior to registration.

FOR GRADUATE STUDENTS ONLY**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 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 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 611. HISTORICAL LINGUISTICS (4)

An advanced survey of the principles and methodology of historical linguistics.

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 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 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 641. PRINCIPLES OF ENGLISH AS A SECOND LANGUAGE (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.

LIN 661. TOPICS IN THEORETICAL LINGUISTICS (4)

Offerings will include current issues in any area of linguistic theory.

LIN 671. TOPICS IN APPLIED LINGUISTICS (4)

Offerings may include topics in such fields as sociolinguistics, psycholinguistics, and stylistics.

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 685. DIRECTED READING (3-5)

Readings in special topics and specialized individual work. Must be arranged prior to registration.

LIN 699. RESEARCH AND THESIS (1-8)

Required of all candidates for the M.S. degree in Linguistics. Registration may be repeated, but accumulated credit may not exceed eight hours.

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, D. N. Harlow, T. E. Johnson, J. T. Knippen, K. R. Van Voorhis; *Assistant Professors:* H. C. Allen, David R. Kenerson, R. M. Walsh, M. J. White; *Lecturer:* H. W. Stirling; *Instructors:* L. White.

UPPER LEVEL COURSES**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 312. INTRODUCTION TO MANAGEMENT SCIENCE (4)

A survey of management science techniques and their application to problem solving and decision making.

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 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 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 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 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 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 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 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 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 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.

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.

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.

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 483. SELECTED TOPICS IN MANAGEMENT

(1-6)

The content and organization of this course will vary according to the current interests of the faculty and needs of students.

MAN 489. GUIDED RESEARCH IN MANAGEMENT

(1-4)

PR: Graduating quarter of CC. Student engages in integrating field project, or other research in which special interests and as much course work as possible can be utilized. Only most general departmental supervision is exercised; management is by results.

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.

FOR SENIORS AND GRADUATE STUDENTS**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 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.

FOR GRADUATE STUDENTS ONLY**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.

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 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 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 SIMSCRIPT, is used for model construction.

MAN 606. QUANTITATIVE ANALYSIS OF MANAGEMENT DECISIONS (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 607. MANAGEMENT OF CONFLICT (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 608. THE MANAGEMENT OF OPERATIONS (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 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.

MAN 610. COMPUTERS AND MANAGEMENT: THE EXECUTIVE VIEWPOINT (3)

A study of the use and impact of computers and 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 611. ORGANIZATIONAL THEORY AND ITS IMPLICATIONS FOR THE MANAGER (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 613. THE MANAGEMENT OF ORGANIZATIONAL CHANGE (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 on-going organization.

MAN 615. THE PRACTICE OF MANAGEMENT (3)

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 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 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 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 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 be 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 699. FIELD RESEARCH OR THESIS (6)

An approved professional-level project under the supervision of a departmental faculty member.

MARINE SCIENCE (MSC)

Chairperson: F. T. Manheim; *Professors:* H. J. Humm; F. T. Manheim; *Associate Professor:* R. C. Baird, K. L. Carder, T. L. Hopkins, T. C. Pyle; *Assistant Professors:* P. R. Betzer, N. J. Blake, L. J. Doyle, K. A. Fanning.

UPPER LEVEL COURSES

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.

FOR SENIORS AND GRADUATE STUDENTS

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.

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.)

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.

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.

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.

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.

MSC 583. SELECTED TOPICS IN OCEANOGRAPHY (1-4)

PR: CI. Special topics in biological, chemical, geological, and physical oceanography.

FOR GRADUATE STUDENTS ONLY

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.)

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.)

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.)

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 sea-water.

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 interpreted data analysis. Lec.-lab, field trips.

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).

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.

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.)

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.)

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.

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.)

MSC 656. DYNAMICS OF MARINE BENTHIC COMMUNITIES (4)

PR: EGB 231, 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.

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 near-shore environments.

MSC 681. GRADUATE RESEARCH (1-9)

PR: CI. Directed research on non-thesis topics. May be repeated. (S/U only.)

MSC 683. SELECTED TOPICS IN OCEANOGRAPHY (1-4)

PR: CI. Special topics in biological, chemical, geological, and physical oceanography.

MSC 691. GRADUATE SEMINAR IN OCEANOGRAPHY (1)

PR: Graduate standing. May be repeated. (S/U only.)

MSC 699. M.A. THESIS (1-9)

PR: CI. May be repeated to a maximum of 9 credits. (S/U only.)

MARKETING (MKT)

Acting Chairperson: T. E. Ness; *Professors:* D. C. Sleeper, W. D. Stevens; *Associate Professors:* W. K. Cunningham, W. A. DeBord, D. E. Futhey, T. E. Ness, H. H. Towery; *Assistant Professors:* R. L. Anderson, J. D. Carmichael, N. L. Nicholas, A. C. Wallace.

UPPER LEVEL COURSES

MKT 301. BASIC MARKETING (5)

PR: ECN 201-202 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.

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.

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.

MKT 315. 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.

MKT 316. MARKETING MODELS AND MARKETING SYSTEMS (3)

PR: ECN 331, MKT 315, and GBA 333. An investigation of the utility of formal, logical, mathematical, and other quantitative methods and models as these might be applied to marketing management.

MKT 401. MARKETING LOGISTICS (3)

PR: MKT 315, ECN 331, GBA 333, 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 alternative which will attain the goals of the firm.

MKT 403. PUBLIC RELATIONS AND THE MARKETING PROCESS (3)

PR: MKT 312 or CI. Principles, practices, and problems in public relations as an integrated part of and supplement to marketing management responsibilities and decisions.

MKT 405. INDUSTRIAL MARKETING (3)

PR: MKT 315. Problems of marketing industrial goods. Characteristics of markets, channels, industrial sales, promotional practices, research and marketing policies.

MKT 407. MANAGEMENT OF ADVERTISING AND SALES PROMOTION (3)

PR: MKT 312 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.

MKT 409. INTERNATIONAL MARKETING (3)

PR: MKT 312, MKT 315, or CI. 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.

MKT 411. MARKETING RESEARCH (4)

PR: MKT 312, MKT 315, ECN 331 or MTH 345; or CI. A study of research methods applicable to problem-solving in the field of marketing.

MKT 413. CONSUMER BEHAVIOR (3)

PR: MKT 301 or CI. An investigation and application of the behavioral factors affecting consumer demand. Consideration given to industrial, governmental and ultimate consumers.

MKT 414. SEMINAR IN MARKETING AND CONSUMER BEHAVIOR RESEARCH (3)

PR: MKT 312, MKT 411, MKT 413. In-depth discussion, formulation application, and evaluation of advanced research techniques and practices as currently applied to facilitate marketing decisions.

MKT 417. RETAILING MANAGEMENT (3)

PR: MKT 301, MKT 315, MKT 413. A comprehensive analysis of the retailing structure, institutions and environment. To include pertinent management theories and practices of organizing, planning and controlling retail operations.

MKT 419. MARKETING MANAGEMENT PROBLEMS (4)

PR: MKT 411, MKT 413, 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.

MKT 489. SPECIAL STUDIES IN MARKETING (3)

PR: MKT major and CI. Intensive independent research in marketing under the direction of a major professor; progress and final analysis reported in seminar.

FOR SENIORS AND GRADUATE STUDENTS

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 given to product development, pricing strategy, channel selection, and promotion as a basis for marketing management decisions. Assigned readings, discussions, and reports.

FOR GRADUATE STUDENTS ONLY

MKT 601. ADVANCED MARKETING PROBLEMS (3)

PR: MKT 301 or 501, ECN 605 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 student's ability to analyze marketing situations, identify problems, determine solutions, implement corrective action, and plan marketing strategy.

MKT 602. ANALYSIS FOR MARKETING MANAGEMENT (3)

PR: MKT 601, 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.

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.

MKT 605. BEHAVIORAL CONCEPTS IN MARKETING DECISION 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.

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.

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 alternative including the institutions involved and physical flow as a part of marketing strategy.

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.

MKT 683. DIRECTED RESEARCH IN MARKETING (1-6)

PR: MKT 601, MKT 602, and CI. Intensive advanced independent research in marketing guided by a marketing professor.

MASS COMMUNICATIONS (COM)

UPPER LEVEL COURSES

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.*

Chairperson: E. L. Sasser; *Professor:* A. M. Sanderson, E. L. Sasser; *Associate Professors:* W. E. Griscti, R. L. Kerns, M. Lucoff, E. S. Yates; *Assistant Professors:* K. E. Fenderson, W. G. Fudge, Jr., J. A. Halbe, D. A. Horsman; *Instructors:* W. M. Brady, W. F. Moyse, K. Storr; *Lecturers:* G. G. Daugherty.

- 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.
- 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.
- 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.
- 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.
- COM 312. ADVERTISING MEDIA STRATEGY** (4)
PR: COM 311 or CI. Problems, techniques, strategy of media research, planning, budgeting and effective utilization in advertising.
- 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.
- 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.
- 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.
- COM 321. MAGAZINE ARTICLE AND FEATURE WRITING** (4)
PR: COM 330, ENG 321, ENG 325, 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.
- 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.
- COM 330. BEGINNING REPORTING** (4)
PR: COM 302 and COM 303. Basic instruction in news judgment, sources of news, newsgathering and news writing techniques. Typing ability is required.
- 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.
- 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.
- COM 337. REPORTING PRACTICUM** (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.

- 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.
- 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.*
- 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.*
- 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.
- 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.
- 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.
- 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.
- COM 357. CLASSICS OF THE SILENT FILM** (4)
Examples of the silent film studies from social, intellectual, historical, and artistic points of view.
- COM 358. CLASSICS OF THE SOUND FILM** (4)
Examples of the sound film studies from social, intellectual, historical, and artistic points of view.
- 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)
- 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)
- COM 363. BROADCAST ANNOUNCING** (4)
PR: COM 361. Development of skills required for effective announcing and other appearances before microphone and cameras. (Formerly SPE 343)
- COM 364. RADIO PRODUCTION AND DIRECTION** (4)
PR: COM 361. Radio production and direction; laboratory and broadcast experiences. (Formerly SPE 347)
- COM 367. RADIO PRACTICUM** (2)
PR: COM 364 and CI. The study, rehearsal, and production of radio programs and materials. (Formerly SPE 348)

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)

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.

COM 371. PHOTOJOURNALISM (4)

PR: COM 302 and COM 303. Camera operation, darkroom techniques, picture composition; editing, ethics, history and laws in connection with photojournalism.

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.

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.

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 photo-composition including readability and legibility. Laboratory work.

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.

COM 400. INTERNATIONAL COMMUNICATION (4)

Mass communications as internal and international systems; flow of the news; international news communications networks; satellite communication; overseas activities of American media interests; international propaganda; communication and national development; international media organizations and their activities.

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.

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.

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.

COM 417. ADVERTISING PRACTICUM (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.

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.

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.

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.

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.

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.

COM 437. EDITING PRACTICUM (2)

PR: Senior standing, COM 434, and CI. For selected News-Editorial Sequence majors. Practical experience outside the classroom in 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.)

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.

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.

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.)

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.

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.

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.)

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.

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.

COM 455. ADVANCED FILM LIGHTING (4)

PR: COM 450 or CI. Advanced lighting of studio and location sets stressing professional procedures and standards from pre-production to post-production.

COM 456. SENSITOMETRY AND PHOTOMETRICS (4)

PR: COM 354. The materials and processes of cinema photo; response of materials to development and exposure.

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.

COM 458. FILM DIRECTING (4)

PR: COM 354. Introduction to the techniques of film direction.

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.)

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.)

COM 463. TV NEWS FILM (4)

PR: COM 362 or CI. Techniques in filming for television news.

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.

COM 466. MEDIA CRITICISM: BROADCASTING (4)

PR: COM 361. A critical study of contemporary broadcast content. (Formerly COM 482.)

COM 467. TV PRACTICUM (2)

PR: COM 461 or CI. The study, rehearsal and production of television programs and materials. (Formerly SPE 443.)

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.

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.

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.

COM 483. SELECTED TOPICS IN MASS COMMUNICATION STUDIES (1-4)

PR: Junior standing. Courses designed to meet current or specific topics of interest to the instructor and students.

COM 485. DIRECTED READINGS IN MASS COMMUNICATION STUDIES (1-4)

PR: Junior standing, CC and CI. Reading and directed study in special topics.

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.

FOR SENIORS AND GRADUATE STUDENTS

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.

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.

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 or journalism. Laboratory work.

COM 554. FILM PRODUCTION MANAGEMENT (4)

PR: COM 356. The planning and management of motion picture productions.

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.

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.

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:* D. S. Ahluwalia, J. R. Britton, W. E. Clark, F. L. Cleaver, Y. F. Lin, J. S. Ratti, D. C. Rose, C. P. Tsokos; *Associate Professors:* S. M. Isaak, A. G. Kartsatos, J. E. Kelley, J. J. Liang, S. Y. Lin, M. M. McWaters, M. N. Manougian, A. Mukherjee, J. H. Reed, E. B. Saff, E. A. Thieleker, N. A. Tserpes, F. J. Zerla; *Assistant Professors:* B. A. Braun, J. R. Gard, W. W. Hager, G. J. Michaelides, K. L. Pothoven, A. L. Price, A. N. V. Rao, S. C. Smeach, A. D. Snider, W. E. Williams, C. Zaiontz; *Visiting Assistant Professors:* J. J. Higgins, D. Horowitz.

LOWER LEVEL COURSES

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)

Designed as a terminal course for general cultural purposes. Explores the language of mathematics through the study of logic and set theory.

MTH 122. COLLEGE ALGEBRA (4)

Real numbers and their properties, algebraic expressions, equations and inequalities, functions, polynomials, exponential and logarithmic functions. (No credit for students with credit in MTH 101 or MTH 211.)

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.)

MTH 211. ELEMENTARY CALCULUS I (4)

PR: One year of secondary school mathematics or CC. Basic Algebraic concepts, real numbers, functions, graphs. The sequence MTH 211-212-213 is primarily for students from Biological Sciences, Social Sciences, and Business. (No credit for math majors or students with credit in MTH 122.)

MTH 212. ELEMENTARY CALCULUS II (4)

PR: MTH 211 or CC. The derivative, techniques of differentiation, curve sketching, applications of the derivative. (No credit for Mathematics majors or students with credit in MTH 302 or MTH 351.)

MTH 213. ELEMENTARY CALCULUS III (4)

PR: MTH 212. Antiderivatives, the definite integral, techniques of integration, logarithmic and exponential functions, application. (No credit for Mathematics majors or students with credit in MTH 303 or MTH 352.)

UPPER LEVEL COURSES

MTH 302. CALCULUS I (5)

PR: MTH 122, 123 with a grade of "C" or better or CC. Limits derivatives applications, definite integral. (No credit for students with credit in MTH 212 or MTH 351.)

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.)

MTH 304. CALCULUS III (4)

PR: MTH 303 with a grade of "C" or better or CC. Integration, polar coordinates, conic sections, vectors, indeterminate forms and improper integrals. (No credit for students with credit in MTH 353.)

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, infinite series. (No credit for students with credit in MTH 354.)

MTH 309. SET THEORY (3)

PR: MTH 302 or CC. Relations, functions, order, cardinal numbers.

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.)

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.)

MTH 323. LINEAR ALGEBRA (4)

PR: MTH 302 or CC. Vectors, matrices, systems of linear equations, linear transformations.

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.)

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.)

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.)

MTH 345. INTRODUCTORY STATISTICS I (5)

Hypothesis testing, estimation; normal, Chi-square, t, F, binomial, multinomial, distributions; ANOV, 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.

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.

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.)

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.)

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.)

MTH 354. ENGINEERING CALCULUS IV (3)

PR: MTH 353. Multivariate calculus, series, applications. (No credit for students with credit in MTH 305.)

MTH 401. DIFFERENTIAL EQUATIONS (4)

PR: MTH 305. First order linear and nonlinear differential equations, higher order linear equations, applications.

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-Stieltjes integrals, improper integrals, infinite series, uniform convergence, implicit-function theorems, line and surface integrals.

MTH 406. ADVANCED CALCULUS II (3)

PR: MTH 405. Continuation of MTH 405.

MTH 407. ADVANCED CALCULUS III (3)

PR: MTH 406. Continuation of MTH 406.

MTH 420. ELEMENTARY ABSTRACT ALGEBRA (3)

PR: MTH 309 or CC. Groups, rings integral domain, fields, integers, the rational, real and complex number systems.

MTH 423. GEOMETRY I (3)

PR: MTH 302. Emphasis on axiomatics, advanced Euclidean geometry, elements of projective geometry, non-Euclidean geometries.

MTH 424. GEOMETRY II (3)

PR: MTH 423. Continuation of MTH 423.

MTH 431. VECTOR ANALYSIS (3)

PR: MTH 305. The algebra and calculus of vectors, applications, general coordinates, introduction to tensor analysis.

MTH 445. INTRODUCTORY PROBABILITY THEORY I (3)

PR: MTH 305 and MTH 309 or CC. Probability spaces, discrete and continuous probability distributions, expectations.

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.

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.

MTH 448. NUMERICAL ANALYSIS II (4)

PR: MTH 401 and 447. Continuation of MTH 447.

MTH 471. THE SCOPE AND SIGNIFICANCE OF MATHEMATICS (4)

PR: Senior or junior standing. Students having completed MTH 302 are not eligible to enter this course. The development of mathematical thought and its application to the

physical world, the social sciences, and the fine arts, emphasizing the importance and meaning of mathematics in contemporary culture. *No credit for mathematics majors.*

MTH 483. SELECTED TOPICS IN MATHEMATICS (1-6)

PR: CI. The course content will depend on the interest of faculty members and student demand.

FOR SENIORS AND GRADUATE STUDENTS

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.

MTH 502. ADVANCED DIFFERENTIAL EQUATIONS II (4)

PR: MTH 501. Continuation of MTH 501.

MTH 510. ELEMENTARY MATHEMATICAL LOGIC (3)

PR: CC. Truth tables, tautologies, quantifiers, rules of inference, informal proofs in mathematics.

MTH 511. ADVANCED LINEAR ALGEBRA (4)

PR: MTH 309, 323 or CC. Vector spaces, linear independence, dimension, matrices, linear transformations.

MTH 513. REAL ANALYSIS I (4)

PR: MTH 305 and 309. Continuity, differentiation and derivatives, sequences and series of functions, convergence.

MTH 514. REAL ANALYSIS II (4)

PR: MTH 513. Continuation of MTH 513.

MTH 515. CALCULUS ON MANIFOLDS (4)

PR: MTH 511 and 514. Calculus of several variables.

MTH 520. COMPLEX ANALYSIS I (4)

PR: MTH 405. Complex numbers, analytic functions and mappings, integrals.

MTH 521. COMPLEX ANALYSIS II (4)

PR: MTH 520. Power series, residues and poles, conformal mapping.

MTH 523. ALGEBRA I (4)

PR: MTH 305, 309, 511. An introduction to group theory.

MTH 524. ALGEBRA II (4)

PR: MTH 523. An introduction to Galois theory.

MTH 525. APPLIED STATISTICAL METHODS I (3)

PR: MTH 445, CC. Statistical inference in physical and engineering sciences utilizing sample probability distributions, point and interval estimation and test of significance.

MTH 526. APPLIED STATISTICAL METHODS II (3)

PR: MTH 525. Applications of analysis of variance and covariance, regression analysis use of χ^2 for contingency tables and goodness of fit procedures.

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.

MTH 532. TOPOLOGY II (4)

PR: MTH 531. Continuation of MTH 531.

MTH 535. TENSOR ANALYSIS (3)

PR: MTH 431 or CC. The calculus of tensors, applications to differential geometry and physics.

MTH 537. SPECIAL FUNCTIONS (3)

PR: MTH 401. Orthogonal functions, the gamma functions, Bessel functions, applications.

MTH 539. FOURIER ANALYSIS (3)

PR: MTH 305 or CC. Trigonometric Fourier series, orthogonal systems, convergence of trigonometric Fourier series, operations on Fourier series.

MTH 540. COMPLEX ANALYSIS AND APPLICATIONS (3)

PR: MTH 305 or CC. Complex numbers, analytic and harmonic functions, power series, contour integrals, residues and poles with emphasis on applications.

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.

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 scientists and engineers.

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.

MTH 544. INTEGRAL TRANSFORMS II (4)

PR: MTH 543. Continuation of MTH 543.

MTH 545. PROBABILITY THEORY I (3)

PR: MTH 406 or MTH 513. Concepts of probability theory, axioms of probability, random variables, probability distributions and distributions of functions of stochastic variables.

MTH 546. PROBABILITY THEORY II (3)

PR: MTH 545. Concepts of mathematical expectation, moment generating functions, probability generating functions, characteristic functions and limit theory of probability distributions.

MTH 547. MATHEMATICAL STATISTICS I (3)

PR: MTH 546. Sample distribution theory, point & interval estimation theory and theory of hypothesis testing.

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.

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.

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.

MTH 551. NUMBER THEORY (4)

PR: CC. Congruences, quadratic residues, selected topics.

MTH 553. INTRODUCTION TO GRAPH THEORY (3)

PR: CC. Brief introduction to classical graph theory (4-color conjecture, etc.), directed graphs, connected digraphs, condensations, incidence matrices, Polya's Theorem, networks.

MTH 554. 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.

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.

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.

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.

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.

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 potential algorithms, theory, underlying particular algorithms.

MTH 561. ANALYSIS OF ALGORITHMS II (4)

- PR: MTH 560. Continuation of MTH 560.
- MTH 562. MULTIVARIATE STATISTICAL ANALYSIS I** (3)
PR: MTH 548 and 511, or CC. The multivariate normal, estimation of mean vector and covariance matrix, correlation analysis, generalized T^2 -statistics and testing of the general linear hypothesis.
- MTH 563. ANALYSIS OF NUMERICAL METHODS I** (4)
PR: MTH 323, MTH 401, EGB 231 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.
- MTH 564. ANALYSIS OF NUMERICAL METHODS II** (4)
PR: MTH 563. Continuation of MTH 563.
- 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.*)
- 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.*)
- 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.*)
- 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.*)
- 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.*)
- 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 Probability and Statistics, 13-Topics in Analysis, 15-Topics in Topology.

FOR GRADUATE STUDENTS ONLY

- 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.
- MTH 604. THEORY OF ORDINARY DIFFERENTIAL EQUATIONS II** (4)
PR: MTH 603. Continuation of MTH 603.
- MTH 605. MEASURE AND INTEGRATION I** (3)
PR: MTH 514. Abstract measure and integration in sigma rings, applications to Euclidean spaces, Fibini's Theorem, Radon Nikodym Theorem, L_p spaces.
- MTH 606. MEASURE AND INTEGRATION II** (3)
PR: MTH 605. Continuation of MTH 605.
- MTH 607. MEASURE AND INTEGRATION III** (3)
PR: MTH 606. Continuation of MTH 606.
- 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.
- MTH 612. COMPLEX ANALYSIS II** (3)
PR: MTH 611. Continuation of MTH 611.
- MTH 613. COMPLEX ANALYSIS III** (3)
PR: MTH 612. Continuation of MTH 612.

- 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.
- MTH 615. INTRODUCTION TO FUNCTIONAL ANALYSIS II** (4)
PR: MTH 614. Continuation of MTH 614.
- MTH 624. ADVANCED ALGEBRA I** (4)
PR: MTH 524 or CC. Algebraic automata theory.
- MTH 625. ADVANCED ALGEBRA II** (4)
PR: MTH 625 or CC. Algebraic coding theory.
- MTH 632. ADVANCED TOPOLOGY I** (4)
PR: MTH 532 and CC. Function spaces, compactifications, covering spaces, other topics.
- MTH 633. ADVANCED TOPOLOGY II** (4)
PR: MTH 632. Continuation of MTH 632.
- MTH 635. ALGEBRAIC TOPOLOGY** (3)
PR: MTH 633 or CC. Homotopy, homology groups, local homology groups.
- MTH 636. TOPOLOGICAL ALGEBRA I** (4)
PR: MTH 633 and CC. Topological semigroups, topological groups, topological rings and fields, Haar measure.
- MTH 637. TOPOLOGICAL ALGEBRA II** (4)
PR: MTH 636. Continuation of MTH 636.
- MTH 639. DIFFERENTIAL GEOMETRY** (3)
PR: CC. Local differential geometry, curvature, evolutes and involutes, calculus of variations.
- 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.
- MTH 642. TOPICS IN NUMBER THEORY II** (3)
PR: MTH 641. Continuation of MTH 641.
- 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.
- MTH 644. PARTIAL DIFFERENTIAL EQUATIONS II** (4)
PR: MTH 643. Continuation of MTH 643.
- 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.
- 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.
- 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.
- MTH 649. STOCHASTIC PROCESS II** (3)
PR: MTH 549 or CC. Continuous parameter Markov chains, martingale theory, stationary processes with discrete and continuous increments.
- MTH 650. NON-PARAMETRIC STATISTICS II** (3)
PR: MTH 550 or CC. Theory and applications of advanced non-parametric methods to include order statistics Kolmogorov-Smirnov and Cramer statistics.
- 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.
- MTH 652. LOGIC AND FOUNDATIONS II** (4)
PR: MTH 651. Continuation of MTH 651.
- MTH 654. TIME SERIES ANALYSIS II** (3)
PR: MTH 554. Multivariate time series analysis of stationary process to include the theory of filtering, forecasting and spectral analysis.
- MTH 655. TRIGONOMETRIC SERIES I** (3)
PR: MTH 514. Selected Topics in Fourier Series and sum-

mability, orthogonal polynomials, almost periodic functions, completeness of sets of functions.

MTH 656. TRIGONOMETRIC SERIES II (3)

PR: MTH 655. Continuation of MTH 655.

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.

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.

MTH 671. MATHEMATICAL OPTIMIZATION THEORY III (3)

PR: MTH 558 or CC, MTH 615. Linear programming in abstract spaces; integer programming; stochastic programming. Recent research in mathematical programming and related areas.

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.

MTH 681. GRADUATE RESEARCH (1-15)

PR: CC (S/U only.)

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.

MTH 688. RECENT ADVANCED 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.)

MTH 689. DIRECTED TEACHING (1-5)

Not applicable toward thesis degree requirements. Supervised teaching for graduate teaching assistants in elementary and/or laboratory courses. A formalized, structured activity wherein a faculty member, by discussion and assignments, considers the principles, rationale, and modus operandi of elementary college courses. Designed to train teaching assistants and to provide help and training to those graduate students who plan to follow a college teaching profession. (S/U only.)

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.)

MTH 699. MASTER THESIS (1-9)

May be taken more than once, but not more than a total of nine hours credit will be allowed. (S/U only.)

MTH 799. PH.D. DISSERTATION (1-9)

May be taken more than once. (S/U only.)

MEDICAL TECHNOLOGY (MET)

Director: E. D. Olsen; Professors: E. D. Olsen, W. S. Silver; Associate Professor: J. R. Linton.

UPPER LEVEL COURSES

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.

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.

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.

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.

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.

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.

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.

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: R. K. Boler, Sr., N. A. Moore, G. C. Morgan, E. G. Salter, Jr.; Instructors: H. K. Brown, T. M. Holt.

MED 600. GROSS ANATOMY (7)

PR: Admission to College of Medicine. A study of the gross structure of the human body. Lec.-lab and discussion.

