ISS 4900 DIRECTED READINGS (1-3)  
PR: CI. A supervised program of intensive reading of interdisciplinary materials in areas of specific interest. May be repeated.

ISS 5934 DIRECTED READING (1-3)  
PR: CI. A supervised program of interdisciplinary research in areas of specific interest. May be repeated.

ISS 4935 SEMINAR IN THE SOCIAL SCIENCES (3)  
PR: Senior standing and ISS 3010. A capstone course designed to provide an in-depth study of topical areas related to the social sciences. Course may be taken by non-majors.

ISS 5934 SELECTED TOPICS (1-3)  
PR: CI plus senior standing or graduate status. Interdisciplinary studies with course content dependent on student demand and instructor's interest. May be repeated as topics vary.

STA 3122 AREA STUDIES (3)  
A course which emphasizes social sciences. This course is designed to introduce concepts, theories, and assumptions that underlie specific techniques used in the social sciences. Emphasis is placed on selection of appropriate techniques given the research design to be utilized.

INTERNATIONAL STUDIES

AREA STUDIES
Area study courses are multi-disciplinary in nature and deal with one or more countries of a region. Each course combines some measure of political, economic, historical, religious, geographic, anthropological, and sociological analysis in dealing with salient features and current problems. The same course may be repeated, but only when the countries of concentration differ. The regularly offered area study courses are:

AFA 4150 AFRICA AND THE UNITED STATES (3)  
ASN 3012 JAPAN TODAY (3)  
ASN 3014 CHINA TODAY (3)  
ASN 3030 THE MIDDLE EAST (3)  
EUS 3000 EUROPE (3)  
EUS 3022 RUSSIA (3)  
LAS 3030 LATIN AMERICA (3)  
INR 1015 WORLD PERSPECTIVE (3)  
An interdisciplinary study of the international system, major world regions and problems.

INR 2085 WORLD TENSIONS (2)  
A study of the major causes and consequences of critical tensions which lead to serious social disturbances among and within the independent states of the world.

INR 2930 SELECTED TOPICS (1-4)  
Interdisciplinary studies with course content dependent on student demand and instructor's interest. For non-majors only. May be repeated as topics vary.

INR 3003 INTRODUCTION TO INTERNATIONAL STUDIES (3)  
An interdisciplinary study which stresses methods and analysis. A major portion will focus on the roles which different disciplines play in interpreting the international scene.

INR 3018 WORLD IDEOLOGIES (3)  
A course which explores and examines the ideologies of today's independent countries; analyzing them in their political, social, cultural and historical context.

INR 3038 INTERNATIONAL WEALTH AND POWER (3)  
Introduction to the relationship between politics and economics, emphasizing the analysis of government policies in response to both domestic and international economic problems.

INR 3080 ACTORS IN THE INTERNATIONAL SYSTEM (3)  
An examination of the subnational, national, and transnational institutions to include ethnic groups, insurgents, nation-states, nationalism, multinational corporations, international organizations and major religions.

INR 3082 ISSUES IN THE INTERNATIONAL SYSTEM (3)  
A study which emphasizes the problems and processes of international actors. Focuses on issues related to war and peace, political economy, and social welfare topics.

INR 3087 INTERNATIONAL TERRORISM (3)  
A study of contemporary international terrorism and its causes, ranging from national liberation movements to networks of philosophical anarchists.

INR 3141 INTERNATIONAL NUCLEAR POLICY (3)  
A study of nuclear issues (such as system development, proliferation, control, strategic policy and war) as they relate to contemporary international politics.

INR 3336 INTELLIGENCE AND U.S. FOREIGN POLICY (3)  
An examination of the role of intelligence and the intelligence community in U.S. foreign policy, with emphasis on the period since World War II.

INR 3770 COMPARATIVE MILITARY SYSTEMS (3)  
A comparative study of the efforts of the nations in the South (Africa, Asia, Latin America and the Middle East) to improve their status through political and economic development.

INR 4900 DIRECTED READING (1-3)  
PR: CI. A supervised program of intensive reading of interdisciplinary materials in areas of specific interest. May be repeated.

INR 4910 DIRECTED RESEARCH (1-3)  
PR: CI. A supervised program of interdisciplinary research in areas of specific interest. May be repeated.

IDS 3311 SELECTED TOPICS (1-4)  
Interdisciplinary studies with course content dependent on student demand and instructor's interest. May be repeated as topics vary.

IDS 4936 SENIOR SEMINAR (3)  
PR: International Studies major and senior standing. A variable seminar in interdisciplinary concepts and analyses relating to the academic background of INT majors. Should be taken in the student's final semester.

IDS 4943 INTERNSHIP IN INTERNATIONAL STUDIES (3-6)  
PR: Senior status. The purpose of the course is to promote the student's understanding of global international issues within a local and practical context. (For majors only.)

WST 3275 WOMEN IN THE DEVELOPING WORLD (3)  
A comparative study of women's status in various developing nations with that in various industrialized states. (Also offered under Women's Studies Program.)

LIBERAL STUDIES

IDS 2931 SELECTED TOPICS (2-5)  
Selected topics in the liberal arts. A basic introduction to the substance and theory of contemporary topics in the arts and sciences. May be repeated as topics vary.

IDS 3360 STRUCTURES OF KNOWLEDGE AND KNOWING (4)  
Distinguishing the modalities of human knowledge and awareness as reflected in the classic distinctions: sensory/motor/emotive; normative/descriptive/non-rational; logical/mathemati­cal; ethical/physical/moral; qualitative/quantitative; mind/will/body; substance and function.

IDS 3371 PROGRESS AND UTOPIA (4)  
Examination of the modern backgrounds of contemporary awareness: particularly the development of historical awareness of ourselves as scientifically, technologically, and socially progressive in relation to both utopic and non-utopic futures.

IDS 3520 FREEDOM AND THE SELF (4)  
Analysis of the idea of freedom in relation to the idea of self, involving comparative treatment of the variety of standpoints of conceiving the individual personality in relation to the social context.

IDS 4344 SEMINAR: MAN AND NATURE (3)  
PR: Senior standing or CI. Examination of aspects of contemporary theories of nature and man deriving in the liberal arts, to the purpose of developing a general assessment of contemporary knowledge and methods of knowing.

IDS 4930 SELECTED TOPICS (1-4)  
Course content determined by students' and instructor's interests and needs.

LIBRARY AND INFORMATION SCIENCE

LIS 2001 USE OF THE LIBRARY (3)  
An introduction to the resources of the University of South Florida Library. Emphasis will be placed on library materials relevant to the course work of the undergraduate.

LIS 4302 PRODUCING AUDIOVISUAL MATERIALS (2)  
PR: Upper level standing or CI. Basic skills in designing and preparing audiovisual materials for wide variety of instructional
LIS 5333 TV IN SCHOOL AND LIBRARIES  
Small format video tape recordings and the utilization of open and closed broadcasts in schools and libraries.  

LIN 5404 FOUNDATIONS OF LIBRARIANSHIP  
Overview of the 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.

LIS 5434 COMMUNITY COLLEGE LIBRARIANSHIP  
Introduction to the community college concept, examination of the basic elements, functions, purposes, directions, programs, etc. inherent in both the community college and the library resources center which serves it.

LIN 5757 SELECTED TOPICS IN LIBRARY STUDIES  
Pr: Cl. Covers a variety of topics in such areas as collection development, reference services, technical services, and administration.

LINGUISTICS  
ENS 1483 ENGLISH FOR FOREIGN STUDENTS I  
A special course for students learning English as a second language. Intensive study and drill in American English pronunciation and listening comprehension.

ENS 1484 ENGLISH FOR FOREIGN STUDENTS II  
Pr: ENS 1483 or Cl. A continuation of ENS 1483. Emphasis on reading and composition.

LIN 3010 INTRODUCTION TO LINGUISTICS  
Introduction to the basic principles of linguistic science; phonological, grammatical and analysis and description; language change and genetic relationships.

LIN 4456 LANGUAGE AND MEANING  
A survey introduction for non-specialists to the basic principles of semantics and the way language conveys ideas. This course is also available on WUSF/TV Channel 16 by the O.U. Program.

LIN 4457 LANGUAGE AND MEANING-6A  
An introduction to linguistic typology consisting in a systematic comparison of characteristic representatives of the various language types in the world and the way language conveys ideas. Both taxonomic and generative analysis and descriptions will be developed and compared.

LIN 4575 LANGUAGE TYPES OF THE WORLD  
An introduction to linguistic typology consisting in a systematic comparison of characteristic representatives of the various language types in the world and the way language conveys ideas. Both taxonomic and generative analysis and descriptions will be developed and compared.

LIN 4700 LANGUAGE AND SOCIETY  
Pr: LIN 3010. 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 4710 LANGUAGE AND COMMUNICATION: ACQUISITION AND DEVELOPMENT  
Pr: LIN 3010. A survey of current research and theory in the processes of normal acquisition and development of language and communication in children. The acquisition and development of phonology, syntax, semantics, pragmatics, and nonverbal communication and the role of language in general cognitive development.

LIN 4903 DIRECTED READING  
Pr: Cl. Readings in special topics. Must be arranged prior to registration.

LIN 4930 SELECTED TOPICS  
Pr: Cl. Course content depends upon students' needs and instructor's interest and may range over the entire field of linguistics.

LIN 5750 APPLIED LINGUISTICS  
Analysis of the phonological, morphological, and syntactic features of English as a basis for linguistic application to problems of language acquisition by non-native speakers.

TSL 4374 METHODOLOGY OF TEACHING ENGLISH OVERSEAS  
Pr: Upper-level standing. Designed to introduce and prepare the enrollee in the various facets of teaching English as a foreign language in the overseas setting. It will include aspects of teaching verbal skills and comprehension as well as writing. It involves a practicum at the English Language Institute on campus.

TSL 5321 ESOL STRATEGIES FOR CONTENT AREA TEACHERS  
This course is designed for public school teachers working with limited English proficient (foreign) students in the classroom. The new ESOL requirements specify that this course be offered to content area teachers and to ESOL teachers. May not be repeated for additional credit hours.

TSL 5371 METHODS OF TEACHING ENGLISH AS A SECOND LANGUAGE  
Pr: TSL 5371. This is a lecture course on the methodology of teaching English as a second/foreign language. May not be repeated for additional credit hours.

TSL 5525 CROSS CULTURAL ISSUES IN ESL  
Pr: LIN 5700. This is a lecture course on cultural issues in teaching English as a second/foreign language. May not be repeated for additional credit hours.

MARINE SCIENCE  
OCE 3001 INTRODUCTION TO OCEANOGRAPHY  
Overview of biological, chemical, geological, and physical oceanography. (Also listed under Geology.)

MASS COMMUNICATIONS  
ADV 3000 INTRODUCTION TO ADVERTISING  
Pr: MMC 3100 and MMC 3602. A study of the structures, functions, and persuasive language of advertising in mass media with attention to social, political, economic, and legal aspects.

ADV 3002 ADVERTISING DESIGN  
Pr: ADV 3000 for advertising majors; VIC 3000 for other Mass Comm majors. Application of graphic design principles to various areas of advertising. Combining visual and verbal elements effectively.

ADV 3101 ADVERTISING COPYWRITING  
Pr: ADV 3000 and ECO 2023. Study of laboratory experience in preparation of advertising copy for newspapers, magazines, radio, television, direct mail, outdoor displays, and special items.