MED 602. MICROSCOPIC ANATOMY (4)

PR: Admission to College of Medicine. A study of the microscopic structure of normal tissues and organs with emphasis on human material. Lec.-lab and discussion.

MED 603. NEUROANATOMY (4)

PR: Admission to College of Medicine. A study of the gross and microscopic structure and the functions of the human nervous system. Lec.-lab and discussion.

MED 604. ANATOMY SEMINAR (0)

PR: Consent of Chairman, Department of Anatomy. A weekly discussion of anatomical topics of special interest. Lec and discussion.

MED 701. REGIONAL ANATOMY I—Head and Neck (5)

PR: Enrolled in College of Medicine. Regional gross anatomy of the head and neck. This course offers an anatomical background for the clinical practices of Otorhinolaryngology, Oral Surgery, Plastic Surgery, Macillo-facial surgery, and Ophthalmology.

MED 702. REGIONAL ANATOMY II—Thorax, Abdomen, Pelvis and Perineum (5)

PR: Enrolled in College of Medicine. Regional gross anatomy of the thorax, abdomen, pelvis and perineum. This course offers the anatomical basis for the clinical practices of Surgery, Obstetrics and Gynecology and Medicine.

MED 703. REGIONAL ANATOMY III—Extremities (5)

PR: Enrolled in College of Medicine. Gross anatomy of the upper and lower extremities. This course will provide the anatomical substrate for the clinical practice of orthopedic and plastic surgery.

MED 704. SYSTEMIC ANATOMY (20)

PR: Enrolled in the College of Medicine. Gross and microscopic structure of the various organ systems. This course will provide the detailed anatomical background for the clinical practice of Medicine and its included subspecialties.

MED 705. MEDICAL DEVELOPMENT ANATOMY AND TERATOLOGY (5)

PR: Enrolled in College of Medicine. Conferences, lectures and demonstrations on the development of the human embryo. Provides a background for clinical practice of Pediatrics and Obstetrics-Gynecology.

MED 706. ADVANCED NEUROANATOMY (5)

PR: Enrolled in College of Medicine. A comprehensive study of the structure and functional pathways of the central nervous system. This course will provide the basis for the clinical practice of Neurology, Neurosurgery and Psychiatry.

MED 707. ADVANCED MICROSCOPIC ANATOMY (5)

PR: Enrolled in College of Medicine. A survey of the ultra-structure of cells and tissues with emphasis on human organs and electron microscopic technique. Provides a background for medical research.

MED 708. APPLIED NEUROANATOMY (10)

PR: Enrolled in College of Medicine. Demonstration of applicability of Neuroanatomy to the clinical practice of medicine. Lectures and demonstrations in Neuroanatomy will be correlated with a practice in a neurosurgical environment.

FOR GRADUATE AND MEDICAL STUDENTS

MSG 601. CORE COURSE IN HUMAN ANATOMY (7)

PR: Admission to Ph.D. Program in Medical Sciences. An introduction to human anatomy consisting of both gross and microscopic study of the organ systems.

MSG 607. ADVANCED HUMAN GROSS ANATOMY (8-16)

PR: MSG 601-MSG 606 or consent of the Chairman. Lectures, assigned readings and conferences on the functional and clinical aspects of human gross anatomy.

MSG 608. ADVANCED MICROSCOPIC ANATOMY (4-8)

PR: MSG 601-MSG 606 or consent of the Chairman. An in-depth study of the microscopic anatomy of human cells, tissues, and organs.

MSG 609. METHODS OF ELECTRON MICROSCOPY IN MEDICAL RESEARCH (4)

PR: MSG 601-MSG 606, MSG 608, MSG 610 or consent of the Chairman. Instruction and practice in the methods of electron microscopy as applies to medical research.

MSG 610. NEURAL CORRELATES OF BEHAVIOR (4)

PR: MSG 601-MSG 606 or consent of the Chairman. The study of the structure of neurons and their interrelations will be undertaken using gross and microscopic material. Experimental and historical approaches will provide an opportunity to learn current morphological concepts.

MSG 611. COMPARATIVE NEUROANATOMY (3)

PR: MSG 601-MSG 606 or consent of the Chairman. A survey of the central nervous system of vertebrates.

MSG 612. HUMAN EMBRYOLOGY (4)

PR: MSG 601-MSG 606 or consent of the Chairman. A study of the human embryo including maturation of the germ cells, fertilization, cleavage, germ layer formation, and organ formation. Emphasis will be placed upon the etiology of congenital defects and other malformations.

MSG 614. COMPARATIVE HEMATOLOGY (3)

PR: MSG 601-MSG 606, MSG 607, 608, or consent of the Chairman. A study of hemopoiesis and peripheral blood in representative vertebrates.

MSG 615. ANATOMICAL ILLUSTRATIONS AND METHODS (3)

PR: MSG 601-MSG 606, MSG 607, 608, 610 or consent of the Chairman. Instruction and practice in the methods of anatomical illustration, including materials and methods for producing originals and copies of originals for written and oral presentations.

MSG 616. HISTORY OF ANATOMY (2)

PR: MSG 601-MSG 606 or consent of the Chairman. Conferences and assigned readings on the great anatomists and their discoveries.

Biochemistry

Chairperson: J. G. Cory; *Professor:* J. G. Cory; *Assistant Professors:* G. C. Ness, S. D. Schimmel, D. S. Wilkinson.

MED 605. BIOCHEMISTRY (9)

PR: Admission to College of Medicine. A study of the chemistry and metabolism of biologically important compounds. The interrelationships of various metabolic pathways will be discussed with emphasis on the biochemical aspects of human diseases. Lec.-lab and discussion.

MED 606. BIOCHEMISTRY SEMINAR (0)

PR: Consent of instructor. Current literature dealing with biochemical basis of human disease will be discussed. Lec. and discussion.

MED 788. RESEARCH IN BIOCHEMISTRY (10-20)

PR: Enrolled in College of Medicine. The student will undertake a specific research project in collaboration with one of the faculty and will participate in research conferences and seminars. Current research areas in the department involve studies of biochemical aspects of neoplasia, muscle differentiation and cholesterol metabolism.

MED 789. MOLECULAR BASIS OF METABOLIC REGULATION (5)

PR: Admitted to College of Medicine. Emphasis will be on mammalian systems and alterations of metabolic control in disease states. The course will consist of lectures and conferences based on the current literature. Topics to be discussed include: mechanisms of hormone action, second messengers (e.g., cyclic AMP), transcriptional control, translation control, protein modification and allosteric regulation.

FOR GRADUATE AND MEDICAL STUDENTS

MSG 603. CORE COURSE IN MEDICAL BIOCHEMISTRY (7)

PR: Admission to Ph.D. Program in Medical Sciences. This course is particularly designed for students in the Medical Science Program. The chemistry and metabolism of biologically important compounds, stressing the relationship of structure and function, and the interrelationships and regulation of the various metabolic pathways will be discussed with special emphasis on human systems.

MSG 619. METABOLIC BASIS OF HUMAN DISEASE (3)

PR: MSG 601-MSG 606 or consent of the Chairman. A graduate course dealing with the disorders in human metabolism that can be described in biochemical terms. Study of these biochemical disorders will aid in the understanding of normal metabolic regulation, differentiation, development and other biological phenomena.

MSG 657. BIOLOGICAL MEMBRANES-STRUCTURE AND FUNCTION (4)

PR: MSG 601-MSG 606 or consent of Chairman. An advanced course dealing with the biogenesis and molecular organization of membrane components; the function of membranes with emphasis on the relationship of the cell membrane to cellular regulation; and discussions of experimental approaches and techniques for the study of cell membranes.

MSG 658. LIPID METABOLISM AND REGULATION (4)

PR: MSG 601-MSG 606 or consent of Chairman. An advanced course dealing with the biochemistry of lipids, the dietary and hormonal regulation, lipogenesis, lipolysis, cholesterologenesis and bile acid formation and the possible relationship to atherosclerosis. The metabolism and function of prostaglandins will be studied.

MSG 659. MACROMOLECULAR METABOLISM (4)

PR: MSG 601-MSG 606 or consent of Chairman. A study of proteins and nucleic acids with the emphasis of the course being on the metabolism and role of the macromolecules in the regulation of cell division, cell function and metabolism.

Comprehensive Medicine

Chairperson: O. Barrett, Jr.; *Professors:* O. Barrett, Jr., R. J. Loisel; *Associate Professors:* M. M. Rath; *Assistant Professor:* W. M. Tucker.

Family Practice

Assistant Professor: S. K. Nayer.

MED 711. OUT-PATIENT FAMILY MEDICINE (20)

PR: Enrolled in College of Medicine. With approval of the Dean, students may elect eleven weeks association on a tutorial basis with an approved practitioner of family medicine. With him, they will see patients in the office, make rounds and house calls, and be "on call" for emergencies.

MED 712. IN-PATIENT FAMILY MEDICINE (10)

PR: Enrolled in College of Medicine. Students will serve as clinical clerks on services offering approved residencies in Family Practice.

Interdisciplinary**MED 700. EXTRAMURAL CLERKSHIP (10-20)**

PR: Enrolled in College of Medicine. This elective offers the opportunity to gain special extramural experience in programs approved by the Dean and appropriate faculty of the College of Medicine. May be repeated up to 40 credit hours.

MED 763. PERINATOLOGY (20)

PR: Enrolled in College of Medicine. Multidisciplinary experience in management of the high-risk obstetric patient and fetus. Factors of importance during pregnancy, labor, delivery, and the first month of life. Emphasis will be placed on teratogenic influences, abnormal conditions of pregnancy as related to the fetus and newborn, and early management of the infant. Will include modern concepts of intrauterine monitoring and physiology and current problems in maternal-fetal relationships.

MED 764. PEDIATRIC CARDIOLOGY (10)

PR: Enrolled in College of Medicine. Participation in pediatric cardiac clinic and in pediatric cardiac catheterization laboratory.

MED 765. PSYCHOLOGICAL BASIS OF CARDIOLOGY (10)

PR: Enrolled in College of Medicine. Correlative sessions aimed at gaining the skills in interpreting data from various cardiovascular tests including the catheterization laboratory and the exercise laboratory.

MED 766. RESEARCH AND CLINICAL EXPERIENCE IN ALLERGY (20)

PR: Enrolled in College of Medicine. This course is designed to provide both clinical and research experience for the student

interested in allergic problems. The first 5 1/2-week period will be given at the College of Medicine where the student will be involved in current research activities and participate in the Allergy Clinics. The second period will be spent in the Allergy Section, Watson Clinic, Lakeland.

MED 777. DEPARTMENTAL OVERVIEWS (5-20)

PR: Enrolled in College of Medicine. A course designed to reconsider and amplify basic principles in any area where the student requires additional background.

FOR GRADUATE AND MEDICAL STUDENTS**MSG 781. GRADUATE RESEARCH (1-15)**

PR: MSG 601-MSG 606 or consent of the Chairman. Directed research for Ph.D. students only.

MSG 783. SELECTED TOPICS (1-4)

PR: MSG 601-MSG 606 or consent of Chairman. Course design and subject matter will depend on interest of faculty members and student demand.

MSG 791. GRADUATE SEMINAR (1)

PR: MSG 601-MSG 606 or consent of the Chairman. Discussion of current topics.

MSG 799. Ph.D. DISSERTATION (1-15)

PR: MSG 601-MSG 606 or consent of Chairman. Advanced research and summary of selected topic.

Medical Microbiology

Chairperson: C. W. Fishel; *Professor:* C. W. Fishel; *Associate Professors:* D. Halkias, L. J. Paradise; *Assistant Professors:* R. J. Grasso, T. W. Klein, G. J. Lancz, W. M. LeFor, A. L. Winters.

MED 607. MEDICAL MICROBIOLOGY (9)

PR: Admission to College of Medicine. A study of the role of bacteria, viruses, mycological agents, and parasites as they are related to disease production. Host response to these agents is also an important aspect particularly as related to immune processes. Lec.-lab and discussion.

MED 608. MEDICAL MICROBIOLOGY SEMINAR (0)

PR: Consent of Chairman, Department of Medical Microbiology. Presentation and discussion of current topics of interest in medical research. Lec. and discussion.

MED 727. EXPERIMENTAL ONCOLOGY (20)

PR: Enrolled in College of Medicine. A course dealing with the biological aspects of neoplasia which will include lectures on differentiation, immunological aspects of tumor growth, viral, chemical and physical carcinogenesis, tumor metabolism and approaches to chemotherapy.

MED 728. CLINICAL MICROBIOLOGY (10)

PR: Enrolled in College of Medicine. The students will receive further training oriented toward the understanding of methods used in the laboratory diagnosis of bacterial, mycotic and parasitic diseases. Correlation of clinical diagnosis and microbiological findings will be made by reviewing patients' charts and discussing the case with the attending physician.

FOR GRADUATE AND MEDICAL STUDENTS**MSG 604. CORE COURSE IN MEDICAL MICROBIOLOGY (7)**

PR: Admission to Ph.D. Program in Medical Sciences. An in-depth survey of modern microbiology including studies of bacterial agents, parasitic and fungal organisms, viruses, and immunology.

MSG 617. DIAGNOSTIC MICROBIOLOGY (4)

PR: MSG 601-MSG 606 or consent of the Chairman. This course will consist primarily of conferences, reading assignments and laboratory training. The student will be presented with the theoretical background in understanding the indigenous microflora of man and will be guided in developing practical skills and familiarity with methodology in handling clinical specimens and in isolating, identifying and reporting pathogenic microorganisms.

MSG 618. RESEARCH PLANNING AND METHODS (4)

- PR: MSG 601-MSG 606 or consent of Chairman. Topics presented in this course will form the foundation of the research project selected by the student and will aid in avoidance of problems associated with ill-conceived experimental design.
- MSG 620. CELLULAR IMMUNOLOGY (4)**
PR: MSG 601-MSG 606 or consent of Chairman. Current concepts of cellular interactions in the immune response.
- MSG 621. ADVANCES IN IMMUNOLOGY (3)**
PR: MSG 601-MSG 606 or consent of Chairman. Detailed study of the cellular and biochemical events associated with the development and regulation of immunity and hypersensitivity.
- MSG 622. IMMUNOCHEMISTRY (4)**
PR: MSG 601-MSG 606 or consent of the Chairman. Advanced studies concerning the relationship between antigen and antibody molecules emphasizing chemical interactions.
- MSG 623. ADVANCED IN VIROLOGY (3)**
PR: MSG 601-MSG 606 or consent of the Chairman. The course will cover molecular aspects of viral replication, the effects upon host macromolecular biosynthesis and the molecular basis of viral oncogenic transformation.
- MSG 624. MICROBIAL PHYSIOLOGY and GENETICS (3)**
PR: MSG 601-MSG 606 or consent of Chairman. Microbial metabolic activities and genetic expression will be discussed as they relate to the pathogenesis of infectious diseases.
- MSG 626. REGULATORY CONTROL MECHANISMS IN ANIMAL CELL SYSTEMS (3)**
PR: MSG 601-MSG 606 or consent of Chairman. Regulatory control mechanisms exhibited by procaryotic and eucaryotic systems will be considered as they relate to cellular function.
- MSG 627. HOST-PARASITE INTERACTIONS (3)**
PR: MSG 601-MSG 606 or consent of the Chairman. Lectures and discussions concerned with properties of microorganisms that pertain to their virulence and with anatomic, physiologic, and biochemical alterations occurring in animal and human hosts in response to invasion by virulent microorganisms.

Medicine

Chairperson: R. H. Behnke; *Professors:* O. Barrett, R. H. Behnke, H. G. Boren, H. W. Boyce, S. Bukantz, R. V. Farese, R. C. Hartmann, R. C. Kory, T. E. McKell, L. D. Prockop, A. Szentivanyi; *Associate Professors:* C. P. Craig, P. B. Dunne, J. W. Hickman, E. D. Means, D. L. Shires, Jr., W. L. Trudeau; *Assistant Professors:* F. Botero, M. L. Carr, A. de Quesada, E. A. Eikman, C. P. Garms, A. L. Goldman, F. B. Lane, R. F. Lockey, J. Nord, R. J. Pollet, D. N. Reifsnnyder, S. I. Rifkin, C. W. Silverblatt, P. A. Singer, S. H. Soboroff, E. Spoto, Jr., D. W. R. Suringa; *Instructors:* T. A. Ebel, E. M. Prockop.

- MED 619. INTRODUCTION TO MEDICINE (14)**
PR: Admission to College of Medicine. A course designed to provide the student with a comprehensive frame of reference for viewing health and disease as an interplay of biological, social and psychological factors. Lec., patient contact, and discussion. The course includes Physical Diagnosis and Tutorial Clerkships.
- MED 621-PHYSICAL DIAGNOSIS (5)**
PR: Admission to College of Medicine. The basic techniques of clinical evaluation are presented emphasizing history taking and the demonstration of normal and abnormal physical findings. Lec., patient contact, and discussion.
- MED 624. MEDICINE CLERKSHIP (20)**
PR: Admission to College of Medicine. Each student is assigned to a number of patients, all of whom are followed closely through the entire hospital course. This casework is the primary teaching device. Also, special conferences and clinics provide instruction in various medical and related specialties.
- MED 739. ADVANCED GENERAL MEDICINE EXTERNSHIP (12)**
PR: Enrolled in College of Medicine. The basic objective is to achieve a higher level of knowledge and capability in the

diagnosis and treatment of adult medical illness. The student will assume a higher degree of responsibility for patient care than during the basic clerkship. Students will be expected to function essentially as interns writing and executing orders over the signature of the House Staff. They will take night calls as a member of the care team.

- MED 741. CLINICAL CARDIOLOGY (12)**
PR: Enrolled in College of Medicine. By functioning essentially as a primary care physician on the Cardiology specialty ward and Coronary Care Unit, the clinical aspects of cardiac disease will be emphasized through primary patient care, daily staff rounds and attendance at cardiac conference.
- MED 742. ELECTROCARDIOGRAPHIC INTERPRETATION (10)**
PR: Enrolled in College of Medicine. To offer experience in interpretation of electrocardiograms through daily reading with staff instruction. Interpretation of vector-cardiograms and echocardiograms will also be introduced.
- MED 743. CLINICAL DERMATOLOGY (10)**
PR: Enrolled in the College of Medicine. This rotation has been designed and is especially recommended for those students interested in Family Medicine, Pediatrics, or Internal Medicine. Four of the weeks are spent at University of South Florida affiliated hospitals where both adult and pediatric patients are seen. During the remaining time the student has the opportunity to work on a tutorial basis at the private office of one of the clinical faculty members.
In addition to the clinical practice, periodic reviews of basic and clinical dermatology, as well as informal discussions, take place throughout the course.
- MED 744. CLINICAL ENDOCRINOLOGY AND METABOLISM (10)**
PR: Enrolled in College of Medicine. Students will attend endocrine clinics, see consultations on the wards, and participate in specialty rounds and conferences. Each student will be assigned several patients to evaluate and discuss in depth with the senior staff.
- MED 745. GASTROENTEROLOGY ELECTIVE (10-20)**
PR: Enrolled in College of Medicine. This elective is intended as an experience in Clinical Gastroenterology and Hepatology. An acceptable level of competence in interpretation of symptoms and physical findings, in utilization of appropriate laboratory and other diagnostic studies, in knowledge of the basic therapeutic approaches, in interpretation of gastrointestinal radiographs, and in performance of sigmoidoscopy will be achieved through a combination of personal instruction and direct patient contact. Participation in and/or observation of a variety of other G.I. procedures will be afforded. Attendance at combined meetings of the G.I. section will provide a further source of learning. Opportunities to participate in an on-going clinical research project will be made available for those students taking more than one unit. May be repeated once.
- MED 746. HEMATOLOGY-ONCOLOGY (10)**
PR: Enrolled in College of Medicine. Students will be taught the clinical abnormalities and most of the laboratory techniques for diagnosing the common hematological disorders and many of the oncological disorders. This will be done by accompanying fellows and residents on consultations, making rounds with the staff, studying blood and bone marrow slides under the supervision of the attending staff and fellow, and studying specialized laboratory techniques under the direction of the senior technicians. Interested and prepared students will be permitted to do clinical or laboratory research projects under the direction of the attending staff or fellow.
- MED 747. INFECTIOUS DISEASE (10)**
PR: Enrolled in College of Medicine. The division offers electives which will provide the student with in-depth acquaintance with the clinical and clinical laboratory aspects of infectious disease. The student participates in the consultative evaluation of routine, complex and emergent infections and is expected to develop competence in the ordering, understanding and interpretation of clinical microbiological studies. As a part of the learning experience students will review serious or unusual

microbiological isolates in the clinical laboratory and examine the patients from whom they were isolated. They will make daily rounds with the Infectious Disease resident, intern and nurse, and with the faculty attending, and will present patients and pertinent laboratory findings for discussion. May be repeated once.

MED 748. ADVANCED CLINICAL NEUROLOGY (10)

PR: Enrolled in College of Medicine. The objectives are to learn to perform and interpret the neurologic examination; interpret laboratory and radiologic data; arrive at a reasonably correct clinical diagnosis and understand the principles of management and treatment. The student will be assigned hospitalized patients and outpatients under the supervision of the resident and faculty.

MED 749. CLINICAL NEPHROLOGY (10)

PR: Enrolled in College of Medicine. The object of this course is to provide general experience in clinical adult nephrology, fluid and electrolyte problems, and the care of acutely ill patients. This will include evaluation of patients with early and late renal failure, nephrotic syndrome, acute renal failure, etc. Exposure to both acute hemodialysis and peritoneal dialysis will be available. The student will see and evaluate consultations.

MED 750. CLINICAL ALLERGY AND PULMONARY DISEASE (10-20)

PR: Enrolled in the College of Medicine. This elective has as its basic objective to provide further training in Clinical Allergy and Pulmonary Disease. The student will participate in the clinical management of patients with respiratory disorders. Included in this experience will be instruction in the management of ventilators and respiratory assist apparatus. Time will be spent in the Pulmonary Function Laboratory. The student will learn how to perform and interpret pulmonary function tests. Experience will also be afforded in the diagnosis and management of respiratory related allergic disorders.

MED 785. MEDICINE IN THE TROPICS (20)

PR: Enrolled in College of Medicine. This is an eleven week elective involving the senior student in supervised care of patients in a hospital located in the tropical zones of the Western Hemisphere, in a different clinical setting. The student will work closely with a physician, carry out a clinical research project, and maintain contact with the sponsoring faculty. Reference text material will be available at each site. The course is designed to provide the student with familiarity with tropical diseases. As important, however, is exposure to medical techniques and facilities employed in treatment of common illnesses as they occur in tropical countries. This experience will improve the students' appreciation for the practice of "Global Medicine."

Obstetrics/Gynecology

Chairperson: J. M. Ingram; *Professor:* J. M. Ingram; *Associate Professor:* C. L. Lay; *Assistant Professors:* C. J. Hochberg, B. S. Verkauf, R. L. Vermillion.

MED 628. OBSTETRICS-GYNECOLOGY CLERKSHIP (13)

PR: Admission to College of Medicine. Consists of eight weeks of general clinical obstetrics and gynecology. Students are assigned patients, and share in patient care of the obstetric and gynecologic wards, delivery suite, operating rooms and outpatient clinics. The faculty and students participate in daily tutorial sessions, clinical conferences, and obstetric and gynecologic pathology seminars. Audiovisual learning aids and specialized study carrels are available to the student at all times.

MED 713. GYNECOLOGIC ONCOLOGY (10)

PR: Enrolled in College of Medicine. A survey of malignancy of the reproductive system. The didactic portion of the course is supplemented by presentation of patients currently in the therapy on the wards, in Radiotherapy, and in the Gynecologic Cancer Clinic. Principles of surgery, radiotherapy, chemotherapy, and cryotherapy will be covered in depth.

MED 714. RESEARCH IN OBSTETRICS-

GYNECOLOGY (10)

PR: Enrolled in College of Medicine. For the student who is interested in concentrating upon one area of research and in reporting the results in a paper. Advice by the departmental faculty in researching the literature and in approaching a particular subject will be given. This elective will be offered to students who have demonstrated interest in research and unusual proficiency in the Clinical Clerkship in Obstetrics/Gynecology.

MED 715. PREPARATION FOR PRACTICE (10-20)

PR: Enrolled in College of Medicine. For students who are preparing for family medicine, or who are considering obstetrics and gynecology as a specialty. Inpatient and outpatient duties in obstetrics and gynecology. Special lectures in obstetric management and office gynecology, with emphasis on office practice techniques. May be repeated one time.

MED 716. THE INFERTILE COUPLE (10)

PR: Enrolled in College of Medicine. A clinical study of infertility in the human for students who desire additional instruction in examination, diagnosis, and treatment of the infertile couple. Assigned reading of pertinent medical literature, both historical and current, is correlated with didactic lectures and with clinical observation in patients. The student is made familiar with diagnostic techniques and the use of specialized apparatus and instruments, and participates in the treatment of patients in the clinic and office.

Ophthalmology

Chairperson: W. C. Edwards; *Professor:* W. C. Edwards; *Assistant Professors:* S. J. Cantolino, W. E. Layden, J. J. Older, H. M. Ramseur, R. J. Sever, I. G. Zachary; *Instructor:* J. Bartlett.

MED 717. TUTORIAL COURSE OF ADVANCED OPHTHALMOLOGY (20)

PR: Enrolled in College of Medicine. A practical working course in ophthalmology. This course intends to bridge the gap between medical school and ophthalmology residency.

MED 718. MEDICAL OPHTHALMOLOGY (5)

PR: Enrolled in College of Medicine. To augment introductory material on eye examination and recognition of eye diseases. Particular emphasis placed on medical diseases as they affect the ocular system (i.e., diabetes, thyroid, vascular disorders, etc.). Designed to compliment careers in internal and family medicine.

MED 784. NEURO OPHTHALMOLOGY (5)

PR: Enrolled in College of Medicine. A cooperative presentation of lectures and patient demonstrations in Neuro Ophthalmology.

Pathology

Chairperson: H. Sidransky; *Professors:* H. A. Azar, H. Sidransky; *Associate Professors:* S. Bloom, H. Zunker; *Assistant Professor:* L. H. Bernstein, J. B. Edlow, C. T. Garrett, J. K. Lynn, M. E. McIntosh, L. R. Nelson; *Instructors:* N. Kandawalla, F. Moatmid.

MED 617. PATHOLOGY (16)

PR: Admission to College of Medicine. Course will consist of lectures and laboratory which will cover general and systemic pathology. Major emphasis will be given to the etiology and pathogenesis of disease states. Gross and microscopic appearance of organs and tissues in disease will be examined and studied. Students will participate in post-mortem examinations.

MED 618. PATHOLOGY SEMINAR (0)

PR: Consent of Chairman, Department of Pathology. Presentation and discussion of current topics of medical importance in general area of pathology. Lec. and discussion.

MED 620. LABORATORY MEDICINE (4)

PR: Admission to College of Medicine. Course will deal with the fundamentals of laboratory procedures in relation to diagnosis and patient care. Didactic demonstrations and laboratory exercises will be conducted to acquaint the student with the significance of laboratory tests.