ADV 3103 RADIO-TELEVISION ADVERTISING  
Pr: ADV 3000. 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.

ADV 3300 ADVERTISING MEDIA STRATEGY  

ADV 3700 RETAIL ADVERTISING PLANNING AND EXECUTION  
Pr: ADV 3000 and ADV 3101. A study of retail advertising, including management decisions, processes, procedures, media planning, production techniques, and problems affecting the development of advertising to fulfill retail objectives.

ADV 4800 ADVERTISING CAMPAIGNS  
Pr: AGC 2001, ADV 3101, ADV 3300, MMC 4420, ECO 203, ECO 2023, and ADV 3023. Advanced advertising course requiring planning and production of complete general advertising campaign, including research, production methods, budgeting, and media schedules.

ADV 4940 ADVERTISING PRACTICUM  
Pr: Cl. 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. (5/U only.)
FIL 3004 THE FILM AS MASS COMMUNICATION: SYNTAX (3) PR: MMC 3100 and MMC 3602. The language, conventions, elements, and patterns of the film medium as related to current models of effective mass communication and new theories of nonverbal communication. Concurrent laboratory experiences in control of light and line.

FIL 3100 THE FILM AS MASS COMMUNICATION: RHETORIC AND STYLISTICS (3) PR: FIL 3004. A continuation of FIL 3004 to include the effective arrangement of scenes and sequences in motion picture and television films. Concurrent laboratory experiences in sound and editing.

FIL 4404 SOCIAL HISTORY OF THE FILM, 1945 TO THE PRESENT (3) PR: MMC 3100 and MMC 3602. The development of the film from 1945 to the present.

JOU 3006 MAGAZINES IN SOCIETY (3) PR: MMC 3100 and MMC 3602. A study of the development of various types of magazines in America, and a critical analysis of current problems and performances of periodicals along with changes indicated for the future.

JOU 3100 BEGINNING REPORTING (3) PR: MMC 3100 and MMC 3602. Basic instruction in news judgment, sources of news, newsgathering, and newswriting techniques. Typing proficiency is required.

JOU 3101 ADVANCED REPORTING (3) PR: POS 2041, JOU 3100, or RTV 3300 (RTV majors only). JOU 4200 (may be taken concurrently), and PHI 1103. Getting information and writing the more complex and specialized story, techniques of investigative and analytical reporting, including ethical and legal considerations.

JOU 3300 MAGAZINE ARTICLE AND FEATURE WRITING (3) PR: CRW 2100, JOU 3100. Planning, researching, writing, and marketing articles for general and special interest magazines and newspaper magazine supplements; experiences in developing article idea; inductive analysis of contemporary magazine articles.

JOU 3306 CRITICAL WRITING: EDITORIALS, REVIEWS, COLUMNS (3) PR: JOU 3101, JOU 4200. 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 personal columns.

JOU 3940 REPORTING PRACTICUM (1) PR: JOU 3101 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. (S/U only.)

JOU 4104 PUBLIC AFFAIRS REPORTING (3) PR: JOU 3101, POS 2041 and POS 3142. Covering city council meetings, courthouse, city hall, courts, society, and other special assignments. Emphasis is on coverage of major governmental units of all levels of government, including examination and interpretation of public documents and records.

JOU 4200 NEWS EDITING I (3) PR: ECO 2935, JOU 3100, and SYG 3010. Evaluating news and its display; editing and rewriting copy for the mass media, with emphasis on the daily newspaper; news judgment, headlines, makeup; ethical problems.

JOU 4206 NEWSPAPER DESIGN AND TYPOGRAPHY (3) PR: JOU 4200 or CI. Theoretical and practical applications of newspaper design; problems in newspaper layout; the research of newspaper typography and design and its application; redesign of contemporary newspapers.

JOU 4410 PUBLISHING PRACTICUM (1) PR: Senior standing, JOU 4200 and CI. For selected News-Editorial Sequence majors. Practical experience outside the classroom at a daily newspaper copydesk, where the student works for academic credit under the tutelage of a professional news editor. (S/U only.)

JOU 4410 MAGAZINE PRACTICUM (1) 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. (S/U only.)

JOU 5196 EXPLORATIONS IN NEWSWRITING (3) PR: Graduate Status in Mass Communications or CI. Students work to develop writing styles, reporting on and creating stories about significant issues, events, and ideas. The course explores the notion that narrative-style journalism can be accurate, thorough, fair, and compelling, effectively bringing readers into stories and giving them a bigger stake in the news. The focus is on going beyond traditional practices of reporting and writing news stories.

MCC 4200 WRITING FOR THE MASS MEDIA (3) PR: Sophomore standing; 2.7 GPA; grade of "C" in ENC 1101, ENC 1102, typing proficiency, and passing score on English Diagnostic Test. An introduction to the basic skills of writing for the mass media with practice in library research, persuasive writing, and informational writing.

MCC 3602 MASS COMMUNICATIONS AND SOCIETY (3) PR: Sophomore standing. 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.

MCC 4123 MEDIA SCRIPT WRITING (3) PR: MMC 3100 and MMC 3602. An introduction to the techniques of writing scripts for photographic and multi-media presentation, electronic media, and industrial and documentary film.

MCC 4200 HISTORY AND PRINCIPLES OF COMMUNICATIONS LAW (3) PR: MMC 3100 and MMC 3602. Historical and constitutional backgrounds of freedom and control of expression, statutory enactments, major court decisions and administrative rulings which affect print media, telecommunications, advertising, and public relations.

MCC 4220 COMMUNICATION ETHICS (3) PR: MMC 3602 and MMC 3100 or CI. A study of the fundamental principles and philosophies of ethics and their application to the decision-making process in the various professions of mass communications.

MCC 4420 RESEARCH METHODS IN MASS COMMUNICATIONS (3) PR: MMC 3100, MMC 3602. An introduction to the theory and practices of quantitative and historical research methods as applicable to the study of media and mass communications. Emphasis on survey research, evaluation of data, and report writing.

MCC 4900 DIRECTED READING IN MASS COMMUNICATIONS (1-3) PR: Junior standing, CC and CI. Reading and directed study in special topics.

MCC 4920 INDIVIDUAL RESEARCH IN MASS COMMUNICATIONS (1-3) PR: CC and CI. The course provides means for a student to do independent study in an area not covered by a numbered course.

MCC 4936 SELECTED TOPICS IN MASS COMMUNICATIONS STUDIES (1-3) PR: Junior standing. Courses designed to meet current or specific topics of interest to instructors and students.

MCC 4945 MEDIA INTERNSHIP SEMINAR (3) PR: And 15 hours in Mass Com courses and completion of an 8-12 week media internship with newspaper, broadcast station, or other media-related agency approved by the department and paid by the sponsor. Reports on experiences for discussion and evaluation. (S/U only.)

PGY 3610 PHOTOJOURNALISM I (3) PR: MMC 3100 and MMC 3602. Camera operation, darkroom techniques, picture composition; editing, ethics, history, and laws in connection with photojournalism.

PGY 3620 PHOTOJOURNALISM II (3) PR: PGY 3610. Advanced process and practice of photography for publication. Content includes advanced camera and laboratory techniques, publication requirements and theory of photographic chemical color separation used in magazine and newspaper. Emphasis is placed on student production.

PGY 4110 COLOR PHOTOGRAPHY (3) PR: PGY 3620. Development of knowledge and skills of color photography for publication and presentation. Emphasis is on
the use of transparency and negative color materials in their application to the media. Laboratory required.

PUR 3000 PRINCIPLES OF PUBLIC RELATIONS (3)
PR: MMC 3100 and MMC 3602. The functions of public relations within corporate and institutional structures; ethical standards of practice, and relationships of the practice to the public media and our professional communication.

PUR 4001 ADVANCED PUBLIC RELATIONS (3)
PR: PUR 4401, PUR 4100, and MMC 4420. As final course in PR sequence, it involves intensive study of counseling and problem-solving techniques used in professional practice. Analysis of case studies and preparation of complete PR program. Extensive reading in the literature of contemporary practice.

PUR 4100 WRITING FOR PUBLIC RELATIONS (3)
PR: JOU 3100, PUR 3000. Persuasive writing techniques unique to the practice of public relations; application of principles and ethical practices to problem-solving situations drawn from case studies; writing formats used in promotional and publicity literature.

PUR 4401 PUBLIC RELATIONS: ISSUES, PRACTICES AND PROBLEMS (3)
PR: PUR 3000. The theory of public relations practice and its application in the real world. The role of the public relations practitioner in business, government and social institutions, and the nature of specialized areas of the practice. Identification of public issues, analysis of potential impact on organizations and development of strategies to deal with them successfully and responsibly. Communication techniques and trends.

PUR 5000 PUBLIC RELATIONS PRACTICUM (1)
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 credit under the tutelage of a professional practitioner.

RTV 3000 INTRODUCTION TO TELECOMMUNICATIONS (3)
PR: MMC 3100 and MMC 3602. A survey of the organization, structure, and function of the broadcasting industry.

RTV 3100 WRITING FOR RADIO AND TV (3)
PR: ENC 3310 or CRW 2100, RTV 3000. The writing of radio and television scripts such as documentaries, children's programs, commercials, dramas, talks, and demonstrations.

RTV 3210 RADIO PRODUCTION AND DIRECTION (3)
PR: RTV 3000. Radio production and direction; laboratory and broadcast experiences.

RTV 3225 VIDEO WORKSHOP (1)
PR: MMC 3100 and MMC 3602. An introduction to the techniques and applications of field television production and electronic editing.

RTV 3300 BROADCAST NEWS (4)
PR: MMC 3602 AND MMC 3100. The study and methods in gathering, writing, and editing newscasts for radio and television.

RTV 3941 RADIO PRACTICUM (1)
PR: RTV 3210 and CI. The study, rehearsal, and production of radio programs and materials. (S/U only.)

RTV 4220 TV PRODUCTION AND DIRECTION (3)
PR: RTV 3000, and junior standing. A basic course in the techniques of producing and directing TV programs.

RTV 4301 TV NEWS FILM (3)
PR: RTV 3300 and RTV 3225. Techniques in writing and filming for television news.

RTV 4320 ELECTRONIC FIELD PRODUCTION (3)
PR: RTV 3300 or RTV 3225. Advanced producing, scripting, lighting, camera, and editing for video production on location. Introduction to computer editing and graphics.

RTV 4500 THE BROADCAST PROGRAM (3)
PR: RTV 3000. Program concepts, resources, costs, selection and scheduling. Analysis of programming in terms of structures, approaches, and techniques.

RTV 4700 TELECOMMUNICATIONS LAW AND POLICY (3)
PR: for Broadcast News Option: RTV 3000, RTV 3300, MMC 4200, POS 3142 or POS 2112; for Programming Option: RTV 3000, RTV 4500, RTV 3100 or RTV 3300, and Senior standing. A study of broadcasting industry from the perspective of government regulation and the political process with special emphasis on how regulatory policy is determined.

RTV 4942 TV PRACTICUM (1)
PR: RTV 4220 and CI. The study, rehearsal and production of television programs and materials. (S/U only.)

VIC 3000 INTRODUCTION TO VISUAL COMMUNICATIONS (3)
PR: MMC 3100 and MMC 3602. The survey of visual communication theory, techniques, and their contemporary application and social influences as applied to the visual media with emphasis on still photography, motion pictures, video tape, and graphics.