MED 729. ELECTIVE IN LABORATORY MEDICINE (CHEMISTRY, HEMATOLOGY) (10)

PR: Enrolled in College of Medicine. The student will participate under supervision in the examination and evaluation of laboratory tests (clinical chemistry, hematology). Emphasis will be on correlation of laboratory data with clinical diagnoses. The student and laboratory staff will review selected abnormal findings at daily morning "rounds."

MED 730. PATHOLOGIC ANATOMY (AUTOPSIES AND SURGICAL PATHOLOGY) (20-40)

PR: Enrolled in College of Medicine. The student will perform autopsies and examine surgical specimens under supervision at the Veterans Administration Hospital. He or she will be expected to attend all Pathology Conferences. Particular attention will be given to clinico-pathological correlation.

MED 731. SURGICAL PATHOLOGY (10)

PR: Enrolled in College of Medicine. The student will participate in the processing and in the signing out of surgical specimens at the Veterans Administration Hospital. He or she will be expected to attend Tumor Board and other afternoon exercises dealing with clinico-pathological correlation.

MED 732. EXPERIMENTAL PATHOLOGY (20)

PR: Enrolled in College of Medicine. Experimental studies using morphologic and biochemical techniques with disease models pertaining to inflammation, degeneration, neoplasia, immunopathology or nutritional and metabolic disorders. Students will conduct experimental studies under supervision of senior investigator.

FOR GRADUATE AND MEDICAL STUDENTS

MSG 606. CORE COURSE IN PATHOLOGY (7)

PR: Admission to the Ph.D. Program in Medical Sciences. This course will cover fundamentals of general pathology.

MSG 628. HUMAN SYSTEMIC PATHOLOGY (4)

PR: MSG 601 - MSG 606 or consent of the Chairman. This course will cover fundamentals of systemic pathology.

MSG 629. BIOCHEMICAL PATHOLOGY (3)

PR: MSG 601 - MSG 606 or consent of the Chairman. Several topics in biochemical pathology will be reviewed.

MSG 630. IMMUNOPATHOLOGY (3)

PR: MSG 601 - MSG 606 or consent of Chairman. Review of theoretical aspects and applicable tools available in studies of diseases related to immunologic disturbances.

MSG 631. ADVANCED GROSS PATHOLOGY (2)

PR: MSG 601 - MSG 606 or consent of Chairman. Course will cover gross pathology of human diseases.

MSG 632. ADVANCED MICROSCOPIC PATHOLOGY (2)

PR: MSG 601 - MSG 606 or consent of Chairman. Course will cover microscopic pathology of human diseases.

MSG 633. ELECTRON MICROSCOPY OF DISEASE STATES (3)

PR: MSG 601 - MSG 606 or consent of the Chairman. Ultra-structural techniques and studies of tissue from disease states.

MSG 634. AUTORADIOGRAPHIC TECHNIQUES (2)

PR: MSG 601 - MSG 606 or consent of Chairman. Instruction on light and electron microscopic techniques applicable to disease processes.

MSG 660. ANIMAL RESEARCH METHODS (4)

PR: MSG 601 - MSG 606 or consent of the Chairman. Animal Research Methods is a laboratory and lecture course for the medical college graduate student. It is designed to inform the student of humane techniques, economics, housing of animals, aseptic surgical techniques, pre and post-operative care, selection of species and legal responsibilities of investigator and institution involving federal laws governing use of animals in research.

Pediatrics

Chairperson: L. A. Barness; *Professors:* L. A. Barness, A. W. Root; *Associate Professor:* L. Cimino; *Assistant Professors:* S. Brodsky, J. S. Curran, J. A. Hallock, J. I. Malone, E. O. Reiter, T. A. Tedesco.

MED 626. PEDIATRICS CLERKSHIP (13)

PR: Admission to College of Medicine. This is an eight week course designed to present the core curriculum in pediatrics. It is an integrated course consisting of a one-week rotation in the newborn nursery and a 7-week rotation of a combined inpatient and outpatient experience. The course is designed to present the student with an opportunity to become proficient in obtaining a pediatric history, performing a pediatric physical examination, and determining normal and abnormal growth and development. Methods of approaching the patient and solving the problems related to differential diagnosis will be stressed. All physicals, examinations, and records will be done under the supervision of the senior house-staff and will be reviewed by the attending staff.

Clinical conferences will be presented for the student in addition to departmental conferences.

The student will present a one hour seminar at the conclusion of the course on a topic of his choice related to patients he has seen.

MED 719. OUTPATIENT PEDIATRICS, TAMPA GENERAL HOSPITAL (10)

PR: Enrolled in College of Medicine. Experience in follow-up of patients, specialty clinics, emergencies.

MED 720. INPATIENT PEDIATRICS, TAMPA GENERAL HOSPITAL (10)

PR: Enrolled in College of Medicine. Responsibility and decision making in critical pediatric problems.

MED 721. OUTPATIENT PEDIATRICS, ALL CHILDREN'S HOSPITAL (10)

PR: Enrolled in College of Medicine. Experience in follow-up of patients, specialty clinics, emergencies.

MED 722. INPATIENT PEDIATRICS, ALL CHILDREN'S HOSPITAL (10)

PR: Enrolled in College of Medicine. Responsibility and decision making in critical pediatric problems.

MED 723. NEONATAL RESEARCH (20)

PR: Enrolled in College of Medicine. Clinical and laboratory investigation of problems related to newborns.

MED 724. NEONATOLOGY (10)

PR: Enrolled in College of Medicine. Experience and responsibility of problems critical to the newborn.

MED 725. METABOLIC DISEASE RESEARCH (10)

PR: Enrolled in College of Medicine. Laboratory use of chromatography amino acid and organic acid analysers. Clinical or laboratory research. Experience in metabolic clinic. Independent investigation opportunities.

MED 726. PEDIATRIC ENDOCRINOLOGY (10-20)

PR: Enrolled in College of Medicine. Laboratory and clinical evaluation of endocrine problems in children. Independent investigation opportunities.

MED 787. RESEARCH IN PEDIATRIC MEDICINE AND GENETICS (20)

PR: Enrolled in College of Medicine. The facilities of the Pediatric Research laboratories are available for students who wish to pursue individual research in this area. Various projects relating pediatric medicine to biochemical genetics, cytogenetics, and population genetics are available. Each student will be expected after consultation to submit a protocol defining a specific problem, accumulate experimental data, and evaluate the results.

Pharmacology

Chairperson: A. Szentivanyi; *Professors:* D. L. Smith, A. Szentivanyi; D. B. Tyler; *Assistant Professors:* D. F. Fitzpatrick, J. J. Krzanowski, Jr., J. B. Polson, J. F. Williams; *Instructor:* J. F. Hackney.

MED 609. PHARMACOLOGY (9)

PR: Admission to College of Medicine. Studies of pharmacodynamics of drugs including mechanisms of action, side effects, and toxicities. Lec.-lab and discussion.

MED 610. PHARMACOLOGY SEMINAR (0)

PR: Consent of Chairman, Department of Pharmacology. Presentation of current research investigations as related to medical problems. Lec. and discussion.

MED 733. CLINICAL PHARMACOLOGY (5)

PR: Enrolled in College of Medicine. The primary objective is to provide experience in the application of general pharmacological principles and the general principles of drug therapy for the rational rather than empirical use of pharmacological agents. Organized primarily as conferences around case-presentations, the focus is directed to the therapeutic indications, alternative choices, contraindications, side-effects, and toxicological aspects of representatives of the classes of drugs involved in the selected case. Lectures on selected topics of general clinicopharmacological interest are also presented.

MED 734. IMMUNOPHARMACOLOGY (1 1/2)

PR: Enrolled in College of Medicine. The course concerns itself with the sequence of events which take place between the antigen-antibody interaction, and the effect of the immunologically released pharmacologic mediators on their specific cells. While the pharmacologic mediation of immune reactions is the main subject of the course, current problems of drug allergy, as well as drug-induced immuno-suppression are also discussed.

MED 735. PULMONARY PHARMACOLOGY (5)

PR: Enrolled in College of Medicine. This course covers experimental methodology for studying drug effects on the pulmonary system and on isolated portions of that system. The student participates in seminar type research discussions and planning, and participates in the collection of data in the laboratory and its analysis.

MED 736. DRUG METABOLISM AND PHARMACOGENETICS (5)

PR: Enrolled in College of Medicine. The pharmacological and clinical implications of drug metabolism are discussed. The enzymatic mechanisms of drug biotransformation reactions and alterations of these reactions due to pharmacological, environmental and genetic factors are presented. Application of information derived from drug metabolism studies to such clinical problems as dosage, dose interval, tolerance, and drug interactions are emphasized.

FOR GRADUATE AND MEDICAL STUDENTS**MSG 605. CORE COURSE IN PHARMACOLOGY (7-14)**

PR: Admission to Ph.D. program in Medical Sciences. Lectures and demonstrations on systematic pharmacology and elementary aspects of therapeutics. Emphasis is on the mechanisms of action in relation to the use of drugs in man.

MSG 635. THEORETICAL PHARMACOLOGY (5-10)

PR: MSG 601 - MSG 606 or consent of the Chairman. Lectures on the principles of drug action, the drug-receptor concept and the factors involved in drug absorption, distribution, excretion and metabolism are presented. Other major topics include pharmacogenetics, tolerance, toxicity, carcinogenesis and mutagenesis.

MSG 636. CLINICAL PHARMACOLOGY (5-10)

PR: MSG 601 - MSG 606 or consent of the Chairman. Lectures and clinical seminars on the pharmacological basis of rational therapeutics and on the clinical use of drugs. Principles underlying clinical trials are also discussed.

MSG 637. PHARMACOLOGY LABORATORY (2-4)

PR: MSG 601 - MSG 606 or consent of the Chairman. General training in laboratory techniques applicable to both physiological and biochemical research in Pharmacology.

MSG 638. IMMUNOPHARMACOLOGY (3-6)

PR: MSG 601 - MSG 606 or consent of the Chairman. Study of antigen-antibody interaction and the effect of the immunologically released pharmacological mediators on their target

cells. Also current problems of drug allergy and drug-induced immunosuppression are presented.

MSG 639. PHARMACOLOGY OF BACTERIAL PRODUCTS (4-8)

PR: MSG 601 - MSG 606 or consent of the Chairman. Study of the pharmacological activities of components of bacterial cells, or the products elaborated by bacteria on mammalian host-cells.

MSG 640. THE PHARMACOLOGY OF BIOLOGICAL MEMBRANES (4-8)

PR: MSG 601 - MSG 606 or consent of the Chairman. Study of the effects of drugs on cells and biological membrane.

MSG 641. DRUG METABOLISM (3-6)

PR: MSG 601 - MSG 606 or consent of the Chairman. Discussion of the enzymatic mechanism of drug biotransformation and the techniques for their investigation.

MSG 642. DRUG ADDICTION, TOLERANCE AND PHYSICAL DEPENDENCE (2-4)

PR: MSG 601 - MSG 606 or consent of the Chairman. Consideration of the biochemical basis, clinical and social implications of drug use resulting in addiction, tolerance and physical dependence.

MSG 643. THE HISTORY OF PHARMACOLOGICAL THOUGHT (1-2)

PR: MSG 601 - MSG 606 or consent of the Chairman. Lectures discussing the important conceptual advancements in the evolution of Pharmacology to a Modern Science.

Physiology

Chairperson: C. H. Baker; *Professors:* C. H. Baker, D. L. Davis; *Assistant Professors:* D. K. Anderson, J. A. Boulant, J. M. Downey, R. P. Menninger, G. R. Nicolosi, R. Shannon.

MED 611. MEDICAL PHYSIOLOGY (9)

PR: Admission to College of Medicine. A study of the functional aspects of components of the body and its organ systems and their integration into operational units. The physiology of homeostasis and the central nervous system will be included. Lec.-lab and discussion.

MED 612. PHYSIOLOGY SEMINAR (0)

PR: Consent of Chairman, Department of Physiology. Seminars in which current research areas of interest as related to medicine are discussed. Lec. and discussion.

MED 737. RESEARCH IN PHYSIOLOGY (5-40)

PR: Enrolled in College of Medicine. Introduction to research techniques and problem solving in the laboratory. Participation in an ongoing research project in the department including experimentation and data handling. May be repeated twice.

MED 738. CARDIO-PULMONARY-RENAL PHYSIOLOGY (5)

PR: Enrolled in College of Medicine. Advanced course illustrating the interrelationships between the cardiovascular, pulmonary and renal organ systems with emphasis on clinical problems.

FOR GRADUATE AND MEDICAL STUDENTS**MSG 602. CORE COURSE IN PHYSIOLOGY (7)**

PR: Admission to Ph.D. Program in Medical Sciences. Consideration of the fundamental concepts of mammalian and human physiology.

MSG 644. KIDNEY, FLUIDS AND ELECTROLYTES (3)

PR: MSG 601 - MSG 606 or consent of Chairman. Study of kidney function as well as regulation of the composition of the body fluids.

MSG 645. RESPIRATION (3)

PR: MSG 601 - MSG 606 or consent of Chairman. Study of the mechanics and regulation of respiration.

MSG 646. ENDOCRINE MECHANISMS (3)

PR: MSG 601 - MSG 606 or consent of Chairman. Mechanisms and regulation of hormonal actions.

MSG 647. NEUROPHYSIOLOGY (3)

PR: MSG 601 - MSG 606 or consent of Chairman. Current concepts of neural mechanisms with emphasis on the integrative aspects of regulation.

MSG 648. NERVE, MUSCLE AND SYNAPSE (3)

PR: MSG 601 - MSG 606 or consent of Chairman. Interactions between excitable tissues will be studied.

MSG 649. CARDIAC MUSCLE (3)

PR: MSG 601 - MSG 606 or consent of the Chairman. General and specific characteristics of cardiac muscle activity.

MSG 650. SMOOTH MUSCLE (3)

PR: MSG 601 - MSG 606 or consent of Chairman. General and specific characteristics of skeletal muscle action.

MSG 651. SKELETAL MUSCLE (3)

PR: MSG 601 - MSG 606 or consent of Chairman. General and specific characteristics of skeletal muscle action.

MSG 652. PERIPHERAL CIRCULATION (3)

PR: MSG 601 - MSG 606 or consent of Chairman. A study of the architecture, regulation and hemodynamics of the peripheral circulation.

MSG 653. CARDIOVASCULAR REGULATION (3)

PR: MSG 601 - MSG 606 or consent of Chairman. Study of the determinants affecting cardiovascular function.

MSG 654. CARDIOPULMONARY CIRCULATION (3)

PR: MSG 601 - MSG 606 or consent of the Chairman. Study of the relations between the heart and the pulmonary circulation.

MSG 655. HEMODYNAMICS (3)

PR: MSG 601 - MSG 606 or consent of the Chairman. Study of blood flow and the forces that produce it.

MSG 656. PHYSIOLOGICAL BASIS OF CARDIOLOGY (3)

PR: MSG 601 - MSG 606 or consent of the Chairman. Study of the physiological aspects of testing procedures used in Cardiology.

Psychiatry

Acting Chairperson: M. W. Denker; *Associate Professors:* S. A. Mourer, J. F. Ross; *Assistant Professors:* E. Bueno, W. N. Chambers, M. W. Denker, J. L. Grundvig, E. Klein, A. L. Saunders, K. Shaw, E. M. Whalen; *Instructors:* G. Cadena, R. Golub, L. Greenwood, R. A. Josephson, C. M. Luney, A. B. Moore, A. L. Muniz.

MED 614. BIostatISTICS (1)

PR: Admission to College of Medicine. Presentation of methods of collection, tabulation, graphic illustration, and analysis of numerical data encountered in medical research areas. Lecture.

MED 615. INTRODUCTION TO PSYCHIATRY (3)

PR: Admission to College of Medicine. Principles of human behavioral science will be presented from the standpoint of the developing organism reacting to its environment. Lec. Patient contact, and discussion.

MED 616. PSYCHIATRY SEMINAR (0)

PR: Consent of Chairman, Department of Psychiatry. Current research surveys in Psychiatry. Lec. and discussion.

MED 627. PSYCHIATRY CLERKSHIP (13)

PR: Admission to College of Medicine. Standard clinical clerkship is in the second year of the medical school curriculum. Didactic material is presented one day per week in conjunction with clinical casework conducted on the wards of the affiliated hospitals. The main points of emphasis will be: (1) evaluation and management of psychiatric emergencies; (2) practical psychopharmacology; and (3) introduction to the process of psychotherapy, again emphasizing short term intervention for individuals and their families.

MED 770. PSYCHIATRY LIAISON SERVICE ROUNDS (5)

PR: Enrolled in College of Medicine. Problem patients, generally from the medical and surgical ward will be interviewed by a member of the liaison staff following presentation by one of the residents. This will be followed by discussion which will emphasize problems in differential diagnosis and management.

MED 771. PSYCHIATRIC ILLNESS—BACKGROUNDS AND ORIGINS (5)

PR: Enrolled in College of Medicine. This course encompasses topics such as consciousness, waking, sleeping, memory and learning, emotionality, sensory and motor functions as well as speech, seen from the viewpoint of the psychiatrist with particular emphasis being laid upon the underlying cerebral substrata.

MED 773. ELECTIVE IN CHILD PSYCHIATRY (10)

PR: Enrolled in College of Medicine. An opportunity to provide for interested students to augment their experience in the diagnosis and management of behavioral disorders in children. Emphasis is placed upon problems that are met in family and pediatric practice. Students participate in teaching conferences, supervisory sessions and case seminars. Observations of disturbed children in a nursery school setting introduces the student to the problems of the preschool period.

MED 775. PSYCHIATRIC RESEARCH TECHNIQUES (10)

PR: Enrolled in College of Medicine. Conferences, practicum and selected readings in the area of psychiatric evaluation of autonomic and CNS functions in human subjects. Studies of emotional responding and studies of altered states of consciousness.

MED 776. INTRODUCTION TO PSYCHOSOMATIC MEDICINE (5)

PR: Enrolled in College of Medicine. Conferences will focus on major issues in Psychosomatic medicine. The format includes presentations by invited specialists and recent developments in ideology, diagnosis and management.

MED 778. QUANTITATIVE MODELS IN PSYCHIATRY AND PSYCHOPATHOLOGY (10)

PR: Enrolled in College of Medicine. A survey of univariate and multi-variate statistical models as they apply to research problems in psychiatry and psychopathology. Problems and topics on application will be selected primarily from the clinical areas.

MED 779. FORENSIC PSYCHIATRY (10)

PR: Enrolled in College of Medicine. This course includes examination of court defendants, visits to court rooms, and various correctional institutions, along with reading and discussion.

MED 782. PRINCIPLES OF PSYCHIATRIC THERAPY (5)

PR: Enrolled in the College of Medicine. Treatment of suitable patients under supervision. Basic readings in the teaching of psychiatric therapy will be assigned as well as other readings relevant to issues that appear during the course of supervision.

MED 792. ADVANCED CLERKSHIP IN PSYCHIATRY (10-20)

PR: Enrolled in College of Medicine. Students are instructed in the Veterans Administration and St. Joseph's Hospitals. The assignments provide for an intimate participant-observer role of the medical students in their study and care of inpatients and their families. With this assignment the students assume significant responsibility in their direct work with their patient and the patient's family. The work is supervised by staff and faculty members in the form of tutorials, model demonstrations and personal supervision. Major emphasis ranges from the essentials of those events of human interactions which occur between the patient, the patient's family and the student to knowledge of the significant types of human distress subsumed under the terms emotional and mental illness. An important feature of this training is to demonstrate to the student the application of psychiatric knowledge to problems in general medicine. Instruction is given in clinical psychiatric diagnosis, clinical psychology and in the care and treatment of patients with acute and sustained distress. These patients typically present traditional nosologic entities such as psychosis, neuroses and personality disorders. Students will be exposed to and participate in a variety of treatment modalities including chemotherapy, individual and group psychotherapy and the therapeutic community approach.

Radiology

(Acting) Chairperson: A. D. Graham; Professors: A. D. Graham, J. A. del Regato; Associate Professors: R. G. Isbell, M. L. Silbiger; Assistant Professors: H. A. Cherin, J. R. Gutierrez.

MED 767. GENERAL RADIOLOGY (10-20)

PR: Enrolled in College of Medicine. The general principles of X-ray interpretation, including a review of pertinent anatomy, physiology, and general diagnosis. Techniques used, film interpretation and fluoroscopy.

MED 768. GENERAL AND SPECIALTY

RADIOLOGY (10-20)

PR: Enrolled in College of Medicine. The first part of the period will be concerned with general principles and techniques of X-ray examination and diagnosis. "Specialty Radiology" will relate to special studies used, study of specific organ systems (Pulmonary, Cardiovascular, Gastrointestinal, Nervous System, Genitourinary, Skeletal) or to the special areas of Nuclear Medicine and Radiation Therapy.

Surgery

Chairperson: R. T. Sherman; Professors: J. R. Ackermann, J. C. Bolivar, R. P. Finney, R. J. Noer, R. T. Sherman; Associate Professors: R. E. Benway, B. L. Manale, J. A. Picaza, G. H. Puryear, W. N. York; Assistant Professors: P. H. Anderson, C. M. Hakanson, J. A. Holliday, A. K. Waltzer.

MED 625. SURGERY CLERKSHIP (20)

PR: Admission to College of Medicine. Students actively participate in patient care on the Surgical Services. They are an integral part of the surgical team and are required to accomplish supervised clinical work-up, participate in performance of surgical procedures and in patient follow-up. Students attend conferences and seminars on a regularly scheduled basis during the Clerkship. Educational direction and patient care supervision are provided by the faculty of the Department of Surgery.

MED 751. GENERAL SURGERY ELECTIVE (20)

PR: Enrolled in College of Medicine. In-depth clinical experience with the management of surgical disease.

MED 752. GENERAL SURGERY PRECEPTORSHIP (11)

PR: Enrolled in College of Medicine. Clinical preceptorship in general surgery.

MED 753. RENAL TRANSPLANTATION ELECTIVE (20)

PR: Enrolled in College of Medicine. Clinical and research experience in kidney transplantation and related problems.

MED 754. ANESTHESIOLOGY ELECTIVE (11)

PR: Enrolled in College of Medicine. In-depth clinical experience in anesthesiology.

MED 757. OTOLARYNGOLOGY ELECTIVE (20)

PR: Enrolled in College of Medicine. In-depth clinical experience with the management of patients on the otolaryngological service.

MED 758. OTOLARYNGOLOGY PRECEPTORSHIP (10)

PR: Enrolled in College of Medicine. Clinical preceptorship in otolaryngology.

MED 759. PLASTIC SURGERY PRECEPTORSHIP (11)

PR: Enrolled in College of Medicine. Clinical preceptorship in plastic surgery.

MED 760. THORACIC SURGERY ELECTIVE (20)

PR: Enrolled in College of Medicine. In-depth experience with the management of cardio-thoracic patients.

MED 761. CLINICAL UROLOGY ELECTIVE (20)

PR: Enrolled in College of Medicine. In-depth clinical experience with urologic disease.

MED 786. ORTHOPEDIC ELECTIVE (11-20)

PR: Third year student enrolled in College of Medicine. In-depth clinical experience with the management of patients on the Orthopedic Service.

MED 790. NEUROSURGERY ELECTIVE (10)

PR: Admission to College of Medicine. The student will work under the supervision of the Chief of the section of Neurosurgery. Concentrated experience in the application of basic principles to the practice of neurological surgery is the objective of this course.

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, J. S. Kosmala, D. W. Kneeburg, M. N. Rearick, J. M. Reynolds, A. N. Woodbury; Assistant Professors: A. Dickey, A. L. Hawkins, H. K. Jones, J. K. Khorsandian, J. E. Lewis, R. M. McCormick, D. J. Mizelle, J. L. Smith, N. S. Stevens, R. J. Summer; Interim Assistant Professors: J. A. Cooke, M. S. Marzuki; Instructors: A. Y. Monroe, J. M. Ryon; Interim Instructors: A. Hopper, A. V. Summer; Adjunct Lecturer: D. R. Gannett.

LOWER LEVEL COURSES

MUS 101. RUDIMENTS OF MUSIC (3)

Open only to non-music majors; development of skills in hearing and performing music and in basic notation.

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.

MUS 204. APPLIED MUSIC (3)

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.

Sec. 001 Violin

002 Viola

003 Violoncello

004 Double Bass

005 Flute

006 Oboe

007 Clarinet

008 Saxophone

009 Bassoon

Sec. 010 French Horn

011 Trumpet

012 Trombone/Baritone

013 Tuba

014 Percussion

015-021 Voice

022-025 Piano

026 Harp

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.

MUS 206. CLASS PIANO (2)

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.

Sec. 001 Non-music majors, level I

002 Non-music majors, level I

003 Music majors, level I

004 Music majors, level I

005 Music majors, level I

006 Non-music majors, level II

007 Non-music majors, level II

008 Music majors, level II

- 009 Music majors, level II
- 010 Non-music majors, level III
- 011 Music majors, level III
- 012 Music majors, level III
- 013 Non-music majors, level IV
- 014 Music majors, level IV

MUS 207. SECONDARY APPLIED MUSIC (1)

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.

Sec. 001 Violin	Sec. 010 French Horn
002 Viola	011 Trumpet
003 Violoncello	012 Trombone/Baritone
004 Double Bass	013 Tuba
005 Flute	014 Percussion
006 Oboe	315-021 Voice
007 Clarinet	022-025 Piano
008 Saxophone	026 Harp
009 Bassoon	

MUS 208. COMPOSITION (3)

PR: CI. Required of music majors with an area emphasis of Composition; class instruction in original composition; may be repeated for credit.

MUS 221, 222, 223. AURAL THEORY (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.

MUS 231, 232, 233. INTRODUCTION TO MUSIC LITERATURE (2,2,2)

PR: MUS 201 or concurrent enrollment. A survey of representative music exemplars of the past and present with emphasis upon the study of styles and form. Required for music majors.

UPPER LEVEL COURSES**MUS 301, 302, 303. MUSIC THEORY (3,3,3)**

PR: MUS 203. Required of music majors; continuation of MUS 201-203.

MUS 304. APPLIED MUSIC (3)

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.

Sec. 001 Violin	Sec. 010 French Horn
002 Viola	011 Trumpet
003 Violoncello	012 Trombone/Baritone
004 Double Bass	013 Tuba
005 Flute	014 Percussion
006 Oboe	015-021 Voice
007 Clarinet	022-025 Piano
008 Saxophone	026 Harp
009 Bassoon	

MUS 305, 306, 307. ELECTRONIC 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.

MUS 308. COMPOSITION (3)

PR: MUS 203 and MUS 205 and CI. Class instruction in original composition. Required of composition majors. May be repeated for credit four quarters only.

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 indeterminacy in composition and performance.

MUS 312. IMPROVISATION (1)

PR: MUS 203 and CI. A course of study designed to acquaint the student with basic improvisational techniques; emphasis on performance. May be repeated for credit.

Sec. 001 Fundamental Techniques

002 Jazz Techniques

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 sight singing. To be taken concurrently with MUS 301, 302, 303.

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.

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)

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; Section 001 of MUS 372 is for students who are majoring in dance, theatre arts, and visual arts.

MUS 374. MAJOR PERFORMING ORGANIZATIONS (1)

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.

Sec. 001 University Orchestra	005 Wind Ensemble
002 University Singers	006 Wind Ensemble
003 Opera Workshop	007 University Band
004 Choral Union	901 University Community Chorus

MUS 375. CHAMBER MUSIC ENSEMBLES (1)

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.