VIC 3943 VISUAL COMMUNICATION PRACTICUM (1)
PR: Senior standing and CI. For selected Visual Communications Sequence majors. Practical experience outside the classroom in a professional environment where the student works for academic credit under the tutelage of a professional practitioner. (S/U only.)

MATHS

CGS 3422 COMPUTER APPLICATIONS OF MATHEMATICS -6A (3)
CR: MAS 3103. Introduction to FORTRAN (WATFIV) with special emphasis on its applications to Mathematics.

COP 4210 MATHEMATICAL PROBLEM SOLVING USING PASCAL -6A (3)
PR: MAS 3103, and the ability to program at least one other language. The highly structured programming language PASCAL is used to solve numerical and non-numerical problems in mathematics involving graph theory, combinatorics, and number theory. Non-numerical data structures and algebraic manipulation are emphasized.

MAA 4211 MULTIVARIATE CALCULUS -6A (4)
PR: MAC 3313 or MAC 3283 with a grade of "C" or better, MAS 4301 and MAS 3103. Vector-valued functions, multiple integrals, line and surface integrals.

MAA 4312 INTERMEDIATE ANALYSIS -6A (4)

MAY 5306 REAL ANALYSIS I (3)
PR: MAA 4212. Riemann-Stieltjes integrals, uniform convergence, Fourier series, Lebesgue measure and integration on R.

MAY 5307 REAL ANALYSIS II (3)

MAY 5405 APPLIED COMPLEX ANALYSIS (3)
PR: CI. Complex numbers, analytic and harmonic functions. Series. Contour integrals, residue theory. Conformal mappings. (A survey course emphasizing techniques and applications.)

MAC 2102 COLLEGE ALGEBRA -6A (3)

MAC 2114 COLLEGE TRIGONOMETRY -6A (2)
PR: Passing score on placement test. 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 MAC 2132.)

MAC 2132 COLLEGE ALGEBRA AND TRIGONOMETRY -6A (4)
Passing score on placement test. Real numbers and their properties, algebraic expression, equations and inequalities, functions, polynomials, exponential and logarithmic functions. Angles, Trigonometric functions, properties and graphs of trigonometric functions, right triangles, laws of sines and cosines, polar coordinates. (No credit for MAC 2132 for students with credit in MAC 3233 or MAC 2102.)

MAC 3233 ELEMENTARY CALCULUS I-6A (4)
PR: Passing score on placement test. Differentiation and integration of algebraic functions with applications, exponential and logarithmic functions. MAC 3233-MAC 3234 are primarily for students from Biological Sciences, Social Sciences and Business. (No credit for math majors or students with credit in MAC 3281 or MAC 3311).
MAC 3234 ELEMENTARY CALCULUS II -6A
PR: MAC 3233. Techniques of integration, differential equations, functions of several variables, series and Taylor polynomials. (No credit for Mathematics majors or students with credit in MAC 3283 or MAC 3313.)

MAC 3235 ENGINEERING CALCULUS I -6A
PR: Placement tests in algebra and trigonometry. Differentiation, limits, differentials, maxima, minima, indefinite integral. (No credit for students with credit in MAC 3233 or MAC 3311.)

MAC 3282 ENGINEERING CALCULUS II -6A
PR: MAC 3281. Definite integral, trigonometric functions, log, exponential, series, applications. (No credit for students with credit in MAC 3234 or MAC 3312.)

MAC 3283 ENGINEERING CALCULUS III -6A
PR: MAC 3282 or CC. Techniques of integration, numerical methods, analytic geometry, polar coordinates, Vector algebra, applications. (No credit for students with credit in MAC 3233 or MAC 3281.)

MAC 3311 CALCULUS I -6A
PR: Placement tests in algebra and trigonometry. Limits, derivatives, applications. (No credit for students with credit in MAC 3233 or MAC 3281.)

MAC 3312 CALCULUS II -6A
PR: MAC 3311 with a grade of "C" or better or CC. Antiderivatives, the definite integral, applications, series, log, exponential and trig functions. (No credit for students with credit in MAC 3234 or MAC 3282.)

MAC 3313 CALCULUS III -6A
PR: MAC 3312 with a grade of "C" or better or CC. Integration, polar coordinates, conic sections, vectors, indeterminate forms and proper integrals. (No credit for students with credit in MAC 3283.)

MAD 3100 DISCRETE MATHEMATICS -6A
PR: MAC 3281 or MAC 3311. An introduction to some of the aspects of discrete mathematics that are fundamental to digital computers, including sets, numbers, algorithms, Boolean algebra, computer arithmetic, elementary combinatorics and an introduction to graph theory.

MAD 4401 NUMERICAL ANALYSIS -6A
PR: MAS 3103; ability to program a digital computer. Interpolation and quadrature, finite differences, numerical solution of algebraic and transcendental equations, numerical solution of differential equations, computer techniques.

MAD 5101 LISP: PROGRAMMING WITH ALGEBRAIC APPLICATIONS
PR: RH 450 or MAD 6510 or MAS 5311 or Cl. Programming in LISP, functional languages, foundations of Lambda Calculus and algebraic applications (theorem proving and game playing).

MAD 5305 INTRODUCTION TO GRAPH THEORY
PR: Cl. Brief introduction to classical graph theory (4-color theorem, etc.), directed graphs, connected digraphs, condensations, incidence matrices, Polya's Theorem, networks.

MAE 5875 ABSTRACT ALGEBRA FOR TEACHERS
PR: MAS 3103 and MAS 4301 and bachelor's degree or CC. Groups, fields, vector spaces as they relate to high school algebra and geometry. (No credit for Mathematics majors.)

MSE 5877 MATHEMATICAL ANALYSIS FOR TEACHERS
PR: MAC 3313 and bachelor's degree or CC. Advanced consideration of limits continuity, derivatives, differentials. (No credit for Mathematics majors.)

MAP 4302 DIFFERENTIAL EQUATIONS -6A
PR: MAC 3283 or MAC 3313. First order linear and nonlinear differential equations, higher order linear equations, applications.

MAP 5307 OPTIMIZATION THEORY I
PR: MAS 3313 and MAA 4211, or equivalent. Content: Unconstrained and linearly constrained extrema linear and nonlinear programming, application to matrices and quadratic forms, Lagrange multiplier rule for equality constraints.

MAP 5316 ORDINARY DIFFERENTIAL EQUATIONS I
PR: MAP 4302, MAA 4211, or Cl. Existence and uniqueness theorems, orthogonal solutions, linear systems, stability theory, Sturm-Liouville theory.

MAP 5317 ORDINARY DIFFERENTIAL EQUATIONS II
PR: MAP 5316 and MAA 5307 or Cl. Topics selected from fixed point theory, comparison theory, oscillation theory, Poisson-Bendixon Theory, Lyapunov functions, eigenfunction expansions.

MAP 5345 APPLIED PARTIAL DIFFERENTIAL EQUATIONS -5A
PR: MAP 5407 or Cl. Separation of variables, the heat equation, wave equation, Laplace's equation, classification, Green's functions, with emphasis on applications.

MAP 5407 METHODS OF APPLIED MATHEMATICS -5A
PR: MAP 4302 or Cl. Sturm-Liouville theory, Fourier series, Green's functions, matrix methods for linear systems of ordinary differential equations, and topics from calculus of variations, control theory, numerical solutions of differential equations.

MAS 4124 NUMERICAL LINEAR ALGEBRA -6A
PR: MAS 3103. This course will consider efficient and stable numerical methods for dealing with matrix computations such as the solution of systems, calculation eigenvalues and vectors, least squares, and so on.

MAS 4156 VECTOR ANALYSIS -6A
PR: MAC 3313 or MAC 3283 or Cl. The algebra and calculus of vectors, line and surface integrals, Divergence Theorem, Stokes' Theorem, generalized coordinates, applications. (No credit for both MAA 4211 and MAS 4156.)

MAS 4214 ELEMENTARY NUMBER THEORY -6A
PR: MAC 3312. Divisibility, prime numbers, Fundamental Theorem of Arithmetic, Diophantine equations, the algebra of congruences, number functions and other selected topics.

MAS 4301 ELEMENTARY ABSTRACT ALGEBRA -6A
PR: MAC 3311 or MAC 3281. An introduction to basic set theory: sets, functions, and relations. An introduction to the basic algebraic structures: groups, rings, and fields. Homomorphisms and isomorphisms. A rigorous treatment of the real and complex number systems.

MAS 5107 ADVANCED LINEAR ALGEBRA
PR: MAS 3103, MAS 4301 (or MAA 4102) or Cl; CR: MAS 5311. The study of finite dimensional vector spaces over arbitrary fields. Topics covered include dual spaces, canonical forms for linear transformations, inner product spaces, orthogonal, unitary, self-adjoint operators and quadratic forms.

MAT 5215 NUMBER THEORY
PR: MAS 3103 and MAS 4301, or Cl. Fundamental theorem of arithmetic, modular arithmetic, Chinese remainder theorem, Mersenne primes, perfect numbers, Euler-Fermat theorem, pseudoprimes, primitive roots, law of quadratic reciprocity, factorization and primality testing algorithms.

MAS 5311 ALGEBRA I
PR: MAS 3103 and MAS 4301, or Cl. Group theory: Sylow theorems; classification of groups of small order. Ring theory: ideals, quotient rings, polynomial rings, Euclidean domains, principal ideal domains and unique factorization.

MAS 5312 ALGEBRA II
PR: MAS 5311 or Cl. Continuation of MAS 5311. Finely generated modules over a principal ideal domain, basic field theory, finite fields, Galois theory.

MAT 2930 SELECTED TOPICS IN MATHEMATICS
PR: Cl. The course content will depend on the interest of faculty members and student demand.

MAT 4906 INDEPENDENT STUDY -6A
PR: Cl. Specialized independent study determined by the student's needs and interests. The written contract required by the College of Arts and Sciences specifies the regulations governing independent study. May be repeated. (S/U only.)

MAT 4930 SELECTED TOPICS IN MATHEMATICS -6A
PR: Cl. The course content will depend on the interest of faculty members and student demand.

MAT 4937 MATHEMATICS MAJORS SEMINAR -6A
Directed discussions on a variety of topics of interest to math majors, including career opportunities in mathematics. May be repeated up to 2 credits.

MAT 4939 MATHEMATICS HONORS SEMINAR -6A
PR: Admission to Mathematics Honors Program or Cl. Directed discussions on a variety of topics of mathematical interest. May be repeated up to 8 credit hours. (S/U only.)
MAT 4970 MATHEMATICS SENIOR THESIS -6A (3)
PR: Admission to Mathematics Honors Program and CC. Course restricted to mathematics majors. (S/U only.)

MAT 5323 SELECTED TOPICS -2A (1-4)
PR: CI. Each course covers a single topic outside the usual curriculum.

MGF 2130 MODERN MATHEMATICS WITH MICROCOMPUTERS -6A (4)
PR: Passing score on placement test. Topics in finite math, real vs. computer number systems, inequalities, functions, graphs, introduction to BASIC programming and microcomputers, exact and approximate solutions of algebraic equations, probability, computer simulations of models.

MGF 2202 FINITE MATHEMATICS -6A (3)
PR: Passing score on placement test. Concepts and analytical skills in areas of logic, linear equations, linear programming, mathematics of finance, permutations and combinations, probability, and descriptive statistics.