Sec. 001 Chamber Singers	008 Horn Quartet
002 Jazz Laboratory Band	009 Clarinet Choir
003 Brass Choir	010 Percussion Ensemble
004 Brass Quintet	011 Marimba Ensemble
005 Woodwind Quintet	012 Flute Choir
006 Piano Ensemble	013 New Music Ensemble
007 String Quartet	

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.

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.

MUS 404. APPLIED MUSIC (3)

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.

Sec. 001 Violin	Sec. 010 French horn
002 Viola	011 Trumpet
003 Violoncello	012 Trombone/Baritone
004 Double Brass	013 Tuba
005 Flute	014 Percussion
006 Oboe	015-021 Voice
007 Clarinet	022-025 Piano
008 Saxophone	026 Harp
009 Bassoon	

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.

MUS 408. COMPOSITION (3)

PR: Necessary competency at MUS 308 level determined by faculty jury examination. Required of music majors with an area emphasis of composition; private instruction in original composition; may be repeated for credit four quarters.

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.)

MUS 412. MUSIC STUDIO PEDAGOGY (3)

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.)

Sec. 001 Strings
002 Winds & Percussion
003 Voice
004 Piano
005 Class Piano

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.

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.

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.

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.

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 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.)

MUS 454. APPLIED MUSIC (3)

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.)

Sec. 001 Violin	Sec. 010 French Horn
002 Viola	011 Trumpet
003 Violoncello	012 Trombone/Baritone
004 Double Bass	013 Tuba
005 Flute	014 Percussion
006 Oboe	015-021 Voice
007 Clarinet	022-025 Piano
008 Saxophone	026 Harp
009 Bassoon	

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 MUS 408 level determined by faculty jury examination. Required of music majors with an area emphasis of Composition; private instruction in original composition. 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 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 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 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.

FOR SENIORS AND GRADUATE STUDENTS

MUS 561. MASTER CLASSES (2)

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.

Sec. 001 Piano	Sec. 003 Strings
002 Voice	

MUS 562. MUSIC WORKSHOPS (2)

PR: CI. Intensive study in the specialized areas indicated below; open to teachers, University students, and secondary students; credit available to qualified students.

Sec. 001 Band	Sec. 004 Orchestra
002 Chamber Music	005 String
003 Chorus	

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.

FOR GRADUATE STUDENTS ONLY

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 Antiquity to the present; includes analysis and performance of representative works.

MUS 604. APPLIED MUSIC (2-4)

PR: Necessary competency determined by faculty jury audition. Required of all applied music majors. Private and class instruction.

Sec. 012 Strings secondary	Sec. 042 Percussion secondary
014 Strings	044 Percussion
022 Woodwinds secondary	052 Voice secondary
024 Woodwinds	054 Voice
032 Brass secondary	062 Piano secondary
034 Brass	064 Piano

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.

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.

MUS 609, 610. MUSICAL ACOUSTICS (4,4)

PR: CI. Required of music theory majors; study of the nature and transmission of sound, the hearing process, tuning and temperament; includes principles of electronic sound reproducers and basic concepts of architectural acoustics.

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.

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.

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.

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.

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.

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.

MUS 622, 623, 624. CHORAL LITERATURE AND CONDUCTING (6,6,6)

PR: CI. Combination of seminar, classroom and laboratory types of experiences designed to provide depth in stylistic study of choral music literature and performance.

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

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.

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.

MUS 674. MAJOR ENSEMBLE PERFORMANCE (1)

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.

Sec. 001 University Orchestra Sec. 005 Wind Ensemble

002 University Singers

006 Wind Ensemble

003 Opera Workshop

007 University Band

004 Choral Union

901 University Community Chorus

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 681. DIRECTED STUDY (1-9)

PR: CC. Independent graduate studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUS 691. GRADUATE SEMINAR (2)

PR: CC. May be repeated to a maximum of six credits.

MUS 698. GRADUATE RECITAL (3)

PR: CC.

MUS 699. GRADUATE THESES (3)

PR: CC. May be repeated to a maximum of nine credits.

NATURAL SCIENCES (NAS)

UPPER LEVEL COURSES

NAS 409. SCIENCE AND HUMAN LIFE I (4)

The role of science in society. The manner in which science is organized, how it operates, its harmonious and conflicting

relationships with other fields of knowledge. (For non-science majors.)

NAS 410. SCIENCE AND HUMAN LIFE II (4)

Continuation of NAS 409. (For non-science majors.)

NURSING (NUR)

Dean: G. R. MacDonald; *Associate Professors:* F. Carbonell, J. Sasmor; *Assistant Professors:* M. Boostrom, N. Entreklin, J. Fanning, S. Fletcher, L. Lloyd, J. Rackow, A. Slatter; *Instructors:* P. Adams, A. Grillot, H. Guiss, N. Gunter, B. Mauger, R. Stiehl.

UPPER LEVEL COURSES

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 pre-

ventive 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.

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.

NUR 302. NUTRITION (3)

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.

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.

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.

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 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.)

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.

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 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.)

NUR 310. NURSING PROCESS LABORATORY (3)

PR or concurrent: NUR 305. Junior standing in nursing or 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.)

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.

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 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.)

NUR 403. NURSING INQUIRY I (3)

PR: 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.

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.

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 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.)

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 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 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 412. INDEPENDENT STUDY (2-5)

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.

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.

UPPER LEVEL COURSES

The following courses are provided for students admitted in the Off-Campus Term Program to work on one of the types of projects indicated.

- 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.
- OCT 410. OFFICE CAMPUS TERM SOCIAL ACTION PROJECT** (1-2)

(S/U only.)

- OCT 411. OFF CAMPUS TERM INDEPENDENT STUDY** (1-2)
(S/U only.)

- OCT 412. OFF CAMPUS TERM INTERNATIONAL PROGRAM** (1-2)
(S/U only.)

- OCT 414. OFF CAMPUS TERM SPECIAL PROJECT** (1 or 2)
(S/U only.)

PHILOSOPHY (PHI)

Chairperson: James A. Gould; Professor: J. A. Gould; Associate Professor: W. H. Truitt; Assistant Professors: J. A. Bell, B. Silver, R. Taylor, R. Weatherford.

LOWER LEVEL COURSES

- PHI 111. GREAT PHILOSOPHERS OF THE WESTERN WORLD** (2)
Lectures and discussions of the great philosophers since Plato, focusing on particular problems.
- PHI 112. PHILOSOPHIC CONTROVERSIES** (2)
A discussion of central controversies in philosophy such as the nature of love, violence, freedom, truth, morality, etc.
- PHI 113. PRACTICAL LOGIC** (2)
Elementary theory and application of logical fallacies, deductive and inductive logic. Not for majors.

UPPER LEVEL COURSES

- 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 303. LOGIC** (5)
Language analysis and classical and modern formal logic, including the logic of classes and propositions, and discussion of philosophical issues.
- PHI 304. SCIENTIFIC METHOD** (4)
Probability, inductive inference, the hypothetico-deductive method, experimentation, and selected topics in the philosophy of science.
- PHI 311. BASIC PHILOSOPHY II: VALUE AND SOCIETY** (4)
An introduction to the major philosophical problems in ethics, aesthetics, and social political philosophy.
- 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 321. ETHICS** (4)
An examination of the writing of the philosophers: Plato, Aristotle, Kant, Sartre, etc., about moral problems and principles.
- PHI 333. ANCIENT AND MEDIEVAL PHILOSOPHY** (4)
A survey of philosophy from Thales through the medieval writers.
- PHI 334. RENAISSANCE AND MODERN PHILOSOPHY** (4)
A survey of philosophy from the Renaissance through Kant.
- PHI 335. RECENT PHILOSOPHY** (4)
A survey of philosophy from Kant through nineteenth century philosophy.
- 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.)
- 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.)

- PHI 377. SOCIAL PHILOSOPHY** (4)
An analysis of rival theories of social order and their philosophical foundations.

- PHI 381. DIRECTED STUDY** (1-5)
PR: CI. Individual study directed by a faculty member. Approval slip from instructor required.

- PHI 383. SELECTED TOPICS** (1-5)
PR: CI. Selected topics according to the needs of the student. Approval slip from instructor required.

- PHI 405. CONTEMPORARY PHILOSOPHY** (4)
PR: 8 hours or CI. Selected schools of twentieth century thought such as idealism, positivism, pragmatism, realism, and existentialism.

- 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.

- 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.

- 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.

- 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.

- PHI 413. AMERICAN PHILOSOPHY** (4)
Major traditions in American thought—Puritanism, the Enlightenment, Transcendentalism, Idealism, Pragmatism, and Analytic Philosophy—in relation to American culture.

- PHI 415. PLATO** (4)
PR: 8 hours of Philosophy or CI. The examination of Plato will include the dialogues *Protagoras*, *Gorgias*, *Meno*, *Republic*, etc.

- PHI 416. ARISTOTLE** (4)
PR: 8 hours of Philosophy or CI. Study of Aristotle's philosophy.

- 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.

- PHI 425. KANT** (4)
PR: 8 hours of Philosophy of CI. Lecture and discussions of Kant's philosophy, especially *The Critique of Pure Reason*.

- 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*.

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.

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.

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 481. DIRECTED STUDY (1-5)

PR: CI. Individual study directed by a faculty member. Approval slip from instructor required.

PHI 483. SELECTED TOPICS (1-5)

PR: CI. Selected topics according to the needs of the senior students. Approval slip from instructor required.

FOR SENIORS AND GRADUATE STUDENTS

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 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 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 511. PHILOSOPHY OF LAW (4)

PR: 8 hours or CI. The nature and function of law, relations between law, morality, and metaphysics, logic of legal reasoning, analysis of fundamental concepts and institutions.

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 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.

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.

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 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 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 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 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 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 581. DIRECTED STUDY (1-5)

PR: CI. Individual study directed by a faculty member. Approval slip from instructor required.

PHI 583. SELECTED TOPICS (1-5)

PR: CI. Selected topics according to the needs of the student. Approval slip from instructor required.

PHI 585. RESEARCH (1-5)

PR: CI. Individual research supervised by a faculty member. Approval slip from instructor required.

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.

FOR GRADUATE STUDENTS ONLY

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 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.

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 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 621. STUDIES IN PHILOSOPHY OF RELIGION (4)

PR: Graduate standing or CI. A 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 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 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.

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 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.

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.

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 681. DIRECTED STUDY (1-5)

PR: Graduate standing and CI. Individual study directed by a faculty member. Approval slip from instructor required.

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 691. GRADUATE SEMINAR (4)

PR: Graduate standing. A seminar in the history of philosophy. The instructor will determine the subject matter.

PHI 699. THESIS (5)

PR: Graduate standing. Supervision of the writing of the M.A. thesis.

PHYSICAL EDUCATION-ELECTIVE (PEB)

Director: R. T. Bowers; *Professors:* R. T. Bowers, G. W. Hertz; *Associate Professors:* R. J. Grindey, R. E. Heesch, A. J. Jonaitis, S. W. Prather, Jr., J. E. Young; *Assistant Professors:* D. L. Holcomb, H. A. Honker, P. G. Ortwein, S. C. Taylor, I. Trice; *Lecturer:* M. J. Cheatham.

LOWER LEVEL COURSES

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.)

PEB 151. ARCHERY (2)

Development and refinement of the essential skills and information necessary for enjoying the sport of Archery. (S/U only.)

PEB 153. BADMINTON (2)

Progressive experiences in Badminton, fundamental skills, strategy, information, and participation (S/U only.)

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.)

PEB 171. FOIL FENCING (2)

Progressive experiences in the sport of Foil Fencing, fundamental skills, strategy, information, and participation. (S/U only.)

PEB 173. GOLF (2)

Progressive experiences in the sport of Golf. Fundamental skills, strategy, information, and participation. (S/U only.)

PEB 175. GYMNASTICS (2)

Progressive experiences in the various gymnastics events. Opportunities to specialize in areas of personal interest. (S/U only.)

PEB 179. TENNIS (2)

Progressive experiences in the sport of Tennis. Fundamental skills, strategy, information, and participation. (S/U only.)

PEB 200. SPECIAL CONDITIONING (2)

Special activities for specific student needs. Activity varies by course section. (S/U only.)

PEB 210. BASKETBALL-VOLLEYBALL (2)

Review and refinement of fundamental skills, presentation and practice of the various offensive and defensive strategies. (S/U only.)

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.)

PEB 232. SWIMMING II (2)

PR: PEB 132. Continuation of PEB 132. Special emphasis on development of endurance and efficient stroking. (S/U only.)

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.)

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.)

PEB 240. SYNCHRONIZED SWIMMING (2)

Introductory experiences in synchronized swimming. Emphasis on essential skills; music interpretation; and choreography. (S/U only.)

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.)

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.)

PEB 254. WRESTLING (2)

Progressive experiences in the sport of Wrestling. Fundamental skills, strategy, information, and participation. (S/U only.)

PEB 270. AEROBICS (2)

Introduction to the knowledges and techniques necessary for increasing cardiorespiratory efficiency. Assessment of status and development of a personal program. (S/U only.)

PEB 276. WEIGHT CONTROL (2)

Introduction to the knowledges and techniques necessary for effecting a change in body composition. Assessment of status and development of a personal program. (S/U only.)

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.)

PEB 291. HUMAN KINESIOLOGY II (2)

PR: PEB 290. An introduction to the mechanical principles which govern human movement. (S/U only.)

UPPER LEVEL COURSES

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.)

PHYSICAL SCIENCES (PHS)

LOWER LEVEL COURSES

PHS 208. MAN THINKS ABOUT HIS PHYSICAL UNIVERSE (4)

Science is viewed as a creative, intellectual activity. Special emphasis is given to observations, their interpretation, and the development of conceptual models. Topics such as man's conception of his place in the physical universe, the natural motions of objects, the Newtonian Revolution, energy, and the nature and behavior of light, are examined. Some laboratory work. Intended for non-scientists and especially recommended for prospective elementary teachers. No credit for science majors. Qtr. I, II, III, IV.

PHS 209. THE ECOLOGICAL-ENVIRONMENTAL IMPACT OF GEO-CHEMICAL PHENOMENA (4)

Designed for non-science majors with the content oriented toward stimulating interest and providing for discovering concepts and principles in the geo-chemical changes in the earth and how these changes are related to the environmental ecology. A syllabus is used instead of a conventional textbook. It will be offered only Qtr. III. *No credit for science majors.*

PHS 210. WAVE MOTION AND SOUND (4)

Basic ideas are explored, including the nature of sound, sources of sound, hearing, noise pollution, and unusual uses of sound. Two or three laboratory exercises will be done. *No credit for science majors.* Qtr. I, III. (Alternating with PHS 212)

PHS 211. GREAT EXPERIMENTS IN SCIENCE (4)

A descriptive investigation and analysis of the methods of operation and the results of the experiments relative to the impact made upon mankind. The course will be offered Quarters I and IV. *For non-majors.*

PHS 212. AEROSPACE AND MAN (4)

Man's interaction with aerospace is explored. Included are basic principles of flight, general aviation, the space program and its relation to flying and gliding, and basic rocketry. *No credit for science majors.* Qtr. II, IV. (Alternating with PHS 210)

PHS 213. CONTROVERSIAL ISSUES IN SCIENCE (4)

A study of several great controversies in science of the past and some of the contemporary controversies now confronting man. Qtr. III only. *No credit for Chemistry majors.*

PHYSICS (PHY)

(See also the sections entitled Physical Sciences and Natural Sciences)

Chairperson: N. L. Oleson; *Professors:* S. C. Bloch, 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, R. Gilmore, N. C. Halder, W. H. Kruschwitz, R. W. Mitchell; *Assistant Professor:* R. J. Berkley; *Lecturer:* J. E. Turbeville; *Interim Teaching Associate:* S. Gleman.

LOWER LEVEL COURSES

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. Qtr. I, II, III, IV.

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. Qtr. I, II, III, IV.

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. Qtr. I, II, III, IV.

PHY 271. ENERGY AND HUMANITY (4)

A non-technical survey of energy forms, sources, present and projected needs, uses and abuses in modern civilization. (*For non-majors.*) Qtr. I, II, III, IV.

UPPER LEVEL COURSES

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. Qtr. I, II, III, IV.

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. Qtr. I, II, III, IV.

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. Qtr. I, II, III, IV.

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 non-linear oscillators. Qtr. I.

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.

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. Qtr. I, II, III, IV.

PHY 312. PROBLEMS IN GENERAL PHYSICS II (1)

CR: PHY 303. Second Quarter of sequence PHY 311-312-313. Qtr. I, II, III, IV.

PHY 313. PROBLEMS IN GENERAL PHYSICS III (1)

CR: PHY 305. Third quarter of sequence PHY 311-312-313. Qtr. I, II, III, IV.

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 323. MODERN PHYSICS (4)

PR: PHY 305 or CR: PHY 315. MTH 305 or MTH 354. Special theory of relativity. Interaction and duality of particles and radiation. Atomic and x-ray spectra and vector model of atom. Exclusion principle and introduction to quantum theory. Introduction of nuclear physics. Qtr. I, II, III, IV.

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. II.

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 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, IV.

PHY 405. STATISTICAL PHYSICS I (3)

PR: MTH 305 or MTH 354 and either PR: 305 or CR: PHY 315. Statistical approach to thermodynamics and kinetic theory and introduction to statistical mechanics. First quarter of the sequence PHY 405-406. Qtr. I.

PHY 406. STATISTICAL PHYSICS II (3)

PR: 405. Continuation of the sequence PHY 405-505. Qtr. II. (Formerly PHY 505.)

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 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. (Formerly PHY 508.)

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 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. (Formerly PHY 507.)

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. (Formerly PHY 509.)

PHY 421. SOLID STATE PHYSICS I (4)

PR: PHY 323 and 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. I.

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. (Formerly PHY 522.)

PHY 437. QUANTUM MECHANICS I (3)

PR: PHY 407, MTH 401 or CI. Wave-particle duality, uncertainty principle, Schrodinger's equation, postulates, angular momentum, and central forces. First quarter of sequence PHY 437-537. Qtr. II.

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.

PHY 470. ACOUSTICS FOR COMMUNICOLOGY (4)

PR: non. Non-mathematical study of general wave motion and associated phenomena. Acoustic resonance and response of the ear. Introduction to harmonic analysis of complex waveforms with application to testing with pure tones and various types of waves. Acoustic instrumentation. (*No credit for science majors.*) Qtr. I, II.

PHY 471. MECHANICS AND HEAT—FINE ARTS (4)

PR: None. Principles of the mechanics and thermal behavior of solids, liquids, and gases, with descriptions of applications to appropriate art forms and techniques. (*No credit for physics or mathematics majors.*) Qtr. I. (Formerly PHY 571.)

PHY 472. ELECTRICITY AND SOUND—FINE ARTS (4)

PR: None. Principles of electricity, magnetism, electronics, and sound with descriptions of applications to appropriate art forms and techniques. Laboratory. (*No credit for science majors.*) Qtr. II. (Formerly PHY 572.)

PHY 473. OPTICS—FINE ARTS (4)

PR: None. Principles of optics, with descriptions of applications to appropriate art forms and techniques. Laboratory. (*No credit for science majors.*) Qtr. III. (Formerly PHY 573.)

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 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 491. PHYSICS SEMINAR (1)

PR: Senior or advanced junior standing or CC. May be repeated once. (S/U only.) Qtr. I, II, III, IV.

FOR SENIORS AND GRADUATE STUDENTS

PHY 501. NUCLEAR PHYSICS (4)

PR: 437 or CI. Systematics of stable nuclides, nuclear forces, nuclear models, reactions, radiation, and nuclear instruments. Qtr. I.

PHY 517. PLASMA PHYSICS I (4)

PR: PHY 419 or CI. Introduction to Boltzmann, magnetohydrodynamic and orbit approaches to plasmas. Longitudinal and electromagnetic waves in plasmas. Collisions and radiation. Instabilities. Qtr. IV.

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. II.

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 537. QUANTUM MECHANICS II (3)

PR: PHY 437 or CI. Matrix mechanics, approximation methods, transformations, scattering and identical particles. Qtr. III.

PHY 541. METHODS OF THEORETICAL PHYSICS (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.

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.

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 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.

FOR GRADUATE STUDENTS ONLY

PHY 601. ATOMIC AND MOLECULAR SPECTRA (4)

PR: PHY 437 or CI. Quantitative study of atomic and molecular structure and spectra. Qtr. IV.

PHY 605. STATISTICAL MECHANICS (4)

PR: PHY 406 or CI. Kinetic theory, configuration and phase space. Boltzmann theorem, Liouville theorem, ensemble theory, quantum statistics. Qtr. III.

- 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 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.
- PHY 609. CLASSICAL MECHANICS III** (3)
PR: PHY 608 or CI. Advanced topics in mechanics of current interest. Offered on demand.
- 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.
- PHY 621. SOLID STATE PHYSICS III** (3)
PR: PHY 521 or CI. Advanced course on Solid State Physics covering material of current interest. Qtr. III.
- PHY 631. ELECTROMAGNETIC THEORY I** (3)
PR: PHY 419 or CI. Electrostatics, magnetostatics, potential and boundary value problems. Maxwell's equations. First quarter of sequence PHY 631-632-633. Qtr. I.
- PHY 632. ELECTROMAGNETIC THEORY II** (3)
PR: PHY 631 or CI. Electromagnetic waves, wave guides and resonant cavities, diffraction, relativistic-particle kinematics and dynamics, plasmas and magnetohydrodynamics. Qtr. II.
- PHY 633. ELECTROMAGNETIC THEORY III** (3)
PR: PHY 632 or CI. Scattering, radiation, multipole fields, radiation damping, and self-fields. Qtr. III.
- PHY 637. QUANTUM MECHANICS III** (3)
PR: PHY 537 or CI. Dirac equation, quantized fields, collision theory, symmetry and invariance. Qtr. I.
- 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.

- 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.)
- 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 681. GRADUATE RESEARCH** (1-15)
PR: CC. (S/U only.) Qtr. I, II, III, IV.
- PHY 683. SELECTED TOPICS IN PHYSICS** (1-15)
PR: CC. Each topic is a course in directed study under the supervision of a faculty member.
- PHY 689. DIRECTED TEACHING** (1-5)
Not applicable toward thesis degree requirements. Supervised teaching for graduate teaching assistants in elementary and/or laboratory courses. A formalized, structured activity wherein a faculty member, by discussion and assignments, considers the principles, rationale, and modus operandi of elementary college courses. Designed to train teaching assistants and to provide help and training to those graduate students who plan to follow a college teaching profession. (S/U only.) Qtr. I, II, III, IV.
- PHY 691. GRADUATE SEMINAR** (1)
(S/U only.) Qtr. I, II, III, IV.
- PHY 699. MASTER'S THESIS** (1-9)
PR: PHY 641. (S/U only.) Qtr. I, II, III, IV.

POLITICAL SCIENCE (POL)

Chairperson: L. Bowman; *Professor:* L. Bowman; *Associate Professors:* S. A. Barber, F. J. Horrigan, J. E. Jreisat, A. E. Kelley, M. E. O'Donnell; *Assistant Professors:* L. J. DiMento, R. A. Factor, A. B. Levy, J. M. Sidor, Jr., J. B. Snook, S. Stoudinger; *Instructor:* D. Paulson.

LOWER LEVEL COURSES

- POL 199. INTRODUCTION TO POLITICAL SCIENCE** (4)
A survey of the basic concepts in government and politics, theories and methods of political science and the American political system as well as materials.
- POL 201. AMERICAN NATIONAL GOVERNMENT** (4)
Basic principles and procedures of the American governmental system with emphasis on current issues and trends.
- POL 203. STATE AND LOCAL GOVERNMENT** (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.

UPPER LEVEL COURSES

- POL 311. COMPARATIVE POLITICS** (4)
Analysis of political systems using the concepts and methods of comparative politics. Studies of selected countries will be included.
- POL 331. INTERNATIONAL RELATIONS** (4)
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.
- POL 333. 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.

- POL 338. CONTEMPORARY 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 alternative for specified problem areas in foreign affairs.
- POL 341. POLITICAL PARTIES** (4)
PR: POL 201 or CI. The development, structure, operation and significance of political parties in the American system of government.
- POL 343. 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.
- POL 345. PRIVATE GROUPS AND PUBLIC POLICY** (4)
Role of non-party groups in the American society and their impact on public policy; growth of interest groups, internal politics, and formation of public policy.
- POL 347. CONTEMPORARY SOUTHERN POLITICS** (4)
Comparative study of selected political patterns and trends in the eleven southern states since 1950. Analysis of such topics as massive resistance, the civil rights movement, black political participation, factional division within the Democratic Party and the growth of presidential and gubernatorial Republicanism.
- POL 351. INTRODUCTION TO PUBLIC ADMINISTRATION** (4)
PR: Upper level standing. An examination of the administrative principles and processes by which public policies are implemented in a democratic society.
- POL 405. POLITICS OF THE SOVIET UNION** (4)

Development of the Soviet political system since the Revolution. Theory and practice of Communism in the contemporary Soviet Union.

POL 410. POLITICAL SYSTEMS OF SOUTHEAST ASIA (4)

PR: Upper level standing. Comparative analysis of political systems and practices in Southeast Asian countries with emphasis on the nature of nationalism, political development and revolutionary processes in the region.

POL 415. MILITARY POWER IN INTERNATIONAL

POLITICS (4)

PR: POL 331. Upper Level Standing or CI. A study of the role of military power affecting war and peace in modern international politics. Among the issues covered are, limited war, nuclear deterrence, balance of power, conventional war, guerrilla warfare, disarmament and nuclear proliferation.

POL 421. GOVERNMENT AND POLITICS OF THE FAR EAST (4)

Development of political ideas and institutions of Japan and China with emphasis on 20th century issues.

POL 425. POLITICS OF LATIN AMERICA (4)

Comparative analysis of political systems of Latin America, with emphasis on modernization, the role of the military, revolutionary processes, and inter-American relations.

POL 428. POLITICS OF AFRICA (4)

Development and growth of emerging African political systems and their relations with each other and with states outside of Africa.

POL 431-432. CONSTITUTIONAL LAW (4,4)

The development of the United States government through judicial interpretation of the Constitution. Case study method of analysis.

POL 434. JUDICIAL POLITICS (4)

PR: POL 431 or POL 432. Consideration of selected theories of judicial decision-making. Examination and application of social science methodology to the study of court systems.

POL 436. INTERNATIONAL LAW AND DIPLOMACY (4)

Contemporary international norms, agreements and negotiations. Their influence on, and response to, a changing international system.

POL 438. COMPARATIVE FOREIGN POLICY (4)

Comparative study of foreign policy behavior of nations. Analysis of formulation and objectives of foreign policies.

POL 441. THE AMERICAN PRESIDENCY (4)

The presidency as an institution of American democracy; constitutional status and powers, administrative responsibilities, legislative and political leadership, decision-making process.

POL 443. POLITICAL BEHAVIOR (4)

PR: Upper level standing or CI. Economic, psychological and social dimensions of political behavior; political participation, leadership and elites; political attitudes; voting behavior and decision-making processes.

POL 453. URBAN GOVERNMENT (4)

An introduction to the theory of urbanism, formal and informal structures that govern urban areas, new patterns and policy emphasis of urban government.