MHF 4102 LOGIC AND SET THEORY -6A (3)
PR: MAC 3311 or MAC 3281, or CI. First half: An introduction to the Propositional and Predicate Calculi, concentrating on proofs. Second half: An introduction to naive set theory, up to cardinal numbers, concentrating on sets of numbers.

MHF 4403 THE EARLY HISTORY OF MATHEMATICS (3)
PR: MAC 3312. A study of the history and development of mathematics from the formation of number systems to the Renaissance.

MHF 5354 MATHEMATICAL LOGIC AND FOUNDATIONS I (3)
PR: MAS 4301 or CI. Two-course sequence covering: predicate calculus and classical model theory; transfinite set theory and the system ZFC; recursion theory and decidability.

MHF 5405 HISTORY OF MODERN MATHEMATICS (3)
PR: MAC 3313. The development of mathematical ideas in Western culture. Special emphasis is placed on those concepts which led to the Calculus. This course is open to majors and non-majors alike.

MTG 4212 GEOMETRY -6A (4)
PR: MAC 3311. Emphasis on axiomatics, advanced Euclidean geometry, and elements of projective geometry, non-Euclidean geometries.

MTG 5256 DIFFERENTIAL GEOMETRY (3)
PR: MAA 4211, MAS 3103. Exterior calculus, differentiable manifolds, integration of differential forms, surfaces in 3-space, covariant derivative, curvature, matrix groups.

MTG 5316 TOPOLOGY I (3)

MTG 5317 TOPOLOGY II (3)
PR: MTG 5316. The fundamental group; elements of homotopy theory and homology theory.

STA 3023 INTRODUCTORY STATISTICS I -6A (4)
PR: Passing score on placement test. Hypothesis testing, estimation; normal, Chi-square, t, F, binominal, multinominal distributions; ANOVA, CR, RCBD designs; single degree of freedom; regression, correlation, contingency tables. Students who successfully complete this course will not receive credit for QMB 2150 or STA 3122. (No credit for Mathematics Majors.)

STA 3024 INTRODUCTORY STATISTICS II -6A (3)
PR: STA 3023 or CC. Factorials, ANCOV; multiple curvilinear regression; response surfaces; Latin squares, Split Plots, incomplete designs; distribution-free methods.

STA 4321 INTRODUCTION TO STATISTICS -6A (3)

STA 4442 INTRODUCTION TO PROBABILITY -6A (3)
PR: MAC 3313, MAS 4301. Introduction to probability theory using calculus. Basic ideas of probability and random variables, distribution functions, density functions, continuous and discrete distributions, including normal, gamma, and Weibull, and transformations of random variables.

STA 5166 COMPUTATIONAL STATISTICS I (3)
PR: STA 4321, CGS 3422 or CC. Statistical Analysis of data by means of statistical package programs. Regression, ANOVA, discriminant analysis, and analysis of categorical data. Emphasis is on inter-relation between statistical theory, numerical methods, and analysis of real life data.

STA 5228 SAMPLING TECHNIQUES (3)

STA 5326 MATHEMATICAL STATISTICS (3)
PR: STA 5446. Sample distribution theory, point and interval estimation, optimality theory, statistical decision theory and hypothesis testing.

STA 5446 PROBABILITY THEORY I (3)
PR: STA 4442 and MAA 4212 or CI. Axioms of probability, random variables in Euclidean spaces, moments and moment generating functions, modes of convergence, limit theory for sums of independent random variables.

STA 5526 NON-PARAMETRIC STATISTICS (3)
PR: STA 5326, CC. Theory and methods of non-parametric statistics, order statistics, tolerance regions and their applications.

MEDICAL TECHNOLOGY

MLS 3031 INTRODUCTION TO MEDICAL TECHNOLOGY (1)
PR: Senior standing and acceptance into an approved affiliated hospital. An introduction to the principles and practices of medical technology and their relationship to patient care. A hospital internship course for medical technology majors.

MLS 4860 CLINICAL MICROSCOPY I (2)
PR: Senior standing and acceptance into an approved affiliated hospital. Lecture and laboratory instruction including use of automated instruments, processing of body fluid studies. A hospital internship course for medical technology majors.

MLS 4861 CLINICAL MICROSCOPY II (4)
PR: Senior standing and acceptance into an approved affiliated hospital. A continuation of MLS 4860. A hospital internship course for medical technology majors.

MLS 4862 HEMATOLOGY (6)
PR: Senior standing and acceptance into an approved affiliated hospital. A hospital intern course for medical technology majors.

MLS 4863 CLINICAL BACTERIOLOGY (6)
PR: Senior standing and acceptance into an approved affiliated hospital. Instruction in the techniques and practices of bacteriology, especially those related to disease. A hospital internship course for medical technology majors.

MLS 4864 CLINICAL CHEMISTRY I (6)
PR: Senior standing and acceptance into an approved affiliated hospital. Instruction in the techniques and procedures for use in clinical chemical analyses. A hospital internship course for medical technology majors.

MLS 4865 CLINICAL CHEMISTRY II (4)
PR: Senior standing and acceptance into an approved affiliated hospital. A continuation of MLS 4864, including procedures required for serology, transfusions, blood preservation, and antibody studies. A hospital internship course for medical technology majors.

MLS 4866 CLINICAL LABORATORY INSTRUMENTAL ANALYTICAL TECHNIQUES (1)
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.

MODERN LANGUAGES

General Foreign Languages

FOL 4101 GENERAL FOREIGN LANGUAGE I (1-3)
A general purpose course that may be used for transfer of credit.

FOL 4102 GENERAL FOREIGN LANGUAGE II (1-3)
A general purpose course that may be used for transfer of credit.
credit by examination, and similar matters; may also be used for formal courses in less commonly taught languages or for workshops in professional interpreting.