POL 454. URBAN POLITICS (4)

PR: Upper level standing. POL 203 or equivalent. An examination of the political processes and systems in urban and suburban communities in America.

POL 455. THE AMERICAN LEGISLATIVE PROCESS (4)

Intensive analysis of the nature of the legislative process in the United States; organization, procedure, leadership, relation with other governmental agencies, group tactics, decision-making process in the formation of policy.

POL 457. PROBLEMS OF PUBLIC FISCAL

ADMINISTRATION (4)

PR: POL 351 or CI. Analysis of problems in the growth and development of public budgets with emphasis on principal techniques and theories of fiscal administration.

POL 461. CLASSICAL POLITICAL IDEAS (4)

PR: POL 199 or CI. Basic political ideas from the works of Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas

and other leading Greek, Roman, and Medieval-Christian political philosophers.

POL 462. CLASSICAL POLITICAL IDEAS (4)

PR: POL 199 or CI. Basic political ideas from the works of Machiavelli, Bodin, Hobbes, Locke, Montesquieu, Rousseau, Burke, Bentham and other leading modern political philosophers.

POL 463. AMERICAN POLITICAL THOUGHT (4)

PR: Upper level standing. American political thought from the Colonial period to the present with emphasis on recent contributions.

POL 464. MODERN POLITICAL THOUGHT (4)

PR: Upper level standing. Basic political ideas from the works of 19th and 20th century political philosophers.

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.

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.

FOR SENIORS AND GRADUATE STUDENTS

POL 520. 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.

POL 525. PROBLEMS OF PUBLIC PERSONNEL

ADMINISTRATION (4)

An analysis of recruitment, testing, training, employee and human relations in the public service.

POL 527. COMPARATIVE PUBLIC ADMINISTRATION (4)

Comparison and certain aspects of public administrative systems of various governments, emphasizing such writers as Siffin, Hadari, Appleby, Hu, Simon and Riggs.

POL 530. LEGAL AND REGULATORY PROCESSES (4)

Systematic study of the political-judicial factors in the regulatory process of administrative agencies.

POL 550. METHODOLOGICAL AND CONCEPTUAL

PROBLEMS IN COMPARATIVE AND INTERNATIONAL POLITICS (4)

Examination of problems and concepts in the study of comparative and international politics, emphasizing theoretical and empirical relations and relative advantages of different levels and units of analysis. May be repeated for credit.

POL 561. POLITICS OF THE DEVELOPING AREAS (4)

An analysis of the ideologies, governmental structures, and political processes of selected nations of the non-Western world.

POL 571. FIELD WORK (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.

FOR GRADUATE STUDENTS ONLY

POL 600. SCOPE AND METHODS OF POLITICAL

SCIENCE (4)

Advanced study of the scope and methodologies of political science, including their applications to different research areas.

POL 620. 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.

POL 623. URBAN FINANCIAL ADMINISTRATION (4)

Examination of organizational structure and administrative

processes of urban fiscal agencies, sources of revenue, expenditures and indebtedness, and current problems in budgeting.

POL 625. PROBLEMS IN URBAN POLITICS (4)
Analysis in depth of pressure group behavior and its role in municipal policy formulation, including the study of community power approaches advanced by Rossi, Sofer, Kammarer, Martin and others.

POL 627. ADMINISTRATIVE BEHAVIOR AND PUBLIC POLICY FORMATION (4)
Analysis of the formal, informal and societal characteristics of public bureaucracies and their impact on public policy.

POL 640. POLITICAL SOCIALIZATION (4)
Seminar in selected phases of the political socialization process.

POL 643. CONTEMPORARY POLITICAL IDEAS AND BEHAVIOR (4)
Study of certain phases of political philosophy and theories of modern political analysis.

POL 645. SEMINAR IN STATE POLITICS (4)
Analysis of selected topics in American state politics. May be repeated for credit as topics vary.

POL 650. SEMINAR IN POLITICAL REVOLUTION AND CHANGE (4)
Analysis of selected contemporary problems relating to political revolution and change.

POL 662. SEMINAR IN COMPARATIVE POLITICS (4)
Comparative analysis of political systems in terms of processes, institutions, and behavior. May be repeated for credit.

POL 665. SEMINAR IN INTERNATIONAL ORGANIZATIONS AND ADMINISTRATION (4)
Analysis of various phases of international organizations and their administrative systems.

POL 667. SEMINAR IN INTERNATIONAL RELATIONS (4)
Investigation of selected phases of international relations in world politics. May be repeated for credit as topics vary.

POL 670. SEMINAR IN AMERICAN GOVERNMENT AND POLITICS (4)
Analysis of selected current problems in American government and politics. May be repeated for credit as topics vary.

POL 675. SEMINAR IN URBAN PROBLEMS (4)
Systematic analysis and evaluation of various problems areas of contemporary urban governments.

POL 677. SEMINAR IN ADMINISTRATIVE PROCESS (4)
Analysis of various administrative processes emphasizing policy formulation, implementation, programming, new concepts of management in a public service environment.

POL 680. INDIVIDUAL RESEARCH (4)
Study in depth of a special problem in political science.

POL 690. MASTER'S THESIS (1-9)

PSYCHOLOGY (PSY)

Chairperson: J. M. Anker; *Professors:* J. M. Anker, D. E. Clement, M. W. Hardy, H. D. Kimmel, R. C. LaBarba, H. H. Meyer, D. L. Nelson, J. Sandler, J. B. Sidowski, F. Sistrunk, C. D. Spielberger, P. N. Strong; *Associate Professors:* H. L. Hawkins, C. E. Nelson, L. A. Penner, R. W. Powell; *Assistant Professors:* J. M. Clingman, S. L. Cohen, R. L. Fowler, Jr., P. A. Mauger, D. J. Rundus, D. K. Stein, J. C. Toth, D. H. VanDercar, W. Wheeler.

LOWER LEVEL COURSES

PSY 201. INTRODUCTION TO PSYCHOLOGY (5)
A survey of major topics in psychology (learning, perception, thinking, intelligence, etc.), and an introduction to methods used in psychological investigation. Lecture and discussion, taken concurrently.

UPPER LEVEL COURSES

PSY 311-312. RESEARCH METHODS IN PSYCHOLOGY (4,1)

PR: PSY 201 and 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.

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.*

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.*

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 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 contemporary problems in our society. *Not for major credit.* (Formerly PSY 401.)

PSY 402. PSYCHOLOGY OF LEARNING (4)
PR: PSY 201, SSI 301, PSY 311-312. Survey of methods,

empirical findings and theoretical interpretations in conditioning and instrumental learning. Lec.-lab.

PSY 403. DEVELOPMENTAL PSYCHOLOGY (4)
PR: PSY 201, SSI 301, PSY 311-312. Survey of methods, empirical findings and theoretical interpretations in the study of human and animal development.

PSY 404. SOCIAL PSYCHOLOGY (4)
PR: PSY 201, 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.

PSY 405. NEUROPSYCHOLOGY (4)
PR: PSY 201, 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 411. EXPERIMENTAL DESIGN AND ANALYSIS (4)
PR: PSY 201, 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 415. SYSTEMATIC PSYCHOLOGY (4)
PR: PSY 201, 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.

PSY 421. MOTIVATION (4)
PR: PSY 201, SSI 301, PSY 311-312, 402. An examination of human and animal motivations from both physiological and psychological viewpoints.

PSY 425. COMPARATIVE PSYCHOLOGY (4)
PR: PSY 201, 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.

PSY 432. INDUSTRIAL PSYCHOLOGY (4)
PR: PSY 201, 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.

PSY 436. PSYCHOLOGICAL ASSESSMENT (4)
PR: PSY 201, SSI 301, PSY 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.

PSY 441. HUMAN MEMORY (4)

PR: PSY 201, SSI 301, PSY 311-312. Survey of methods, empirical findings, and theoretical interpretations of human learning and retention, including concept learning, information processing, and verbal learning. Lec.-lab.

PSY 445. PERCEPTION (4)

PR: PSY 201, 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.

PSY 450. PSYCHOLOGY OF WOMEN (4)

PR: WSP 201. 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.)

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).

PSY 452. PERSONALITY (4)

PR: PSY 201, SSI 301, PSY 311-312. Methods and findings of personality theories and an evaluation of constitutional, biosocial, and psychological determinants of personality.

PSY 455. PSYCHOPATHOLOGY (4)

PR: PSY 201, SSI 301, PSY 311-312. Descriptions, theoretical explanations, research evidence and treatment of maladaptive behavior.

PSY 481. SELECTED TOPICS: 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 485. SELECTED TOPICS: 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 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 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 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.

FOR GRADUATE STUDENTS ONLY

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.

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.

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.

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 personality. A survey of treatment methods is included. M.A. core course.

PSY 616. PSYCHOLOGICAL ASSESSMENT (5)

PR: CI. Courses cover theory, research, and applications of psychological assessment in areas such as interviewing, intellectual and cognitive functioning, neuropsychodiagnostics, and personality testing. May be repeated for credit with different subject matter.

PSY 620. SUPERVISED RESEARCH (1-15)

PR: CI. The student works in close collaboration with a faculty member in designing, conducting, and interpreting experiments. May be repeated for credit. (S/U only.)

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 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.

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.

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 of ontogenetic contributions to later behaviors. Effects of early experience on later behavior. M.A. core course.

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.

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.

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.

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.

- 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.
- 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.
- 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.
- 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.
- 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 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 699. THESIS (1-15)**
PR: Admission to graduate degree program in psychology and CI. A study in depth of a problem in psychology approved by a thesis committee. May be repeated for credit. (S/U only.)
- 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 techniques, group psychotherapy, and other varieties of therapeutic intervention. May be repeated for credit with different subject matter.

- 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.
- PSY 775. GRADUATE SEMINAR IN EXPERIMENTAL PSYCHOLOGY (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 780. 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.
- PSY 781. GRADUATE SEMINAR IN 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.
- 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 799. DISSERTATION (1-15)**
PR: Admission to Ph.D. program in psychology and CI. A study in depth of a problem in psychology approved by a dissertation committee. May be repeated for credit. (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.; *Lecturers:* G. Ebra, A. M. Landsman; *Adjunct Professor:* A. J. Pasach; *Adjunct Lecturer:* F. C. Walker; *Interim Lecturers:* D. S. Celandier, F. S. Greenberg, K. M. Tallant.

FOR SENIORS AND GRADUATE STUDENTS

- 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.
- 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.
- 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.

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.)

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.)

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.

FOR GRADUATE STUDENTS ONLY

REH 602. INTERPERSONAL ASPECTS OF REHABILITATION COUNSELING II (5)

PR: REH 502. An extension and intensification of skills developed in REH 502.

REH 603. PSYCHO-SOCIAL DISABILITY IN REHABILITATION COUNSELING (5)

PR: REH 502. Personal, social, and vocational consequences of emotional and social disabilities.

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.

REH 606. VOCATIONAL PLACEMENT AND ADJUSTMENT OF THE DISABLED (5)

A study of occupations, vocational theories, pre-placement counseling, vocational placement techniques, follow-up procedures, and the psycho-social aspects of work as they pertain to rehabilitating disabled and disadvantaged persons.

REH 607. SELECTED TOPICS IN REHABILITATION (2-5)

PR: CI. Designed to give the student an opportunity to study in depth some concept, procedure, or body of data in the rehabilitation field. May be repeated for a maximum of 10 hours credit.

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.)

REH 609. SEMINAR IN REHABILITATION COUNSELING (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.

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.)

REH 611. PRACTICUM II (2)

PR: REH 507 and 508. Continuation of REH 508. Must be taken concurrently with REH 610. (S/U only.)

REH 612. GROUP WORK IN REHABILITATION COUNSELING (5)

PR: CI. Examination of group processes as applicable to rehabilitation counseling.

REH 613. ADVANCED GROUP WORK IN REHABILITATION COUNSELING (5)

PR: CI. Extension of REH 612 with emphasis on field work.

REH 620. INTERNSHIP IN REHABILITATION (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.)

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).

RELIGIOUS STUDIES (REL/ANC)

Chairperson: W. C. Tremmel; *Coordinator of Ancient Studies:* A. M. Gessman; *Professors:* A. M. Gessman, W. C. Tremmel; *Assistant Professors:* T. J. Burns, J. F. Strange; *Instructor:* E. E. Smith; *Adjunct:* M. B. Fisher; *Interim Instructors:* R. W. Haywood, W. O. Lipp, F. N. Sundheim.

Religious Studies (REL)

UPPER LEVEL COURSES

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 experimental form; and (4) an examination of the place and character of moral systems in religion.

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 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.

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.

REL 317. NEW TESTAMENT GREEK II (4)

Intermediate readings and grammar of the Greek New Testament.

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 326. MODERN JUDAISM (3)

A study of Jewish life in the West since 1789, emphasizing Jewish beliefs, practices and institutions.

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 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 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 330. BLACK RELIGIOUS EXPERIENCE IN AMERICA (4)

A course designed to stimulate interest in the religious history, experience, and thinking of American Blacks.

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 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 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 350. WORLD RELIGIONS—EASTERN (5)

An introduction to and a comparison to 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 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 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 370. CONTEMPORARY RELIGIOUS THOUGHT (4)

An examination of the central ideas of recent theological thinkers; such men as Barth, Brunner, Bultmann, Bonhoeffer, Rahner, Tillich, Cox, Altizer, Buber, Niebuhr.

REL 383. SELECTED TOPICS (1-5)

PR: CI. Course contents depend on students' needs.

REL 385. DIRECTED READINGS (1-5)

PR: CI. Individual guidance in concentrated reading on a selected topic.

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 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 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 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 410. OLD TESTAMENT STUDIES I (Torah) (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 411. OLD TESTAMENT STUDIES II (Prophets) (4)

PR: REL 410 or REL 315 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 412. OLD TESTAMENT STUDIES III (Writings) (4)

PR: REL 410 or REL 315 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 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 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 416. NEW TESTAMENT STUDIES II (4)

(Pauline Letters)

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 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 481. UNDERGRADUATE RESEARCH (1-5)

PR: Junior standing and CI. Individual investigations with faculty supervision.

REL 483. SELECTED TOPICS (1-5)

PR: Junior standing and CI. Course contents depend on students' needs.

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.

FOR SENIORS AND GRADUATE STUDENTS

REL 583. SELECTED TOPICS (1-5)

PR: Senior standing and CI. Course contents depend on students' needs.

Ancient Studies Sequence (ANC)

UPPER LEVEL COURSES

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. (Formerly CLS 321.)

ANC 341-342-343. BASIC HEBREW (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. (Formerly CLS 341, 342, 343.)

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. (Formerly CLS 352.)

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. (Formerly CLS 373.)

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.)

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.)

ANC 427. GREEK CIVILIZATION (4)

Detailed study of the Aegean and Greek civilizations from their beginning in Crete and Mycenae to the Roman period. Greek discoveries, exploration and colonization. (Alternate years.)

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.)

ANC 441-442-443. ADVANCED HEBREW (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. (Formerly CLS 441, 442, 443.)

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 Sanskrit (3, 3, 3) and Old Church Slavonic (5).

ANC 485. 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. PR: Consent of coordinator prior to registration.

FOR SENIORS AND GRADUATE STUDENTS

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.

ANC 581. INDIVIDUAL RESEARCH

(2-5)

Specialized individual work in particular areas of student's interest.

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.

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. PR: Consent of coordinator prior to registration.

NOTE: In any of the numbers 483, 485, 581, 583, 585, enrollment is repeatable for different subject matters.

SENIOR SEMINAR (CBS)**CBS 401. SENIOR SEMINAR**

(3)

Contemporary issues affecting social and personal values. Visiting lecturers, readings and discussions interrelating the

behavioral, natural, and social sciences and the humanities. Designed to focus the university education upon contemporary problems. (S/U only.)

SOCIAL SCIENCES (INTERDISCIPLINARY) (SSI)

Chairperson: M. T. Orr; *Professors:* C. W. Arnade, M. Kaplan, T. J. Northcutt, Jr., H. Winthrop; *Associate Professors:* A. S. Gilmore, M. K. McCormick, M. T. Orr; *Assistant Professors:* E. M. Dickey, T. S. Geis, A. Hechiche, H. W. Nelsen, J. L. Taylor; *Instructor:* J. W. Palm; *Lecturers:* J. O. Bell, D. K. Lupton; *Adjuncts:* E. E. Allen, M. B. Fisher.

LOWER LEVEL COURSES**SSI 100. WORLD PERSPECTIVE**

(4)

Application of the interdisciplinary approach to the study of the international system, major world regions and problems.

SSI 201, 202. BEHAVIORAL SCIENCE

(4,4)

Draws on information from behavioral sciences (human biology, psychology, anthropology, sociology, and philosophy) to demonstrate how human behavior develops and means by which personal, social, and ethical problems are dealt with. Students desiring to pursue their interest in behavioral science may also take SSI 383 (formerly CBS 203) in which selected topics are studied in depth. (Formerly CBS 201, 202.)

UPPER LEVEL COURSES**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.

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 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 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 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.

SSI 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.

SSI 327. SOCIAL POLICY IN THE UNITED STATES

(4)

PR: SSI 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.

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.

SSI 339. EUROPE

(4)

SSI 341. LATIN AMERICA

(4)

SSI 343. ASIA

(4)

SSI 345. AFRICA

(4)

SSI 347. THE MIDDLE EAST

(4)

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 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. (Formerly CBS 203.)

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 403-404. THE UNIVERSE OF MAN

(3,3)

A search for the universals of human life today; the nature of man, the world community, human needs and values, available instruments of science and technology, and the limiting facts and forces. (Formerly CBS 403, 404.)

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 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 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.

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 426. COMMUNITY ORGANIZATION AND DEVELOPMENT

(4)

PR: SSI 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.

SSI 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. Identification of major needs of individuals at different stages of life cycle.

SSI 428. PLANNING AND EVALUATION OF HUMAN SERVICES PROGRAMS

(4)

PR: SSI 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.

SSI 429. INTERVIEWING

(4)

PR: SSI 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.

SSI 449, 450. THE EMERGING NATIONS

(4,4)

PR: Upper division standing or CI. CI required to take SSI 450 out of sequence. This course examines the processes and problems involved when an underdeveloped country seeks to develop a modern industrial civilization.

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 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 491. SENIOR SEMINAR

(4)

PR: Senior standing and CI. To provide an integrating seminar experience for International Studies' majors.

FOR SENIORS AND GRADUATE STUDENTS

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.

SSI 505. 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.

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 interests.

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.

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 526. INTERVENTION TECHNIQUES

(4)

SSI 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.

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.

FOR GRADUATE STUDENTS ONLY

SSI 601. SOCIAL PATHOLOGY

(4)

An examination of the variety of social criticism which has been leveled at Western society and of some of the defenses which have been made in its behalf. Materials will be chosen from several of the social sciences.

SSI 681. DIRECTED RESEARCH

(1-4)

PR: CI and graduate standing. May be repeated. To provide graduate students with interdisciplinary research experience in areas of specific interest.

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.

SOCIOLOGY (SOC)

Chairperson: R. G. Francis; *Professors:* C. P. Bosserman, W. B. Cameron, R. G. Francis, R. H. Wheeler; *Associate Professors:* G. A. Brandmeyer, R. A. Hansen, E. G. Nesman; *Assistant Professors:* P. L. Fleming, B. G. Gunter, J. W. Holley, D. P. Johnson, L. W. Kutcher, Jr., P. L. Maza, H. A. Moore; *Instructor:* R. W. Armstrong; *Lecturer:* L. K. Alexander, *Interim Lecturers:* M. A. Brown, N. D. Taylor.

LOWER LEVEL COURSES

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 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.

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 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.)

UPPER LEVEL COURSES

SOC 301. INTRODUCTION TO SOCIAL WELFARE (4)
PR: SOC 201 or CI. The historical and contemporary development of organized social services and institutions to meet human needs.

SOC 315. FOUNDATIONS OF THEORY (4)
PR: SOC 201 or CI. Consideration of selected theories in sociology and procedures of systematic theory construction.

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 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 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 331. SOCIAL PSYCHOLOGY (4)

PR: PSY 201 or SOC 201. Behavior of the individual human being as affected by social and cultural influences of modern society.

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 345. SOCIAL STRATIFICATION (4)

PR: SOC 201 or CI. Social status and social stratification, social class as a factor in behavior, social mobility.

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 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 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 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 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 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 449. POLITICAL SOCIOLOGY (4)

PR: SOC 201 or CI. An examination of the social factors that affect government, politics, and political behavior.

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 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 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.)

SOC 481. INDIVIDUAL RESEARCH (1-4)

PR: Four courses in sociology, including SOC 321, upper division standing or CI. Content dependent upon interests and competence of the student. Does not count for sociology major credit.

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 491. SENIOR SEMINAR (4)

For seniors majoring in sociology or other social sciences. Major issues in sociology, stressing theory and research.

FOR SENIORS AND GRADUATE STUDENTS

SOC 505. COMMUNITY WELFARE RESOURCES (4)

PR: SOC 301 or CI; upper division standing. Emphasis upon voluntary programs and their development, planning, and coordination.

SOC 531. SOCIAL INTERACTION (4)

PR: SOC 331, or CI; upper division standing. Interpersonal

influence, complex behavior, role, conflict, and social situational factors.

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 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 543. 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.

SOC 571. POPULATION (4)

PR: SOC 201 or CI; upper division standing. Sociological determinants of fertility, mortality, and migration; theories of population change.

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.

FOR GRADUATE STUDENTS ONLY

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 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 623. SOCIOLOGICAL STATISTICS (5)

PR: SSI 301 or CI. Logic and application of parametric and nonparametric statistical analysis for sociological data.

SOC 631. SOCIAL PSYCHOLOGY SEMINAR (4)

PR: Course in Social Psychology or CI. Stresses contemporary developments in social psychological theory and empirical research.

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 643. COMPLEX ORGANIZATIONS (4)

PR: Course in Social Organization or CI. Organizational theory, bureaucratic models, authority, power legitimation, and types of formal organization.

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 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 681. GRADUATE RESEARCH (1-4)

PR: CI. Content and method dependent upon interest and competence of student.

SOC 683. SPECIAL TOPICS-SOCIOLOGY (4)

PR: CI. Content varies according to interests of students and instructor. May be repeated for credit.

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 699. RESEARCH AND WRITING OF MASTER'S THESIS (1-8)

PR: Equivalent of 16 quarter hours in the student's graduate program, SOC 611, 621, 623, 690. May be repeated for credit to a maximum of 8 hours.

SPEECH COMMUNICATION (SPE)

Chairperson: R. D. Brooks; *Professors:* R. D. Brooks, J. E. Popovich, M. E. Scheib, J. I. Sisco; *Associate Professors:* P. J. Newcombe, R. J. Schneider; *Assistant Professors:* B. F. Downs, M. W. Iles, J. K. Jensen, G. D. Partney; *Instructors:* D. A. Carter, G. R. Randolph; *Lecturer:* J. A. Hodges; *Adjunct Lecturers:* J. P. Chamberlain, S. E. Dellinger, P. A. Lax.

LOWER LEVEL COURSES

SPE 103. SPEECH COMMUNICATIONS 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.

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.

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 of oral communication through a variety of experiences in public discourse.

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.

UPPER LEVEL COURSES

SPE 311. INTRODUCTION TO SPEECH SCIENCE (5)

PR: SPE 203 or CI. Communication models are analyzed. Emphasis on quantifiable parameters of effective speaking.

SPE 320. ISSUES AND INTERPRETATION (2)

The study of literature through analyses of printed textual materials and of the visual-aural textual performance of them. May be repeated.

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.

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).

SPE 360. CURRENT ISSUES AND RHETORIC (2)

Analysis of significant current speakers and issues. May be repeated.

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.

SPE 362. TECHNICAL COMMUNICATION (5)

Investigation and application of methodology and effective technical communication for effective oral presentation of technical reports.

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.

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.

SPE 366. FORENSICS (2)

PR: SPE 365 or CI. Study, library research, and practice in forensics. Application of the principles of rhetoric to the current debate and discussion topics. May be repeated (maximum of 6 hours.)

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.

SPE 368. RHETORIC OF CONFRONTATION (4)

PR: Sophomore standing. The study of rhetorical strategies and tactics of agitation and control in confrontation situations.

SPE 369. PARLIAMENTARY SPEAKING (3)

Principles of parliamentary procedure and practice in conducting and participating in meetings governed by parliamentary rules.

SPE 370. SPEECH COMMUNICATION THEORY (5)

PR: SPE 201 or CI. The study of source, message, and receiver variables in human communication; communication settings; descriptive and predictive models of communication; speech communication as a process.

SPE 381. UNDERGRADUATE RESEARCH (1-5)

PR: Junior standing and CI. Individual investigations and faculty supervision.

SPE 383. SELECTED TOPICS (1-5)

PR: Junior standing and CI.

SPE 385. DIRECTED READINGS (1-5)

PR: Junior standing and CI.

SPE 481. UNDERGRADUATE RESEARCH (1-5)

PR: Senior standing and CI. Individual investigations with faculty supervision.

SPE 483. SELECTED TOPICS (1-5)

PR: Senior standing and CI.

SPE 485. DIRECTED READINGS (1-5)

PR: Senior standing and CI.

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.

FOR SENIORS AND GRADUATE STUDENTS

SPE 501. SPEECH BEHAVIOR AND PROCESSES (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.

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.

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.

SPE 521. ORAL INTERPRETATION OF DRAMATIC LITERATURE (5)

PR: SPE 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.

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.

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.

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.

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.

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.

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.

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.

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.

SPE 581. RESEARCH (1-5)

PR: Senior or graduate standing and CI.

SPE 583. SELECTED TOPICS (1-5)

PR: Senior or graduate standing and CI.

SPE 585. DIRECTED READINGS (1-5)

PR: Senior or graduate standing and CI.

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.

FOR GRADUATE STUDENTS ONLY

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.

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.

SPE 612. SEMINAR IN SPEECH SCIENCE (5)

PR: SPE 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.

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.

SPE 661. CLASSICAL RHETORIC (5)

Greek and Roman theory and practice; emphasis on Aristotle, Plato, Cicero, and Quintilian, selected other readings.

SPE 662. MODERN RHETORICAL THEORY (5)

Studies of Eighteenth and Nineteenth Century theorists and the historical and cultural forces influencing them; relationship to contemporary theory and practice.

- SPE 664. THEORIES OF RHETORICAL CRITICISM (5)**
The study of theoretical perspectives in rhetorical criticism. The application of criticism to selected rhetorical situations.
- 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.
- 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.
- SPE 667. CONTEMPORARY RHETORICAL THEORY (5)**
Studies in Speech and language; Speech as symbol, theories of meaning, the relation of language, thought, and action.
- 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.
- SPE 681. GRADUATE RESEARCH (1-5)**
Directed study in special projects. Recommended only when material cannot be studied in scheduled courses.
- SPE 683. SELECTED TOPICS IN SPEECH (1-5)**
- SPE 685. DIRECTED READINGS (1-5)**
- SPE 691. GRADUATE SEMINAR IN ORAL COMMUNICATION (5)**
- SPE 694. SUPERVISED COLLEGE SPEECH INSTRUCTION (3)**
PR: Graduate standing and CI. Instruction and experience in teaching the University's basic Speech Communication courses. Credit not applicable toward the graduate degree in Speech Communication. May be repeated.

THEATRE ARTS (TAR)

Acting Chairperson: J. W. Coker; *Associate Professors:* J. W. Belt, P. B. O'Sullivan; *Assistant Professors:* J. B. Kase, W. A. Lorenzen, P. Massie, E. J. Mecham, J. C. Scholdt; *Lecturer:* J. W. Coker.

LOWER LEVEL COURSES

- 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.
- TAR 211, 212, 213. THEATRE LABORATORY I, II, III (4,4,4)**
A seminar-laboratory-workshop in movement, voice, design, and theatre technology. All three quarters of this course, together with TAR 201, are required of all theatre majors. The courses may be taken in any order, but all three must be completed before the student may proceed to the next level of theatre study. TAR 201 must be taken concurrently with the first course registered for in this group. Open to non-majors. Non-majors may terminate their enrollment in this group at the end of any quarter. Required of all theatre majors.

UPPER LEVEL COURSES

- TAR 303. MODERN THEATRE PRACTICE (5)**
Initial readings and exercises in theatre; play analysis, performance, and technical theatre for non-theatre majors.
- 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.
- TAR 312. SPECIAL SKILLS IN MOVEMENT (4)**
PR: Completion of the four 200-level courses. Stage violence, circus and acrobatic techniques and other special techniques of movement.
- TAR 314. VOICE PREPARATION FOR THE ACTOR (4)**
PR: Completion of the four 200-level courses. A laboratory in corrective speech and voice production for the actor.
- 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.
- TAR 339. THEATRE HISTORY (4)**
A survey of significant periods in world theatre. Required of all theatre majors. Open to non-majors.

- 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.
- 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.
- 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.
- 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.
- TAR 365. THEATRE FOR CHILDREN (4)**
PR: Completion of all four 200-level courses. Open to non-majors with CI. Theory of theatre for children, its history and objectives. Techniques of production from script selection and analysis to performance. May be repeated one time for additional elective credit, with CI, to a total of 8 hours.
- TAR 366. PERFORMING THEATRE FOR CHILDREN (4)**
PR: TAR 365. Experience in the production and presentation of a play for children. Follows directly from the course in THEATRE FOR CHILDREN and must be taken in the quarter immediately following that course. May be repeated one time for additional elective credit, with CI, to a total of 8 hours.
- TAR 367. INFORMAL THEATRE WITH CHILDREN (4)**
PR: CI. Open to non-majors. Theories and techniques of informal theatre with children. Focus is on the creative development of the child through improvised theatre.
- TAR 403. THEATRE ORIGINS (6)**
PR: Completion of first three years as a theatre major and one from the following: TAR 430, 431, 434, 437 or CI. Required of all theatre majors. 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. (Formerly TAR 503.)

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.

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.

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.

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.)

TAR 415. ACTING V

(4)

PR: TAR 438 or 439. The aesthetics of acting. The various theories of the art. Required of all theatre majors with a performance concentration. (Formerly TAR 514.)

TAR 417. SCENE PAINTING

(2)

PR: TAR 421, 422, 423, plus any three of TAR 420, 424, 425, 427, 428, 429. A practical course in the painting of stage scenery—media and application. (Formerly TAR 527.)

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

(2)

PR: Completion of second year requirements for the theatre major and portfolio or CI. Required of all theatre majors with a design and technology concentration. A survey of architectural history with specific emphasis on architectural proportion, construction and style.

TAR 422. HISTORY OF DECOR

(2)

PR: Completion of second year requirements for the theatre major and portfolio or CI. Required of all theatre majors with a design and technology concentration. A survey of decorative motif and decor and their stylistic concepts.

TAR 423. HISTORY OF CLOTHING

(2)

PR: Completion of second year requirements for the theatre major and portfolio 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.

TAR 424. TECHNOLOGY—CONSTRUCTION: FABRIC

(2)

PR: Completion of second year requirements for the theatre major and portfolio or CI. A practical course in costume construction and application.

TAR 425. TECHNOLOGY-THEATRE-ELECTRONICS/ OPTICS

(2)

PR: Completion of second year requirements for the theatre major and portfolio or CI. A practical course dealing with the application of electronics and optics to stage lighting equipment.

TAR 427. DRAWING—DRAFTING FOR THE STAGE

(2)

PR: Completion of second year requirements for the theatre major and portfolio or CI. A practical course in drafting for the stage.

TAR 428. DRAWING—ARCHITECTURAL

(2)

PR: Completion of second year requirements for the theatre major and portfolio or CI. A course in rendering the inanimate form.

TAR 429. TECHNOLOGY—CONSTRUCTION: SCENIC

(2)

PR: Completion of second year requirements for the theatre major and portfolio or CI. A practical course in scene construction and application.

TAR 430. DRAMA—SPECIAL TOPICS

(4)

PR: TAR 339 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 towards electives.

TAR 431. THE COMEDY OF THE CLASSIC AND NEO-CLASSIC STAGE

(4)

PR: TAR 339 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 434. AMERICAN THEATRE

(4)

PR: TAR 339 or CI. A course in the function of the script for the active theatre artist treating materials in the American theatre from the beginnings to the present.

TAR 437. THE DRAMA OF THE 19TH AND 20TH CENTURY STAGE

(4)

PR: TAR 339 or CI. A course in the function of the script for the active theatre artist treating materials from the 19th and 20th Centuries.

TAR 438. SENIOR SEMINAR-WORKSHOP

(4)

PR: TAR 411, 412, and 414. Audition and cold reading techniques. (Formerly TAR 512.)

TAR 439. SENIOR WORKSHOP FOR ACTORS

(4)

PR: TAR 411, 412, and 414 and audition. A coaching workshop in individual problems. (Formerly TAR 513.)

TAR 443, 444, 445. WRITING FOR THE THEATRE I, II, III

(4,4,4)

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.

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.)

TAR 453. THEATRE STUDIES SEMINAR

(4)

PR: TAR 403. A seminar in the nature of the synthesized theatre object. Required of all majors. (Formerly TAR 553.)

TAR 454. LABORATORY WORKSHOP IN PERFORMANCE

(4)

PR: TAR 311 and CI. Special workshop in advanced techniques based upon individual problems and needs. May be repeated twice (to a total of 12 hours credit).

TAR 455. PROBLEMS IN MUSIC THEATRE

(4)

PR: TAR 311. Special problems in acting as applied to the musical theatre.

TAR 461, 462, 463. DESIGN I, II, III

(4,4,4)

PR: TAR 421, 422, 423, plus any three of TAR 420, 424, 425, 427, 428, 429; and portfolio. The aesthetic and practical applications of the elements of design for theatre presentation. (Formerly TAR 521, 522, 523.)

TAR 464. PATTERN DRAFTING

(2)

PR: TAR 421, 422, 423, plus any three of TAR 420, 424, 425, 427, 428, 429. A practical course in the drafting of workable patterns for costuming the actor. (Formerly TAR 528.)

TAR 465. SPECIAL PROJECTS

(2)

PR: TAR 421, 422, 423, plus any three of TAR 420, 424, 425, 427, 428, 429. An individually designed course of study tailored for the student's advanced work in technology and design. (Formerly TAR 529.)

TAR 472. STAGE MANAGEMENT

(4)

PR: Completion of an upper level concentration in theatre. A practical course in the working and organizational function of the stage manager in theatre, dance, opera, and other live performance situations. (Formerly TAR 571.)

TAR 473. THEATRE MANAGEMENT

(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. (Formerly TAR 573.)

TAR 474, 475, 476. TECHNICAL MANAGEMENT**I, II, III (4,4,4)**

PR: TAR 421, 422, 423, plus any three of TAR 420, 424, 425, 427, 428, 429. A study of the technical operation and organization for the theatre technologist. Advanced problems in techniques and organization. (Formerly TAR 524, 525, 526.)

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.

TAR 483. SELECTED TOPICS IN THEATRE (1-4)

PR: CI. The content of the course will be governed by student demand and instructor interest. May be repeated for credit for different topics only.

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.

TAR 491, 492, 493. DIRECTING I, II, III (4,4,4)

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 piece.

FOR SENIORS AND GRADUATE STUDENTS**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.

WOMEN'S STUDIES PROGRAM (WSP)

Director: J. H. Williams; Associate Professor: J. H. Williams; Assistant Professor: J. O. Ochshorn; Instructor: M. Ferrandino.

LOWER LEVEL COURSES**WSP 201. INTRODUCTION TO WOMEN'S STUDIES (4)**

A survey of the major issues relevant to the female experience; psychological, sociological, and anthropological perspective. Interdisciplinary faculty.

UPPER LEVEL COURSES**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 sources 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.

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 life-styles 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.

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.)

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.

WSP 378. SEXUAL POLITICS 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 ENG 378.)

WSP 379. SEXUAL POLITICS 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 ENG 379.)

WSP 401. PSYCHOLOGY OF WOMEN (4)

PR: WSP 201. 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.)

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 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 EDF 444.)

WSP 483. SELECTED TOPICS (4)

PR: WSP 201 or CI. Study in special areas such as Women and the Law, The Aging Woman, Women and the Professions, Women in the Arts.

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.

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, 1974. (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, Julliard School of Music, 1938
- ACKERMAN, DORIS J. Assistant University Librarian (Libraries), 1969
B.A.; M.L.S., *Rutgers*, 1969
- ADAMS, PATRICIA B. Instructor (Nursing), 1974
R.N.; 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.*
- AGRESTI, DAVID L. Instructor (Criminal Justice Program), 1973
B.A.; M.S.W., *Florida University*, 1971
- AHLUWALIA, DALJITS S. Professor (Mathematics), 1972
B.A., M.A.; M.S., Ph.D. *Indiana University*, 1965
- AKINS, DANIEL L. Assistant Professor (Chemistry), 1970
B.S.; Ph.D., *University of California, Berkeley*, 1968
- ALEXANDER, LUELIA K. Interim Lecturer (Sociology), 1972
B.A.; M.A., *Ohio State University*, 1966
- ALLEN, EDMUND E. Director and Adjunct Professor (University Counseling Center; Student Affairs), 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
- ALVAREZ, MARVIN R. Professor and Pre-Medical Sciences Advisor (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, CELIA L. Assistant Professor (Education), 1967
A.B., M.S., *Florida State University*, 1953
- ANDERSON, DONALD J. Director (Institutional Studies), 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. Assistant University Librarian, Libraries, 1975
B.A.; M.S.L.S., *Columbia University*, 1961
- ANDERSON, JOHN A. Assistant Professor (Business Management), 1967, St. Petersburg Campus
B.A., M.A., Ph.D., *University of Florida*, 1973
- 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, ROBERT L. Assistant Professor (Marketing), 1971
B.S., M.S.; Ph.D., *North Texas State University*, 1971
- ANGROSINO, MICHAEL V. Assistant Professor (Anthropology), 1972
B.A.; Ph.D., *University of North Carolina*, 1972
- ANKER, JAMES M. Professor/Chairman (Psychology), 1974
A.B., M.A., Ph.D., *Catholic University of America*, 1957
- ANTON, WILLIAM D. Lecturer (Counseling Center, Student Affairs), 1972
B.A., M.A., Ph.D., *University of South Florida*, 1975
- ANTONIO, JAMES F. Associate Professor (Accounting), 1970
B.S., M.S., Ph.D., *University of Illinois*, 1967, *C.P.A.*
- 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
- ASH, KARIN S. Student Affairs Coordinator (Cooperative Education and Placement, Student Affairs), 1972
B.A.; M.S., *University of Bridgeport*, 1972
- ASHFORD, THEODORE A. Professor (Chemistry), 1960
B.S., M.S., Ph.D., *University of Chicago*, 1936
- ASTLE, JOHNNYNE C. Instructor (Management), 1973 (Part time)
B.A., M.A., *Oklahoma State University*, 1971
- AUBEL, JOSEPH L. Associate Professor (Physics), 1964
B.S., Ph.D., *Michigan State University*, 1964
- 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
- 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. Chairperson and Professor (Physiology), 1971
B.A.; M.A., Ph.D., *Princeton University*, 1955
- BALDWIN, DONALD K. Lecturer (Mass Communications), 1972
- 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., *Wayne State University*, 1968
- BARNARD, JAMES W. Professor and Acting Associate Dean (Education), 1968
A.B.; M.A.; M.S., Ph.D., *Yale University*, 1963
- BARNES, WILLIAM J. Lecturer (Engineering), 1974 (Part time)
B.S., *University of South Florida*, 1972
- BARNES, LEWIS A. Chairperson and Professor (Pediatrics), 1972
A.B., M.D., *Harvard Medical School*, 1944, *M.A. Hon.*
- BARRETT, O'NEILL, JR. Chairperson and Professor (Comprehensive Medicine), 1973
B.S.; M.Sc., M.D., *Louisiana State University*, 1953

- BARTLETT, ALTON C. Professor (Management), 1967
B.S.; Ph.D., University of Wisconsin, 1964
- BATTLE, JEAN A. Professor (Education), 1959
B.A., M.A., Ed.D., University of Florida, 1953
- BEACH, DOROTHY R. University Counseling Psychologist
 (Counseling Center, Student Affairs), 1972
B.A., M.A., University of South Florida, 1972
- BEAN, CHARLES F. Curator-Lecturer (Engineering), 1968
B.Ph.; M.E., University of South Florida, 1968, P.E.
- BEASLEY, BOB L. Assistant Professor (Education), 1970
B.S., M.Ed.; Ph.D., Florida State University, 1968
- BEEMAN, DANIEL E. Assistant Dean (Student Affairs), 1972
 St. Petersburg Campus
B.A., M.A., University of South Florida, 1972
- BEENHAKKER, ARIE Associate Professor
 (Finance/Economics), 1973
Ph.D.; Ph.D., Purdue University, 1964
- BEHNKE, ROY H. Chairperson and Professor
 (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, 1969
- BELT, JACK W. Associate Professor (Theatre Arts), 1966
B.A.; M.F.A.; J.D., University of Florida, 1967
- BENJAMIN, WILLIAM F. Professor (Education), 1968
B.A., M.A., Ph.D., George Peabody College, 1961
- BENNETT, GEORGE K. Associate Professor (Engineering), 1974
B.S.; M.S.; Ph.D., Texas Technological University, 1970
- BENTLEY, JOSEPH G. Professor (English), Director
 (Graduate Studies), 1961
B.A., Ph.D., Ohio State University, 1961
- BENWAY, ROBERT E. Associate Professor (Surgery),
 1972 (Part time)
B.S., M.D., University of Miami, Florida, 1957
- BERKLEY, RICHARD J. Assistant Professor (Physics), 1963
*B.A., M.S., New Mexico Institute of Mining & Technology,
 1955*
- BERRY, TOMMY R. Director (Auxiliary Services), 1968
B.A., University of South Florida, 1968
- BEST, GAIL G. Counselor to Students and Instructor
 (Student Affairs), 1969
M.S., Illinois State University, 1969
- BEST, MARGARET E. Assistant University Librarian
 (Libraries), 1974
B.A., M.A.; A.M.L.S., University of Michigan, 1974
- BETZ, JOHN V. Associate Professor (Biology), 1963
B.S.C.; Ph.D., St. Bonaventure University, 1963
- BETZER, PETER Assistant Professor (Marine Science), 1971
 St. Petersburg Campus
B.A.; Ph.D., University of Rhode Island, 1971
- BETZER, SUSAN B. Research Associate (Marine Science),
 1973 (Part time), St. Petersburg Campus
A.B.; Ph.D., University of Rhode Island, 1972
- BIERENBAUM, HARVEY S. Assistant Professor
 (Chemical Engineering), 1974
B.S.; M.S., Ph.D., Worcester Polytechnic Institute, 1971
- BIGGS, MARYANNE M. Instructor—Assistant to Dean
 (Business Administration), 1971
B.A., Syracuse University, 1961
- BILLINGSLEY, EDWARD B. Associate Professor (History), 1967
B.S.; M.A.; Ph.D., University of North Carolina, 1964
- BINFORD, JESSE S., JR. Professor (Chemistry),
 Adjunct Professor (Biology), 1961
B.A., M.A.; Ph.D., University of Utah, 1955
- BIRKE, RONALD L. Associate Professor (Chemistry), 1969
B.S.; Ph.D., Massachusetts Institute of Technology, 1965
- BIRKIN, STANLEY J. Associate Professor
 (Management), 1969
B.S.C., M.S.C.; Ph.D., University of Alabama, 1969
- BLACK, LAWRENCE D. Lecturer (Education), 1973
B.S., M.S.; J.D., Creighton University, 1966
- BLAIR, JOHN M. Professor (Economics), 1971
B.A., Ph.D., American University, 1941
- BLAIR, RAYMOND C. Lecturer (Education), 1974,
 (Part time), St. Petersburg Campus
B.A., M.A., University of Florida, 1972
- BLAKE, NORMAN J. Assistant Professor
 (Marine Science), 1972, St. Petersburg Campus
B.S.; M.S., Ph.D., University of Rhode Island, 1972
- BLAU, LILI R. University Counseling Psychologist, Lecturer
 (Counseling Center; Student Affairs), 1967
B.S., M.S., 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),
 1971, St. Petersburg Campus
B.S., M.S., Ph.D., University of Wisconsin, 1960
- BLOOM, SHERMAN Associate Professor (Pathology), 1973
B.A., M.D., New York University, College of Medicine, 1960
- BLOUNT, WILLIAM R. Associate Professor (Criminal
 Justice Program), 1968
B.A.; M.A.; Ph.D., George Peabody College, 1969
- BOLER, R. KEITH Assistant Professor (Anatomy), 1970
B.A.; M.S.; Ph.D., University of Mississippi, 1966
- BOLIVAR, JUAN C. Professor (Surgery), 1972 (Part time)
B.S., M.D., University of Paris, Sorbonne, 1940
- BONDI, JOSEPH C., JR. Associate Professor (Education), 1965
B.S., M.Ed., Ed. D., University of Florida 1968
- BOOSTROM, MARGARET C. Assistant Professor (Nursing), 1973
R.N.; B.S.N.; M.N.Ed., University of Pittsburg, 1966
- BOREN, HOLLIS G. Assistant Director (Medical Center),
 Associate Dean (College of Medicine), Professor (Medicine),
 1973
B.A.; M.D., Baylor University College of Medicine, 1946
- BORG, JEAN M. Lecturer (Education), 1972
B.S.; M.A., University of Illinois, 1962
- BOSSERMAN, C. PHILIP Professor (Sociology), 1967
A.B., S.T.B., Ph.D., Boston University, 1963
- BOSTOW, DARREL E. Assistant Professor (Education), 1970
B.A., M.A., Ph.D., Southern Illinois University, 1970
- BOSTOW, DIANE E. Research Associate
 (Business Administration), 1974
B.A.; M.A., University of South Florida, 1974
- BOTERO, FERNANDO Assistant Professor (Medicine), 1973
*B.S.; M.D., University of Antioquia Medical School, Medellin,
 Columbia, 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 and Professor
 (Physical Education; Student Affairs), 1963
B.S., M.S., Ed.D., George Peabody College, 1961
- BOWMAN, R. LEWIS Professor and Chairperson
 (Political Science), 1973
B.A., Ph.D., University of North Carolina, 1964
- BOYD, HERBERT F. Professor (Education), 1965
B.S., M.S., Ph.D., University of Illinois, 1958
- BRADLEY, ROBERT V. Associate University Catalog
 Librarian (Libraries), 1959
B.A., M.A., Florida State University, 1957
- BRADSHAW, ROBERT D. Counselor to Students and Lecturer
 (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. Continuing Education Center Administrator, 1964, St. Petersburg Campus
B.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*
- BRAUN, BEN-AMI Assistant Professor (Mathematics), 1970
B.S., M.S., Ph.D., *Purdue University, 1970*
- BRAY, LLOYD J., JR. Lecturer (Fine Arts), 1973
B.A.; M.A., *University of North Carolina, 1965*
- BRAZINSKI, BRUCE A. Adjunct Instructor (Music Arts), 1974 (Part time)
B.A., M.A., *University of Florida, 1974*
- BREIT, FRANK D. Associate Professor (Education), 1968
B.A., M.Ed., Ph.D., *University of Texas, 1968*
- BRIDGES, VIRGINIA A. Associate Professor and Director (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., *University of Florida, 1968*
- BRIGGS, JOHN C. Professor (Biology), 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/Advisor (Education), 1969 (Part time)
B.S., *Ohio State University, 1948*
- BRISARD, FRED D., III Systems Coordinator (Regional Data Center), 1970
B.S.E., *University of South Florida, 1971*
- BRITTON, JACK R. Professor (Mathematics), 1967
B.A., Ph.D., *University of Colorado, 1936*
- BROCKUS, JANICE C. Lecturer (Music), 1974 (Part time)
St. Petersburg Campus
B.M.E.; M.A., *University of South Florida, 1973*
- BRODERICK, JOHN P. Assistant Professor (Linguistics), 1973
B.A., M.A.; M.S., Ph.D., *Georgetown University, 1972*
- 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 Communications), 1974
A.B.; M.A., Ph.D., *Cornell University, 1965*
- BROWN, CURTIS J. Counselor and Adviser (Business), 1972
B.S., *Florida A & M University, 1963*
- BROWN, HUGH K. Instructor (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*
- BROWN, MARILYN G. Interim Lecturer (Sociology), 1974
B.A.; M.S.W., *University of North Carolina, 1951*
- 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., *Columbia University, 1965*
- BRYANT, FRED D. Director (Medical Center Library), 1971
A.B., M.S.L.S., *Emory University, 1947*
- BRYANT, HAYDEN C., JR. Assistant Professor-Director (Education), 1967
B.A., M.A., *George Peabody College, 1957*
- 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, JOHN T. Associate Professor (Education), 1966
A.B., M.Ed., Ed.D., *University of Florida, 1972*
- BURDICK, GLENN A. Professor (Electrical Engineering), 1965
B.S., M.S., Ph.D., *Massachusetts Institute of Technology, 1961*
- BURLEY, W. WADE Associate 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. Student Affairs Coordinator (Veterans Affairs, Student Affairs), 1973
B.A., *University of South Florida, 1972*
- BURTON, ROBERT H. Associate Professor (Economics), 1963
B.B.A., M.B.A., Ph.D., *Louisiana State University, 1967*
- BUSHA, CHARLES H. Associate Professor (Education), 1973
B.A.; M.L.S.; Ph.D., *Indiana University, 1970*
- BUSOT, J. CARLOS Associate Professor (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*
- BUTTERFIELD, JOHN E. Head Baseball Coach (Physical Education, Student Affairs), 1974
B.S., *University of Maine, 1953*
- CAFLISCH, JACOB C., III Assistant Professor (Linguistics), 1970
A.B., A.M., Ph.D., *Indiana University, 1974*
- CALDWELL, EDWARD Director—Assistant 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 (History of Ideas), 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*
- CAMPBELL, LEONARD, JR., Assistant Professor (Education), 1972
B.S., M.Ed.; Ph.D., *Florida State University, 1971*
- CANO, CARLOS J. Assistant Professor (Foreign Languages), 1970
B.A.; M.A., Ph.D., *Indiana University, 1973*
- CANTOLINO, SALVATORE J. Assistant Professor (Ophthalmology), 1973 (Part time)
B.A., M.A., M.D., *Johns Hopkins University, 1961*
- 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. Assistant Director (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
- CARLTON, EDWARD O. Systems Coordinator
(Computer Research Center), 1967
B.S., M.B.A., New York University, 1957
- CARMICHAEL, JOHN D. Assistant Professor (Marketing), 1967
B.S., M.B.A., Georgia State University, 1965
- 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
B.A.; M.D., Albert Einstein Medical College, 1966
- CARROLL, DELOS L., JR. Assistant 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. Instructor (Speech Communication), 1973
B.A., M.A., University of Akron, 1968
- CATTERALL, JOHN E. Assistant Professor (Visual Arts), 1971
B.A., M.F.A., Washington State University, 1968
- CECILIA, PATRICIA D. Research Associate
(Minority Affairs), 1974
B.A., University of Wisconsin at Madison, 1964
- CECONI, ISABELLE F. Lecturer (English), 1960
B.A., Wells College, 1940
- CHAMBERS, JAMES A. Associate Professor (Education), 1964
A.B.; M.A.; Ed.D., University of Tennessee, 1963
- CHAMBERS, WILLIAM N. Assistant Professor (Psychiatry),
1973 (Part time)
M.D., Washington University School of Medicine, 1950
- CHAPPELL, JAMES E. Research Associate
(Greater Tampa Alcohol Safety Action Project), 1972
B.S., Memphis State University, 1965
- CHEATHAM, MARY J. Lecturer (Physical Education),
Assistant Director (Intercollegiate Athletics), 1967
B.A.; M.S., Florida State University, 1967
- CHEN, TSONG-MING Professor (Electrical Engineering), 1972
B.S.; Ph.D., University of Minnesota, 1964
- CHERIN, HARRIS A. Assistant Professor
(Radiology), 1973 (Part time)
*B.S., M.D., University of Miami, Florida, School of Medicine,
1966*
- 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. Instructor (Surgery), 1973 (Part time)
A.B., M.D., Indiana University, 1968
- 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. Chairperson-Professor (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, GLENN DON E. Assistant Vice President
(Finance and Planning), 1966
B.S.; M.A., University of South Florida, 1973
- CLEARY, LYNN P. Assistant 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. Assistant Professor (Psychology), 1970
St. Petersburg Campus
B.A., M.S., Ph.D., Florida State University, 1971
- CLINTON, PAUL A. Assistant Professor (Arts), 1971
B.A., Oregon State University, 1968
- CLOSE, JAMES A. Professor (Finance), 1971
A.B.; M.B.A.; Ph.D., University of Michigan, 1944
- COHEN, STEPHEN L. Assistant Professor (Psychology), 1971
B.S., M.S., Ph.D., University of Tennessee, 1971
- COKER, JOHN W. Lecturer (Fine Arts), 1969
B.S., M.M., College-Conservatory of Music, Cincinnati, 1956
- COLE, ROGER W. Associate Professor-Director
(Linguistics), 1969
B.A., M.A.; Ph.D., Auburn University, 1968
- COLLIER, CLARENCE H. Assistant 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 Director (Intercollegiate
Athletics; Student Affairs), 1973
B.A., University of South Florida, 1973
- CONNER, HUNTER N. Assistant 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 Reference Librarian
(Libraries), 1968, St. Petersburg Campus
B.A.; M.S.L.S., Florida State University, 1966
- COOK, WILLIAM E. Lecturer (Marketing), 1974
B.A., M.A., University of Florida, 1968
- COOKE, JOHN P. Associate Professor (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. Assistant Professor (Humanities), 1969
B.A., M.A., Ph.D., Florida State University, 1969
- CORY, JOSEPH G. Professor and Chairperson
(Biochemistry), 1966
B.S.; Ph.D., Florida State University, 1963
- COSTANZO, FRANCES S. Lecturer (Education and
Psychology), 1974 (Part time)
B.A.; M.Ed.; Ph.D., Drake University, 1974
- COSTANZO, PHILIP R. Lecturer (Psychology),
1974 (Part time)
B.A.; M.A., Ph.D., University of Florida, 1967
- COTTON, LARRY J. Assistant Professor (Education), 1970
B.B.E., M.B.E., University of Florida, 1969
- COULTER, PAMELA W. Instructor (Communicology), 1971
B.A.; M.A., Ball State University, 1968
- 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. Lecturer-Assistant to Dean
(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 Arts, 1961
- CRAIG, CALVERT J. Associate Professor (Education), 1967
B.S., M.S., University of Illinois, 1951
- CRAIG, CHARLES P. Associate 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 Assistant Professor
 (Communicology), 1971
 B.S.; M.A., Ph.D., *Michigan State University*, 1969
 CROFT, JAMES E. Assistant Professor (Education), 1972
 B.M.E.; M.A.; D.M.E., *University of Oklahoma*, 1970
 CROUCH, JAMES W. Counselor to Students and
 Instructor (Student Affairs), 1973
 B.A.; M.A., *Indiana University*, 1971
 CSIZMADIA, STEPHEN D. Lecturer (Counseling Center;
 Student Affairs), 1972
 A.D., M.U.V., M.S.W., *Boston College*, 1957
 CUNNINGHAM, WILLIAM K. Associate Professor
 (Marketing), 1971
 B.B.A., M.B.A., Ph.D., *University of Texas*, 1970
 CURRAN, JOHN S. Assistant Professor (Pediatrics), 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/Chairperson
 (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
 DALTON, JAMES A. Associate Professor (Economics), 1974
 B.A.; M.A., Ph.D., *Boston College*, 1969
 DANCO, WILLIAM R. Instructor (Accounting), 1973 (Part time)
 B.S.B.A., *University of Florida*, 1956
 DANENBURG, WILLIAM P. Associate Professor
 (Education), 1964
 A.B.; M.Ed.; Ed.D., *University of Tennessee*, 1970
 DANIELS, HARRY P. Advertising Coordinator
 (Student Publications, Student Affairs), 1974
 DAUGHERTY, GEORGE G. Lecturer
 (Mass Communications), 1972
 B.S., *University of Houston*, 1958
 DAVEY, KENNETH W. Assistant Professor (Economics).
 Coordinator of Advising, Upper Level (Business Administra-
 tion), 1966
 B.A.; M.A., *St. Mary's University*, 1965
 DAVIS, AMY J. Associate Professor (Humanities), 1968
 B.A., M.A.; Ph.D., *Louisiana State University*, 1964
 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 and 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. Assistant Professor (English), 1970
 B.A., M.A., Ph.D., *University of California, Los Angeles*, 1970
 DEAUX, CLYDE E., JR. Assistant Professor
 (Finance), 1969
 B.S., M.B.A., *Tulane University*, 1966
 DEBORD, WARREN A. Associate Professor (Marketing), 1969
 B.S., M.B.A., Ph.D., *University of Illinois*, 1969
 DEEM, RICHARD P. Lecturer (Management),
 1973 (Part time), *St. Petersburg Campus*
 B.S., *Miami University (Ohio)*, 1958
 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
 DELLA GROTTA, JOSEPH A. Assistant Professor (History), 1967
 B.A., M.S., Ph.D., *Syracuse University*, 1965
 DENKER, MARTIN W. Acting Chairperson and
 Assistant Professor (Psychiatry), 1972
 B.A., M.D., *Johns Hopkins University*, 1968
 DENNIS, DAVID M. Assistant Professor (Accounting), 1972
 A.B.; M.B.A.; Ph.D., *University of Missouri*, 1972, 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
 DERTKE, MAX C. Director (University Studies;
 Student Affairs), Associate Professor (Criminal Justice), 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
 DEYO, WILLIAM J. Instructor (Accounting), 1960 (Part time)
 B.S.; M.B.A., *Harvard University*, 1941
 DICKEY, ANNAMARY L. Assistant Professor
 (Music Arts), 1969
 B.S.; M.Ed., *Columbia University*, 1963, *Artist Diploma*
 DICKEY, EARLENE Interim Assistant Professor
 (Interdisciplinary Social Science), 1965
 B.A.E., M.Ed., *University of Florida*, 1965
 DICKINSON, JAMES C. Associate Professor (Education), 1969
 A.B., A.M., Ph.D., *University of Minnesota*, 1964
 DICKMAN, FRED J. Assistant 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. Associate Professor (English), 1968
 A.B.; M.A.; Ph.D., *Florida State University*, 1965
 DILKES, THOMAS P. Associate Professor (History), 1969
 B.A., M.A., Ph.D., *State University of Iowa*, 1968
 DIMENTO, LOUIS J. Assistant Professor (Political Science)
 B.S.; M.S., Ph.D., *University of Michigan*, 1974
 DOBKIN, JOSEPH B. University Librarian (Libraries), 1974
 B.A., B.A.; M.L.S., *Rutgers University*, 1966
 DONALDSON, MERLE R. Chairperson and Professor
 (Electrical and Electronic Systems), 1964
 B.B.E.E., M.S.E.E., Ph.D., *Georgia Institute of Technology*,
 1959
 DOTY, LOUIS F. Professor
 (Industrial Systems Engineering), 1970
 B.S., M.S., Ph.D., *University of Cincinnati*, 1951
 DOWNEY, JAMES M. Assistant Professor (Physiology), 1972
 B.S.; M.S., Ph.D., *University of Illinois*, 1971
 DOWNEY, PAUL M. Professor
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 B.S., M.S., Ph.D., *University of Florida*, 1956
 DOWNS, BERNARD F. Assistant Professor
 (Speech Communication), 1970
 B.A., B.F.A.; M.A., *Northwestern University*, 1970
 DOYLE, LARRY J. Assistant Professor
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 B.A., M.A.; Ph.D., *University of Southern California*, 1973
 DRAPELA, VICTOR J. Associate Professor (Education), 1968
 B.A.; B.Th.; Ph.L.; M.A., Ph.D., *University of North Dakota*,
 1968
 DUBOIS, LEADORE D. Associate Professor (Education), 1964
 B.S., M.A., M.S., *Northwestern University*, 1949
 DUCKETT, GREGORY E. Research Associate (Pediatrics), 1973
 A.B., *Lincoln University*, 1957
 DUDLEY, FRANK M. Associate Professor (Chemistry), 1960
 A.B.; B.S.; M.A., Ph.D., *Ohio State University*, 1962

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B.A., M.A., Atlanta University, 1969
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B.B.A.; M.B.A., University of Michigan, 1966
- DUNN, EDGAR H. Lecturer (Management, 1970, St. Petersburg Campus
J.D., University of Florida, 1947
- DUNNE, PETER B. Associate Professor (Internal Medicine), 1973 (Part time)
A.B.; M.D., Columbia University, 1960
- DURSO, MARY W. Assistant Professor (Education), 1969
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- DUTTON, RICHARD E. Professor (Management), 1963
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B.A., M.A.; Ph.D., *University of Florida*, 1972
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B.A.; M.A., Ph.D., *Columbia University*, 1973
- INGRAM, JAMES M. Chairperson and Professor
(Obstetrics and Gynecology), 1971
M.D., *Duke University*, 1943
- IORIO, JOHN J. Professor (English), 1963
B.A., M.A., *Columbia University*, 1951
- ISAAK, SAMUEL M. Associate Professor (Mathematics), 1968
M.Sc.; Ph.D., *Indiana University*, 1965
- ISBELL, ROBERT G. Associate Professor (Radiology),
1973 (Part time)
A.B.; M.D., *University of Michigan Medical School*, 1964
- JACKSON, P. DIANE Counselor/Advisor
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B.A., *Indiana University*, 1973
- JACOBSEN, PERRY H. Instructor (Accounting), 1973
B.S.; M.B.A., *Florida State University*, 1971, C.P.A.
- JAEGER, RICHARD Professor (Education), 1971
B.A., M.S., Ph.D., *Stanford University*, 1970
- JAESCHKE, DONALD P. Associate Professor (Education), 1963
B.S.; M.S., Ph.D., *Florida State University*, 1971
- JAIN, VIJAY K. Associate Professor
(Industrial Systems Engineering), 1972
B.E.; M.E.; Ph.D., *Michigan State University*, 1964
- JAMES, ROSELLA Assistant Professor (Economics), 1967
B.S., M.B.A., *Temple University*, 1945
- JENNINGS, ANN S. Lecturer
(Florida Center for the Arts), 1972
B.A.; M.A., Ph.D., *Florida State University*, 1973
- JENNINGS, VANCE S. Chairperson and
Associate Professor (Music Arts), 1967
B.M., M.Ed., D.M.E., *University of Oklahoma*, 1972
- JENSEN, J. KEITH Assistant Professor
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B.S., M.A.; Ph.D., *University of Iowa*, 1973
- JERKINS, PAULA D. Research Associate
SMF—Engineering), 1974 (Part time)
B.A., *University of South Florida*, 1967
- JETT, GEORGE R., JR. Assistant to Vice President
(Veterans Affairs, Student Affairs), 1973
B.A., *University of South Florida*, 1973
- JOHANNINGMEIER, ERWIN V. Associate Professor—Director
(Education), 1967
A.B., M.A.Ed., Ph.D., *University of Illinois*, 1967

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B.S.; M.B.A., D.B.A., *Georgia State College*, 1973
- JOHNSON, DOUGLAS M. A. Assistant Administrator
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B.A.; M.A., *University of Illinois*, 1972
- JOHNSON, DOYLE P. Assistant Professor (Sociology), 1969
B.A., M.A., Ph.D., *University of Illinois*, 1969
- JOHNSON, FRANK F., JR. . . Assistant Professor (Education), 1971
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
- JOHNSON, G. ORVILLE . . . Professor-Director (Education), 1972
B.S.; Ed.M., Ed.D., *University of Illinois*, 1950
- JOHNSON, ROGER E. Associate Professor (Education), 1967
B.S., M.A., Ph.D., *University of Minnesota*, 1967
- JOHNSON, THOMAS E., JR. . . Associate Professor
(Management), 1974
B.S., M.A.; Ph.D., *University of Alabama*, 1971
- JOHNSTON, MILTON D., JR. . . Assistant Professor
(Chemistry), 1973
B.A.; A.M., Ph.D., *Princeton University*, 1970
- JONAITIS, ANTHONY J., JR. . . Associate Professor (Physical
Education; Student Affairs), Assistant Director (Intercolle-
giate Athletics; Student Affairs), 1965
- JONES, FLORENCE M. University Physician
(Student Health Service), 1974
A.B., M.D., *Indiana University School of Medicine*, 1972
- JONES, HILTON K. Assistant Professor (Music Arts), 1969
B.M.; M.M., *Eastman School of Music*, 1968
- JONES, W. DENVER Professor (Physics), 1970
B.A.; M.A., Ph.D., *Vanderbilt University*, 1963
- JORDAN, DAVID C. Assistant Administrator
(Vice President for Academic Affairs), 1968
B.A., M.A., *University of South Florida*, 1966
- JREISAT, JAMIL E. Associate Professor (Political Science), 1968
B.S.; M.P.A., Ph.D., *University of Pittsburgh*, 1965
- JUERGENSEN, HANS Professor (Humanities), 1961
B.A.; Ph.D., *Johns Hopkins University*, 1951, L.H.D.
- JURCH, GEORGE R., JR. . . Associate Professor (Chemistry), 1966
B.S.Ch.; M.S.; Ph.D., *University of California,
San Diego*, 1965
- JURGENSEN, LOUIS C. Chairperson and Professor
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B.S.C., M.A., Ph.D., *State University of Iowa*, 1951, C.P.A.
- JURISTO, JULIO Lecturer (Visual Arts), 1971
Master Printer, *Tamarind Lithography Workshops*, 1972
- KAHN, Stephen C. Assistant Professor
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B.A., M.A.; J.D., *University of Florida*, 1965
- KAPLAN, MAX Professor (Sociology), 1967
B.E.; M.M.; M.A., Ph.D., *University of Illinois*, 1951
- KARES, PETER Associate Professor (Finance), 1969
B.Sc.; M.S., Ph.D., *Purdue University*, 1968
- KARL, HERBERT G. Associate Professor (Education), 1971
B.A., M.A., Ph.D., *Florida State University*, 1970
- KARLINS, MARVIN Professor (Management), 1974
B.A.; M.A., Ph.D., *Princeton University*, 1966
- KARNS, LEE T. Associate Professor (Education), 1966
B.S., M.A.; M.Ed., Ed.D., *University of Oklahoma*, 1966
- KARP, JOSEPH P. Assistant Director
(University Budgets), 1974
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- KARTSATHS ATHANASSIOS G. . . Associate Professor
(Mathematics), 1971
Diploma, Ph.D., *University of Athens, Greece*, 1969
- KASAN, E. LEE Speech and Hearing Clinician,
Lecturer (Communicology), 1967
B.A., M.A., *University of Florida*, 1956
- KASE, JUDITH B. Assistant Professor (Theatre Arts), 1969
B.A.; M.A., *Case Western Reserve University*, 1956
- KASHDIN, GLADYS S. Professor (Humanities), 1965
B.A.; M.A., Ph.D., *Florida State University*, 1965
- KAUFMANN, DONALD L. . . . Associate Professor (English), 1968
B.A., M.L., Ph.D., *University of Iowa*, 1966
- KAY, KENNETH E. Interim Instructor (English),
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B.A., *University of Denver*, 1962
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B.S.; M.Ed., D.Ed., *Pennsylvania State University*, 1973
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B.S., M.A., Ph.D., *University of Florida*, 1960
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B.S., M.S., Ed.D., *Cornell University*, 1956
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B.A., M.L.S., *Louisiana State University*, 1969
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B.S., M.S., Ph.D., *Florida State University*, 1961
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B.S., M.S., Ph.D., *University of Michigan*, 1960
- KENDALL, HARRY W. Professor (Physics), 1960
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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
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B.A.; M.A., *Syracuse University*, 1969
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B.S.; M.A., Ph.D., *Columbia University*, 1970
- 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
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B.A.; M.A.; M.A., Ph.D., *University of Washington*, 1971
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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
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B.S., M.A., Ph.D., *Michigan State University*, 1972
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B.A., M.A.; M.S.L.S., *Florida State University*, 1970
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A.B.; M.S.; Ph.D., *University of Washington*, 1965
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B.S.; M.A., *Columbia University*, 1961, Prof. Diploma
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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, Edward Assistant Professor (Psychiatry), 1973
B.A.; M.D., *University of Louisville Medical School*, 1966
- KLEIN, THOMAS W. Assistant Professor
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B.S., Ph.D., *Creighton University*, 1972
- KLEINE, GEORG-HELMUT Associate Professor (History), 1968
Ph.D., *University Erlangen-Nurnberg*, 1967
- KLESIUS, JANEL P. Instructor (Education), 1972
B.S.; M.A., *University of South Florida*, 1972
- KLESIUS, STEPHEN E. Associate Professor (Education), 1969
B.S., M.S.; Ph.D., *Louisiana State University*, 1968
- KLUKKEN, PHILIP G. University Counseling Psychologist
(Counseling Center; Student Affairs), 1971
B.A., M.A., Ph.D., *University of Florida*, 1971
- KNEEBURG, DON W. Associate Professor (Music Arts), 1968
B.A.; M.M., *Indiana University*, 1962
- KNIPPEN, JAY T. Associate Professor (Management), 1970
B.B.A., M.B.A., D.B.A., *Florida State University*, 1970
- KOPP, EDGAR W. Dean and Professor (Engineering), 1964
B.N.S., B.I.E., M.S.I.E., *Georgia Institute of Technology*, 1947, P.E.
- KORY, ROSS C. Professor (Internal Medicine), 1972 (Part time)
A.B., M.D., *Columbia University*, 1942
- KOSMALA, JERZY S. Associate Professor (Music Arts), 1971
B.M., M.A.; M.M.; D.M., *Indiana University*, 1972, *Diploma in Music*
- KRANC, STANLEY C. Associate Professor (Engineering), 1972
B.S.S.E., Ph.D., *Northwestern University*, 1967
- KRAUS, ALLAN D. Lecturer (Technology Engineering), 1971
B.E., M.S.M.E., M.E.E., *Brooklyn Polytechnical Institute*, 1958
- KRONSNABLE, JEFFREY M. Associate 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. Assistant Professor
(Pharmacology), 1971
B.S.; M.S., Ph.D., *University of Tennessee*, 1968
- KUFFEL, CONSTANCE F. Instructor (Communicology), 1969
B.A., M.A., *University of South Florida*, 1968, C.C.C.
- KUMMERFELDT, JANET E. Counselor to Students/Instructor
(Housing and Food Services), 1974
B.S., M.S., *Iowa State University*, 1974
- KUSHNER, GILBERT Chairperson and Professor
(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
- LAKE, DUANE E. Director (University Center;
Student Affairs), 1960
B.A., *University of Minnesota*, 1939
- LAMACCHIA, MARIANO J. Lecturer
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- LAMBETH, DAVID O. Assistant Professor (Chemistry), 1973
B.S.; M.S.; Ph.D., *University of Wisconsin*, 1971
- LANCZ, GERALD J. Assistant Professor
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A.B., M.S., Ph.D., *Northwestern University*, 1970
- LANDSMAN, ANN M. Lecturer (Rehabilitation),
1971 (Part time), St. Petersburg Campus
A.B., M.A., Ed.D., *University of Missouri*, 1964
- LANDSMAN, MURRAY J. Associate Professor
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B.S., M.A., Ph.D., *University of Florida*, 1964
- LANE, FRANK B. Assistant Professor (Internal Medicine),
1974 (Part time)
B.S.; M.D., *Temple University School of Medicine*, 1965
- LANE, JAMES H. Associate Professor
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B.S., M.S., Ph.D., *North Carolina State University*, 1965
- LANTZ, DONALD L. Professor-Director (Education), 1961
A.B., M.A., Ph.D., *University of Minnesota*, 1961
- LASSETER, JAMES, JR. Assistant Professor (Accounting), 1966
B.S.; M.B.A., *University of Chicago*, 1964, C.P.A.
- LATINA, ALBERT A. Lecturer (Biology), 1960
B.A.; M.S., *Florida State University*, 1960
- LAVELY, CAROLYN D. Associate Professor
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B.A., M.A., Ph.D., *Syracuse University*, 1968
- LAWRENCE, JOHN M. Associate 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
- LAY, COY L. Associate Professor (Obstetrics and
Gynecology), 1973 (Part time)
B.A.; M.S.; M.D., *University of Texas*, 1946
- LAYDEN, WILLIAM E. Assistant Professor
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B.A., M.D., *University of Vermont*, 1963
- LEAVENGOOD, LEE B. Counselor/Advisor
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B.S.; M.A., *University of South Florida*, 1973
- LEBARON, BRUCE V. Instructor (Education), 1973
B.S.; M.Ed., *University of Florida*, 1972
- LEFFERTS, EDWARD A. Lecturer (Management), 1970
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B.S.; M.S., *San Diego State College*, 1970
- LENTZ, GLENDA F. Director (Cooperative Education and
Placement, Student Affairs), 1968
B.A., M.A., *University of South Florida*, 1972
- LEVITT, ROBERT .. Director (Admissions; Student Affairs), 1968
B.S.S., M.S., *City College of New York*, 1938
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B.A., M.A., Ph.D., *Harvard University*, 1969
- LEVY, JOHN W. Associate Professor (Education), 1972
B.S.; M.A.; Ph.D., *University of Georgia*, 1970
- LEWIS, JAMES E. Assistant Professor (Music Arts), 1971
B.M., M.M., *University of Illinois*, 1965
- LIANG, DIANE F. Assistant University Catalog Librarian
(Libraries), 1972, St. Petersburg Campus
B.A.; M.A.L.S., *George Peabody College*, 1964
- LIANG, JOSEPH J. Associate Professor (Mathematics), 1970
B.A., M.A., Ph.D., *Ohio State University*, 1969
- LICHTENBERG, BETTY K. Associate Professor (Education), 1971
B.A., M.A.; Ph.D., *University of Illinois*, 1967
- LICHTENBERG, DONOVAN R. Professor (Education), 1962
B.A., M.S., Ph.D., *University of Wisconsin*, 1966
- LIGHTFOOT, BONNIE Counselor/Advisor
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B.A., *University of South Florida*, 1970
- LILLIBRIDGE, EDMUND M. Clinical Psychologist
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B.A., M.A., *Sonoma State College*, 1970
- LIMA, JUDITH E. Instructor (Education), 1971
B.A., M.A., *University of South Florida*, 1971
- LIMOGES, LANCE D. Instructor (Geography), 1967
B.A., M.A., *University of Miami, Ohio*, 1966
- LIN, SHWU-YENG T. Associate Professor (Mathematics), 1964
B.S., M.S., Ph.D., *University of Florida*, 1965
- LIN, YOU-FENG Professor (Mathematics), 1964
B.Sc., Ph.D., *University of Florida*, 1964
- LINDER, RONALD Associate Professor (Education), 1969
B.S., M.S., Ed.D., *University of Florida*, 1969
- LINTON, JOE R. Associate Professor (Biology), 1963
B.A., M.A., Ph.D., *University of Missouri*, 1962
- LLEWELLYN, JOHN A. Professor (Chemical Engineering), 1971
B.Sc., Ph.D., *University College Cardiff*, 1958

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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
- LONG, ROBERT W. Professor (Biology), Director (Herbarium), 1962
A.B.; A.M., Ph.D., Indiana University, 1964, P.D.F.
- LONGSTREET, JAMES R. Chairperson and Professor (Finance), 1967
B.A.; M.B.A., Ph.D., Northwestern University, 1956
- LORENZEN, WILLIAM A., III Assistant Professor (Theatre Arts), 1966
B.S.S., M.F.A., Tulane University, 1966
- LOVELESS, RICHARD L. ... Chairperson and Associate Professor (Education), 1968
B.S.; M.S., Pennsylvania State University, 1964
- LOWE, ALVIN J. Associate Professor (Education), 1966
B.A., M.A.; Ed.D., University of Virginia, 1967, D.A.G.S.
- LUCOFF, MANNY Associate Professor (Mass Communications), 1963
B.S., M.A.; Ph.D., University of Iowa, 1971
- LUPTON, D. KEITH Director (Off-Campus Term Program), Lecturer (Interdisciplinary Social Science), 1967
B.S.; LL.B.; M.A., Dartmouth College, 1951
- LYMAN, CHARLES P. ... Associate Professor (Visual Arts), 1972
B.A.; M.S., Institute of Design, Illinois Institute of Technology, 1969
- MACCULLOUGH, DOUGLAS B. University Registrar (Registrar), 1971
B.S., M.A., University of Florida, 1965
- MACDONALD, GWENDOLINE R. . Professor-Dean (Nursing), 1973
B.S.; M.A., Ed.D., Columbia University, 1963
- MACKAY, E. MAXINE Professor (Humanities), 1961
A.B., LL.B., M.A., Ph.D., Emory University, 1958
- MACEY, BERNARD A. Counselor and Advisor (University Studies; Student Affairs), 1972
B.F.A.; M.A., University of South Florida, 1972
- MACEY, CECIL President and Professor (Business Administration), 1971
A.B., M.A.; Ph.D., University of Illinois, 1955, LL.B.
- MACNEILL, ARTHUR E. University Physician (Student Health Service, Student Affairs), 1974
A.B., M.D., Harvard Medical School, 1937
- MACY, ROBERT H. Lecturer (Criminal Justice), 1974 (Part time), St. Petersburg Campus
B.A.; LL.B., J.D., University of Oklahoma College of Law, 1970
- MALONE, JOHN I. Assistant Professor (Pediatrics), 1972
B.S.; M.D., University of Pennsylvania School of Medicine, 1967
- MANDLOW, MARTHA ... Counselor and Advisor (Business), 1972
B.Ed.; M.A., University of Chicago, 1948
- MANGUM, WILEY P. Associate Professor (Aging Studies Program), 1972
B.A., M.A.; Ph.D., University of Southern California, 1971
- MANHEIM, FRANK T. Chairperson-Professor (Marine Science), 1973, St. Petersburg Campus
A.B.; M.S.; Ph.D., University of Stockholm, 1961
- MANKER, CHARLES C., JR. Professor (Education), 1966
B.A., M.R.E., Ph.D., University of Kentucky, 1956
- MANN, MARCIA L. Assistant Professor (Education), 1970
B.A.; M.Ed.; Ph.D., University of Nebraska, 1970
- MANOUGIAN, MANOUG N. ... Associate Professor—Chairperson (Mathematics), 1968
B.A., M.A., Ph.D., University of Texas, 1968
- MANSELL, RICHARD L. Associate Professor (Biology), 1967
A.B., M.A., Ph.D., Indiana University, 1964
- MANZ, JEAN D. Interim Instructor (Economics), 1973
B.A., University of South Florida, 1968
- MARESCA, RITA D. Research Associate (Pediatrics), 1972
B.A., University of Pennsylvania, 1940
- MARIN, GERALD S. Instructor (Education), 1969
B.S., M.A., University of South Florida, 1970
- MARSH, BRUCE L. Associate Professor (Visual Arts), 1969
B.A.; M.A., California State University, 1965
- MARSHALL, PHYLLIS P. Student Affairs Coordinator (Student Organizations; Student Affairs), 1960
B.A., M.A., Marshall University, 1954
- MARTIN, DEAN F. Professor (Chemistry), and Adjunct Professor (Biology), 1964
A.B., Ph.D., Pennsylvania State University, 1958
- MARZUKI, MARILYN S. Interim Assistant Professor (Music Arts), 1971
B.M., M.M., Eastman School of Music, 1965
- MASON, FRANK T. Assistant Professor (English), 1969
B.A.; M.A., Ph.D., Michigan State University, 1974
- MASSIE, PAUL Assistant Professor (Theatre Arts), 1974
- MAUGER, BARBARA L. Instructor (Nursing), 1973
R.N.; B.S.N., B.A., University of Minnesota, 1970
- MAUGER, PAUL A. Assistant Professor (Psychology), 1973
A.B.; Ph.D., University of Minnesota, 1972
- MAUSERT, STEVEN Director, Records and Registration, 1975
B.S., M.S., Florida State University, 1972
- MAYBURY, P. CALVIN Professor (Chemistry), 1961
B.S.; Ph.D., Johns Hopkins University, 1952
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B.A.; M.A., Ph.D., Harvard University, 1972
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B.S., University of Miami, Florida, 1965
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B.S.; M.S.; Ph.D., University of Iowa, 1972
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B.A., M.A., Ohio State University, 1970
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A.B.; M.A.; Ph.D., Case Western Reserve University, 1968
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B.S.; M.A.; Ed.D., Florida State University, 1963
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 St. Petersburg Campus
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A.B.; M.S., Ph.D., University of Michigan, 1949
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B.S.J., M.Ed., Ed.D., University of Florida, 1971
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B.A.; M.A., San Jose State University, 1973
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A.B., M.S., Ph.D., University of Southern California, 1969
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M.A., Ph.D., Duke University, 1961
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B.A.; M.S.L.S., Indiana University, 1965
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B.S., Ph.D., University of Florida, 1966
- MEANS, EUGENE D. Associate Professor (Internal Medicine), 1974
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B.S.; M.F.A., University of Texas, 1966, Lt. Dsgnr. U.S.A.A.
- MELENDI, JOHN C. ... Business Manager (Medical Center), 1964
B.S., Florida Southern College, 1959
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B.A., Ph.D., University of Virginia, 1965
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B.A., M.A., Ph.D., University of Paris (Sorbonne), 1967
- MENNINGER, RICHARD P. Assistant Professor (Physiology), 1971
B.Sc.; Ph.D., University of Kentucky, 1971
- MERICA, JOHN A. Assistant Professor (Education), 1968
B.A., M.S., Ph.D., Syracuse University, 1971
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B.S.; M.A., Ph.D., Duke University, 1963
- MERRIAM Harland C. Professor (Education), 1969
B.S.; M.Ed., Ed.D., Harvard University, 1959
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B.B.A., M.B.A.; Ph.D., University of Texas, 1967, C.P.A.
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B.A.; M.A., Atlanta University, 1973
- MEYER, HERBERT H. Professor-Director (Industrial/Organizational Psychology), 1973
B.S.; M.S., M.A., Ph.D., University of Michigan, 1949
- MEYER, RICHARD L. Associate Professor (Finance), 1970
B.S., M.B.A., Ph.D., University of Wisconsin, 1971
- MEYERIECKS, ANDREW J. Professor (Biology), 1961
A.B.; Ph.D., Harvard University, 1958
- MICHAEL, JAMES D. Assistant University Librarian (Libraries), 1974
B.S.; M.S.L.S., Florida State University, 1974
- MICHAELIDES, GEORGE J. Assistant Professor (Mathematics), 1961
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- MILLER, GEORGE H. Lecturer-Director (Southeast Center Cooperative Education Grant), 1960
B.J.; M.S.J., University of Illinois, 1948
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- MILLER, ROBERT L. Lecturer (Industrial Systems Engineering), 1971 (Part time)
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- MITCHELL, RICHARD W. Associate Professor (Physics), 1962
B.S.; M.S., Ph.D., Texas A&M University, 1960
- MITCHELL, WILLIAM G. Director Instructional Services (Educational Resources), 1974
B.A.; M.A.; Ph.D., Michigan State University, 1970
- MIZELLE, DARY J. Assistant Professor (Music Arts), 1973
B.A.; M.A., University of California at Davis, 1967
- MODROW, WILLIAM G. Assistant Professor (Finance), 1963
B.A., M.S., Texas A&M University, 1963
- MONLEY, LAURENCE E. Professor—Acting Director (Education), 1960
B.S.; M.S.; Ph.D., University of Florida, 1956
- MONROE, ANNETTA Y. Instructor (Music Arts), 1973
B.M., Oberlin College Conservatory of Music, 1963
- MOON, JAMES E. Assistant Professor (Accounting), 1970
B.S., M.A., Ph.D., University of Alabama, 1970
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B.A.; M.S.; Ph.D., Case Western Reserve University, 1972
- MOORE, JACK B. Professor (English), 1962
B.A.; M.A.; Ph.D., University of North Carolina, 1963
- MOORE, JUDITH C. Lecturer (Education), 1973
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B.A., M.A., University of South Florida, 1968
- MOORE, NORMAN A. Assistant Professor (Anatomy), 1971
B.S.; Ph.D., University of Texas, 1971
- MORGAN, WILLIAM T. Assistant Professor (American Studies), 1970
B.A.; M.A., Ph.D., University of Minnesota, 1971
- MORLEY, ROSEMARY M. Counselor/Advisor (Arts and Letters, Academic Advising), 1973
B.A.; M.S., Ed.S., Western Michigan University, 1970
- MORRIS, WILLIAM E. Professor (English), 1964
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- MOURER, STEPHEN A. Associate Professor (Psychiatry), 1967 (Part time)
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- MUKHERJEA, ARUNAVA Associate Professor (Mathematics), 1969
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B.S.; M.D., Havana University, 1960
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- NELSON, LOUIS R. Director (Vivarium) Assistant Professor (Pathology), 1971
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B.D.; M.A., Ph.D., University of Indiana, 1966
- NICOLOSI, GREGORY R. Assistant Professor (Physiology), 1972
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- O'SULLIVAN, PETER B. Associate Professor (Theatre Arts), 1963
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- OWEN, TERENCE C. ... Professor-Chairperson (Chemistry), 1964
B.Sc., Ph.D., University of Manchester, England, 1964
- OWEN, WILLIAM D. Professor (Music Arts), 1964
B.M.; M.M., North Texas State University, 1960
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B.A.; M.A.C., University of South Florida, 1973
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B.A., University of South Florida, 1974
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B.S.; M.A.; M.Ed., University of Florida, 1967
- PALMER, CECIL E. Assistant Professor (Geography), 1969
B.S.; M.A., University of Georgia, 1960
- PALMER, JAMES N. Assistant Professor (English), 1966
B.A.; M.A., University of North Carolina, 1958
- PALMER, ROBERT E., SR. Associate Professor (Education), 1970
B.S.; M.S.; Ph.D., Florida State University, 1969
- PALMER, STEVEN L. Research Associate (Marine Science), 1973, St. Petersburg Campus
B.A., University of South Florida, 1971
- PANTHER, EDWARD E. ... Associate Professor (Education), 1969
B.S., M.S., Ed.D., State University of New York at Buffalo, 1969
- PAPPAS, GEORGE Chairperson and Professor (Visual Arts), 1966
B.S., M.A., Ed.D., Pennsylvania State University, 1957
- PARADISE, LOIS J. Associate Professor (Medical Microbiology), 1973
A.B.; M.S., Ph.D., University of Michigan, 1960
- PARDO, SARAH J. Instructor (Accounting), 1971
St. Petersburg Campus
B.A., M.B.A., University of Florida, 1972, C.P.A.
- PARKER, JOHN W., JR. Professor (English), 1963
B.A.; M.A.; Ed.D., University of Kentucky, 1961, Ed.S.
- PARKER, KEITH A. Assistant Professor (History), 1966
B.A.; M.A., Ph.D., University of Maryland, 1965
- PARR, DENNIS H. Associate Professor (SMF-Engineering), 1970
B.S.; M.S., Sc.D., New Mexico State University, 1968, P.E.
- PARRADO, ADRIAN A. Clinical Psychologist and Adjunct Assistant Professor (Counseling Center; Student Affairs), 1969
B.S.; M.A., University of South Florida, 1968
- PARRISH, JAMES A., JR. Professor (English), 1960
B.S.; M.A., Ph.D., Florida State University, 1955
- PARTNEY, GERALD D. Assistant Professor (Speech Communication), 1970
B.A., Wake Forest University, 1966
- PATOUILLET, RAYMOND A. Professor (Education), 1967
A.B., M.A., Ed.D., Columbia University, 1951
- PATTERSON, GERALD E. ... Assistant Professor (Education), 1971
B.S.; M.A., Ph.D., Ohio State University, 1970
- PATTERSON, MICHAEL H. University Planning Consultant (Facilities Planning), 1973
B.A., University of Florida, 1969
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B.Sc.; Ph.D., Princeton University, 1972
- PAULSON, DARRYL G. Instructor (Political Science), 1974
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B.A.; M.S., Florida State University, 1971
- PAYNE, CHARLES E. Associate Professor (Engineering Technology), 1965, St. Petersburg Campus
B.I.E., M.S.E., University of Florida, 1965, P.E.
- PEARCEY, WALTER E., JR. Instructor (Education), 1972
B.A., M.A., University of South Florida, 1971
- PENNER, LOUIS A. Associate Professor (Psychology), 1969
B.A., M.A.; Ph.D., Michigan State University, 1969
- PEREZ, LOUIS A., JR. Associate Professor (History), 1970
B.A.; M.A.; Ph.D., University of New Mexico, 1970
- PERSKY, DAVID W. Counselor to Students and Lecturer (Student Affairs), 1973
B.A.; M.S., Miami University, Ohio, 1973
- PETERSON, DONOVAN D. Associate Professor (Education), 1968
B.S.; M.A.; Ph.D., University of Pittsburgh, 1970

- PEVNICK, STEPHEN H. Instructor (Visual Arts), 1972
B.A.; M.F.A., *Washington University*, 1972
- PFOST, H. PHILIP Associate Dean and Associate Professor (Education), 1967
B.A., M.Ed.; Ed.D., *George Peabody College*, 1966
- PHILLIPS, ERNEST R. Assistant Professor (Education), 1971
B.S.; M.A.; Ph.D., *Purdue University*, 1971
- PHILLIPS, STEVE, JR. Associate Professor (Industrial Systems), 1974
B.S.M.E.; M.B.A.; M.S.; Ph.D., *University of Illinois*, 1974
- PICAZA, JORGE A. Associate Professor (Surgery), 1974 (Part time)
B.S.; B.S.; M.S.; M.D., *Havana University Medical School*, 1943
- PIERCE, CARMEL J. Lecturer and Advisor (Education), 1970 (Part time), St. Petersburg Campus
B.S., *University of South Carolina*, 1945
- PINKARD, CALVIN M. Director and Associate Professor (Rehabilitation Studies Program), 1964
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B.A.; M.A., Ph.D., *University of Florida*, 1955
- POLLET, ROBERT J. Assistant Professor (Medicine), 1974 (Part time)
A.B.; Ph.D., M.D., *New York University School of Medicine*, 1969
- POLSON, JAMES B. Assistant Professor (Pharmacology), 1971
B.A., M.S., Ph.D., *University of Missouri*, 1968
- POPE, JAMES S. Lecturer (Education), 1966
B.A.; M.A., *University of South Florida*, 1967
- POPOVICH, HELEN H. Associate Professor and Assistant to the Chairperson (English), 1965
B.A., M.A.; Ph.D., *University of Kansas*, 1965
- POPOVICH, JAMES E. Professor (Speech Communication), 1962
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- POTHOVEN, KENNETH L. Assistant Professor (Mathematics), 1970
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- POWELL, ROBERT W. Associate Professor (Psychology), 1966
B.A.; M.A.; Ph.D., *Florida State University*, 1966
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B.A.; M.S., *Florida State University*, 1973
- POWER, FRED B. Associate Professor (Finance), 1964
B.S., M.Ed., *University of Florida*, 1964
- PRATHER, SAM W. Associate Professor (Physical Education; Student Affairs), 1962
B.S.; M.S., *Florida State University*, 1953
- PREODOR, EDWARD Professor (Music Arts), 1960
B.M., M.M., *Eastman School of Music*, 1937
- PRICE, ARTHUR L. Assistant Professor (Mathematics), 1970
B.S., M.S., Ph.D., *Rensselaer Polytechnic Institute*, 1970
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B.A.; M.A., Ph.D., *Rutgers University*, 1970
- PRIDE, RICHARD F. Assistant Professor and Director (Education), 1969
B.A.; M.A., *Columbia University*, 1951
- PRINCE, FRED L. Assistant Professor (Education), 1971
B.S., M.S., Ed.D., *University of Houston*, 1971
- PROCHERA, JOHN S. Instructor (Political Science), 1974
B.A.; M.A., *Michigan State University*, 1971
- PROCKOP, LEON D. Professor (Internal Medicine), 1973
B.A.; M.D., *University of Pennsylvania*, 1959
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- PULIN, ALFRED B. Curator (Chemistry), 1969
B.A., *Case Western Reserve University*, 1940
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B.A., M.A., *University of Oklahoma*, 1970
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B.A., M.A.; Ed.D., *University of California, Los Angeles*, 1967
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B.A., M.A., *University of South Florida*, 1972
- RAO, A. N. V. Assistant Professor (Mathematics), 1972
B.S.; M.S.; M.S., Ph.D., *Virginia Polytechnic Institute and State University*, 1972
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B.S., M.S.; Ph.D., *Ohio State University*, 1969
- RATTI, JOGINDAR S. Professor (Mathematics), 1967
B.S., M.S.; Ph.D., *Wayne State University*, 1966
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B.S., M.S.; Ph.D., *University of Illinois*, 1951
- READER, WILLIE D. Associate Professor (English), 1963
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- REARICK, MARTHA N. Associate Professor (Music Arts), 1963
B.M., M.M., *University of Michigan*, 1961
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B.A.; M.S.L.S., *Florida State University*, 1963
- REED, JAMES H. Associate Professor (Mathematics), 1963
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A.B.; M.A., *University of Maryland*, 1962
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B.A., M.A.; J.D., *Stetson University*, 1958
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- REYNOLDS, JERALD M. Associate Professor (Music Arts), 1966
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B.S., M.S., Ph.D., *University of Illinois*, 1967, P.E.
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B.A.; Ph.D., Case Western Reserve University, 1968, C.C.C.
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- ROBINSON, JACK H. Professor (Education), 1963
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B.A.; M.S., East Texas State University, 1973
- ROGERS, DONALD W. Associate Professor
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B.A.; M.S., Ph.D., University of North Carolina, 1973 P.E.
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B.S.; M.A., University of South Florida, 1970
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B.A., M.A., Michigan State University, 1968
- ROSE, DONALD C. Professor (Mathematics), 1960
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B.S.; Ph.D., University of Maryland, 1968
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B.A.; M.A.; Ph.D., Syracuse University, 1964
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- SCHNELLER, STEWART W. Assistant Professor (Chemistry), 1971
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- SCHNITZLEIN, HAROLD N. Professor and Chairperson
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- SCHRODER, HAROLD M. Professor and Chairperson
(Management), 1973
B.A.; M.A., Ph.D., Ohio State University, 1954
- SCHULTZ, JOHN C. Assistant Professor (Theatre Arts), 1971
B.A.; M.A., Michigan State University, 1971
- SCHWARTZ, CAROLE J. Instructor (Education), 1970
B.A.; M.S., University of Wisconsin, 1969
- SCHWARTZ, JULIA L. Associate University Catalog Librarian
(Libraries), 1962
B.S.; M.S.L.S., Case Western Reserve University, 1955
- SCOTT, LINUS A. Chairperson and Professor
(Energy Conversion Engineering), 1964
*B.S.M.E., M.S.E.; Ph.D., Case Institute of Technology, 1960,
P.E.*
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B.S., M.Ed., Auburn University, 1962
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(Housing & Food Services, Student Affairs), 1974
B.A.; M.S., Western Illinois University, 1973
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(Foreign Languages), 1972
B.A.; M.A., Ph.D., University of Kentucky, 1968
- SELIGSOHN, HARRIET C. Associate Director
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B.S.; M.A., University of South Florida, 1969
- SELMAN, JAMES Associate Professor (Education), 1971
B.S., M.S., Ed.D., Florida State University, 1967
- SEMINARIO, LEE ANNE Assistant Professor
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A.B.; M.A.; Ph.D., Florida State University, 1974
- SENZIK, SHARON L. Counselor to Students and Lecturer
(Student Affairs), 1972
B.S.; M.S., Indiana University, 1972
- SEPANIK, MARY A. Assistant Director University Library
(Libraries), 1969
B.S.; M.A.L.S., Rosary College, 1965

- SERGEANT, JERRY E. Assistant Professor
(Electrical Engineering), 1970
B.S.E.E., M.S.E.E., Ph.D., University of Cincinnati, 1970
- SEVER, RAYMOND J. Assistant Professor
(Ophthalmology), 1973 (Part time)
B.A.; M.A.; M.D., University of Miami, Florida, 1960
- SEXTON, IRENE M. Assistant Professor (Education), 1969
B.S.E.; M.Ed.; M.Adm.; Ed.S.; Ph.D., Heed University, 1974
- 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. Instructor (Surgery), 1973 (Part time)
B.S.; B.S., M.D., Medical School of Virginia, 1967
- SHAW, KAILIE R. Assistant Professor (Psychiatry), 1974
J.M.B.; Ch.B., 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, MARILYN R. Interim Assistant Professor
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B.S.; M.A.; Ph.D., University of Florida, 1974
- SHERMAN, ROGER T. Chairperson and Professor
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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. Associate Professor
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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
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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
- SIDRANSKY, HERSHEL Chairperson and Professor
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B.S.; M.S.; M.D., M.S., Tulane University Graduate School, 1958
- SIEBEL, JERRY D. Associate Professor (Accounting), 1972
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B.S.; M.B.A., Seton Hall Graduate School of Business, 1971
- SILBERT, EDWARD M. Associate Professor (History), 1965
B.S.; M.A.; Ph.D., University of Florida, 1966
- SILBIGER, MARTIN L. Associate Professor
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A.B.; M.D., Western Reserve University, 1962
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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
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B.S.D.; A.M.L.S., University of Michigan, 1973
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B.A.; M.S.; Ph.D., Ohio State University, 1968
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B.B.A.; M.S., Ph.D., Yeshiva University, 1971
- SIMMONS, A. KEITH Director (University Purchasing), 1969
B.A., University of South Florida, 1968
- SIMON, JOSEPH L. Associate Professor (Biology), 1963
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Dentistry, 1969*
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B.S.; M.A.; Ph.D., University of Minnesota, 1966
- SISK, DOROTHY D. Chairperson and Associate Professor
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B.S.; M.A.; Ed.D., University of California, Los Angeles, 1966
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B.A.; M.S., Ph.D., University of Miami, Florida, 1963
- SKELTON, WILLIAM H. Assistant Professor
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B.S.; M.S.; Ph.D., Iowa State University, 1971
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R.N.; B.S.; M.S., Indiana University, 1971
- SLEEPER, DAVID C. Professor (Marketing), 1964
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- SMEACH, STEPHEN C. Assistant Professor (Mathematics), 1973
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B.S.; M.A., Ph.D., Columbia University, 1937
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B.S.; M.S., Ph.D., Louisiana State University, 1972
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B.I.E., University of Florida, 1959
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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
- SOBOROFF, STEPHEN H. Assistant Professor (Medicine), 1974
B.S.; M.D., University of Illinois, 1969
- SOFIA, SABATINO Professor (Astronomy), 1967
B.S., M.S., Ph.D., Yale University, 1966
- SOLOMONS, T. W. GRAHAM Professor (Chemistry), 1960
B.S.; Ph.D., Duke University, 1959
- SOUTHARD, MARTIN M. Teaching Associate (Management), 1973 (Part time)
B.A., University of South Florida, 1972
- SAPACHE, EVELYN B. Lecturer (Education), 1974 (Part time)
B.S.; M.E.D., University of Florida, 1959
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B.S., M.S.; Ed.D., University of Florida, 1954
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B.A., M.S., Ph.D., University of Arizona, 1969
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B.A.; M.A., University of Iowa, 1960
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- SPILLANE, JAMES R. Assistant Professor (Humanities), 1966
B.S.; M.A., University of Iowa, 1966
- SPOTO, EDWARD, JR. Assistant Professor (Internal Medicine), 1973
B.S., M.D., Tulane Medical School, 1964
- SPOLES, H. ALLAN Assistant Professor (Education), 1971
B.S.; M.Ed., Ed.D., University of Georgia, 1973
- STAFFORD, JOHN W. Associate Professor and Chairperson (Geography), 1969
B.S., M.S.; M.A.; Ph.D., Michigan State University, 1971
- STALNAKER, LEO, JR. Assistant Professor (Student Publications; 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, EDGAR E., JR. Professor (American Studies), 1960
B.A.; M.A.; Ph.D., Florida State University, 1959
- 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
- STEELE, HOWARD R. Director (Regional Data Center), 1972
B.S.M.E.; M.B.A., University of Miami, Florida, 1960
- STEIN, DONALD K. Assistant Professor (Psychology), 1970
A.B.; M.A., Ph.D., University of Connecticut, 1970
- STEINER, H. EDWIN, JR. Associate Professor (Education), 1969
B.S., M.A.; Ph.D., University of Texas, 1970
- STEINKE, 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, WILLIAM L. Assistant 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
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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
- STEVENS ON, RALPH G., JR. Assistant 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
- STIEHL, RUTH R. Instructor (Nursing), 1974 (Part time)
R.N.; B.S.; M.A., University of South Florida, 1971
- 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 Communication), 1973
ABITUR, DEUTSCHE Oberschule, Berlin, 1942
- STORY, COLEEN M. Associate Professor (Education), 1965
B.S., M.S., Florida State University, 1951
- STOUDINGER, SUSAN M. Assistant Professor (Political Science), 1969
B.A.; M.A.; Ph.D., Indiana University, 1970
- STOVALL, JACK C. Associate Professor (Education), 1966
B.S., M.A., University of Michigan, 1960
- STOWERS, DEWEY M., JR. Associate Professor (Geography), 1967
B.A.; M.A.; Ed.D., Duke University, 1961
- STRANGE, JAMES F. Assistant Professor (Religious Studies), 1972
B.A.; M.Div.; Ph.D., Drew University, 1970
- STRAWN, MERNET L. Associate Professor (Visual Arts), 1967
B.F.A.; M.F.A., Indiana University, 1965
- STRENGLEIN, DENISE D. Research Associate (Institutional Studies), 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
- SULLIVAN, MARY S. Assistant University Librarian (Educational Resources), 1968
B.M.; M.A., University of South Florida, 1970
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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
- SWIHART, STEWART L. Associate Professor—Acting Chairperson (Biology), 1970
B.A.; M.S., Ph.D., Lehigh University, 1964
- SWINNEY, DOROTHY J. Instructor (Education), 1974
B.S.; M.A., University of South Florida, 1974

- SZENTIVANYI, ANDOR Chairperson and Professor
(Pharmacology), 1970
M.D., University Medical School, Debrecen, Hungary, 1950
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B.S.; M.A.; Ph.D., Stanford University, 1962
- TANNER, PATRICIA W. ... Associate Professor (Education), 1969
B.A.; M.Ed.; Ph.D., Ohio State University, 1969
- TATUM, JIM C. Associate Professor
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B.A.; M.A., Ph.D., Tulane University, 1968
- TAYLOR, JUANITA L. Assistant Professor (Interdisciplinary
Social Science), 1968
B.A.; M.A., Ohio State University, 1964
- TAYLOR, MERRILY E. University Librarian,
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B.A.; M.S.L.S.; M.A., University of South Florida, 1973
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B.A.; B.D.; M. Phil., Yale University, 1969
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B.S.; M.A., George Peabody College, 1960
- TEDESCO, THOMAS A. Assistant Professor (Pediatrics), 1974
B.S.; Ph.D., University of Pennsylvania, 1969
- TERRITO, LEONARD Associate Professor (Criminal
Justice Program), 1972
B.A., M.A., University of South Florida, 1971
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B.S.; M.S.; Ph.D., University of Chicago, 1968
- THOMES, DELBERT C. Systems Coordinator
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B.S.; M.B.A., Rollins College, 1967
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B.S., Ed., State University of New York—Brockport, 1951
- THOMPSON, EDWARD J. Computer Systems Coordinator
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B.S., Florida Atlantic University, 1971
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B.S.; B.L.S.; M.S.L.S., University of Illinois, 1966
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B.A.; M.L.S., Emory University, 1970
- TIPPS, GEORGE K. Assistant Professor (History), 1969
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B.A.; M.A.Ed., Ed.D., University of Florida, 1970
- TOMAINO, JOSEPH M. Director, Alumni Affairs
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B.A.; M.A., University of South Florida, 1971
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A.B.; M.A., Florida Southern College, 1947
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- TOTTEN, W. FRED Lecturer (Education), 1971
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- TOWERY, HENRY H. Associate Professor (Marketing), 1970
B.S.; M.B.; D.B.A., Florida State University, 1969
- TRASK, ROGER R. Chairperson—Professor (History), 1973
A.B.; M.A., Ph.D., Pennsylvania State University, 1959
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B.S.; M.S., University of Colorado, 1961
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A.B.; M.A., University of Michigan, 1954
- TSERPES, NICHOLAS A. ... Associate Professor (Mathematics), 1968
B.A.; M.A., Ph.D., Wayne State University, 1968
- TSOKOS, CHRIS P. Professor (Mathematics), 1972
B.S., M.S.; Ph.D., University of Connecticut, 1965
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B.S., Ph.D., University of Rhode Island, 1969
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B.A., University of South Florida, 1963
- TUTTLE, LESTER W., JR. Dean and Professor
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B.A.E., M.A.E., Ed.D., University of Florida, 1962
- TWIGG, JOHN F. Associate Professor
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B.A.; M.S., Ph.D., Syracuse University, 1969
- URAVICH, PAUL A. Director (University Safety and
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B.S., M.S., Florida State University, 1970
- URBANEK, RAYMOND A. Professor (Education), 1961
B.A.; M.S.; Ed.D., University of Kansas, 1961
- VALENTINE, VIRGINIA W. Lecturer (English), 1968
B.A.; M.A., Southern Methodist University, 1951
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B.A.; M.A., University of Denver, 1973
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B.S.; M.D., University of Louisville, 1971
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B.A.; M.L.S., Emory University, 1965
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- WATSON, JOHN E. Lecturer (Accounting), 1972 (Part time), St. Petersburg Campus
B.S.B.A.; J.D., Stetson College of Law, 1964
- WEATHERFORD, ROY C. Assistant Professor (Philosophy), 1972
B.A.; M.A., Ph.D., Harvard University, 1972
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B.Sc.; B.Sc., M.Sc., D.I.C., Ph.D., Imperial College, London, 1955
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B.S.M.E., M.S.I.E., Ph.D., Purdue University, 1957
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B.A., M.A., University of South Florida, 1969, R.N.
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B.S., B.A.; M.S., Trinity University, 1971
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B.A., M.S., Ph.D., Kansas State University, Manhattan, 1969
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- WONG, KIN-PING Associate Professor (Biochemistry), 1970
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B.A.; M.A., University of California, Los Angeles, 1970
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B.A., M.A.; Ph.D., Ohio State University, 1964
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A.B.; M.A., University of Alabama, 1964
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B.A.; M.D.; Yale University School of Medicine, 1967
- ZAIONTZ, CHARLES Assistant Professor (Mathematics), 1974
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B.S.E.E.; M.S.E.E.; Ph.D., University of Missouri, 1965
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B.S.; M.B.A., University of South Florida, 1972, C.P.A.
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B.A.; M.A., George Washington University, 1944
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B.A.; M.A.; Ph.D., New York University, 1936, LL.D. (Hon.), Sc.D. (Hon.)
- AULETA, MICHAEL S. Professor (Education), 1967-1973
B.A.; M.A., Ed.D., New York University, 1947
- BEAUCHAMP, GEORGE E. Associate Professor (English), 1960-1971
A.B.; M.A.; Ph.D., Northwestern University, 1942
- BOULWARE, JOE W. Lecturer (Geology), 1961-1973
B.S.; B.S.; M.S., University of Florida, 1963
- BRUSCA, DONALD D. University Physician (Student Health), 1965-1973
B.S.; M.D., Medical College of Virginia, 1936
- CARR, ROBERT S. Visiting Lecturer (Mass Communications), 1968-1974
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B.S., Ph.D., University of Berlin, 1939
- CLARK, CLARENCE C. Professor Emeritus (Physical Science), 1960-1969
B.S.; M.S.; Ph.D., New York University, 1932
- CLEARY, FLORENCE D. Lecturer (Education), 1964-1969
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B.S.E.E., M.S.; Ph.D., Western Reserve University, 1960
- DEAN, HARRIS W. Vice President for Academic Affairs Emeritus, 1961-1971
*B.Ed.; M.A.; M.Ed., Ed.D., University of Illinois, 1947
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A.B.; A.M.; Ph.D., Harvard University, 1939
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B.S.; M.B.A., Harvard University, 1941
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- HARTLEY, JACQUETTA W. Instructor (English), 1960-1972
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- HICKMAN, WILLIAM Assistant Professor (English), 1963-1969
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- KAUDER, EMIL Distinguished Professor (Economics), 1968-1973
Ph.D., University of Berlin, 1924
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B.A.; M.A.; Ed.D., Stanford University, 1954

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