**FOL 4905 DIRECTED STUDY**
(1-3)
Departmental approval required.

**FOL 4906 DIRECTED STUDY**
(1-3)
PR: FOL 4101 or equivalent.

**Arabic**

**ARA 1120 MODERN ARABIC I**
(4)
CR: ARA 1120L. An intensive study of basic skills: pronunciation, listening comprehension, speaking, and some composition.

**ARA 1120L MODERN ARABIC I LABORATORY**
(1)
CR: ARA 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**ARA 1121 MODERN ARABIC II**
(4)
PR: ARA 1120 or its equivalent. CR: ARA 1120L. A continuation of ARA 1120. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

**ARA 1121L MODERN ARABIC II LABORATORY**
(1)
CR: ARA 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**ARA 2200 MODERN ARABIC III**
(4)
PR: ARA 1121 or the equivalent. For language students who intend to attain basic proficiency.

**ARA 2201 MODERN ARABIC IV**
(4)
PR: ARA 2200 or the equivalent. Continuation of ARA 2200. Practice of writing, speaking and listening skills for language students who intend to attain basic proficiency.

**ARA 4930 SELECTED TOPICS**
(1-5)
Course permits classes in Modern Arabic not available in the regularly scheduled curriculum at departmental discretion. Departmental approval required. May be repeated up to 10 credit hours.

**Chinese**

**CHI 1120 MODERN CHINESE I**
(4)
CR: CHI 1120L. Mandarin. An intensive study of basic skills: pronunciation, listening, comprehension, speaking, and some composition.

**CHI 1120L MODERN CHINESE I LABORATORY**
(1)
CR: CHI 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**CHI 1121 MODERN CHINESE II**
(4)
CR: CHI 1121L. Mandarin. PR: CHI 1120 or equivalent. A continuation of CHI 1120. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

**CHI 1121L MODERN CHINESE II LABORATORY**
(1)
CR: CHI 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**CHI 2200 MODERN CHINESE III**
(4)
PR: CHI 1121 or the equivalent. For language students who intend to attain basic proficiency.

**CHI 2201 MODERN CHINESE IV**
(4)
PR: CHI 2200 or the equivalent. Continuation of Chinese 2200. Practice of writing, speaking and listening skills for language students who intend to attain basic proficiency.

**CHI 4905 DIRECTED STUDY**
(1-5)
Permits study options in Modern Chinese not available in the regularly scheduled curriculum at departmental discretion. Departmental approval required. May be repeated up to 10 hours.

**CHI 4930 SELECTED TOPICS**
(1-5)
Course permits classes in Modern Chinese not available in the regularly scheduled curriculum at departmental discretion. Departmental approval required. May be repeated up to 10 credit hours.

**French**

**FRE 1120 BEGINNING FRENCH I**
(4)
CR: FRE 1120L. The first course in the study of elementary French. Emphasis on the development of basic skills in comprehension, speaking, and reading.

**FRE 1120L BEGINNING FRENCH I LABORATORY**
(1)
CR: FRE 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**FRE 1121 BEGINNING FRENCH II LABORATORY**
(1)
PR: FRE 1120 or equivalent. A continuation of FRE 1120.

**FRE 2200 FRENCH III**
(3)
PR: FRE 1121 or equivalent. A review of the basic structure of French. May be taken concurrently with FRE 2201.

**FRE 2201 FRENCH IV**
(3)
PR: FRE 1121 or equivalent. Readings in French on the intermediate level. May be taken concurrently with FRE 2200.

**FRE 2241 CONVERSATION I**
(3)
PR: FRE 1121. For development of basic conversational skills.

**FRE 2270 OVERSEAS STUDY-INTR. FRENCH**
(3-6)
Two semesters of university-level French or equivalent proficiency. At USF this equates to FRE 1120 (4 credits) plus FRE 1121 (4 credits) or FRE 1170. May be repeated up to 6 credit hours.

**FRE 3230 READING IN FRENCH LITERATURE AND CULTURE**
(3)
PR: FRE 2201 or equivalent. This course is designed to build reading skills in French while giving students a broad background in culture which will serve them in all subsequent courses.

**FRE 3240 CONVERSATION II**
(3)
PR: FRE 2241 or equivalent proficiency. Conversation practice with concentration on current idiomatic usage.

**FRE 3420 COMPOSITION I**
A fundamental composition course for students who have completed FRE 2200 or FRE 2201.

**FRE 3440 FRENCH FOR BUSINESS**
(3)
PR: FRE 1121 or equivalent. An introduction to the French language in ordinary business transactions.

**FRE 3470 OVERSEAS STUDY**
(1-6)
An intensive study-travel project in France. Prior approval and early registration required. May be repeated up to 12 credit hours.

**FRE 3500 FRENCH CIVILIZATION**
(3)
Readings and discussion on the cultural history of France.

**FRE 4421 COMPOSITION II**
(3)
Continuation of French composition. This course is designed to follow FRE 3420.

**FRE 4471 ADVANCED OVERSEAS STUDY**
(1-6)
PR: FRE 3470 or CI. Intensive language study in France. Departmental approval required.

**FRE 4700 FRENCH LINGUISTICS**
(3)
PR: LIN 3010 and FRE 2201 or equivalent. An introduction to the phonological, morphological and syntactic structure of French.

**FRE 4905 DIRECTED STUDY**
(1-3)
Departmental approval required.

**FRE 4930 SELECTED TOPICS**
(1-3)
Study of an author, movement or theme.

**FRE 5425 ADVANCED WRITTEN EXPRESSION**
(3)
PR: FRE 4421, or equivalent. Course is designed to give advanced
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training in free composition in French.

FRE 5565 CONTEMPORARY FRANCE (3)
PR: FRE 3500 or equivalent or graduate standing. An advanced course in French civilization and culture including a study of recent social, artistic and political trends as well as various current intellectual movements. Text and discussions in French.

FRW 4100 INTRODUCTION TO FRENCH NOVEL (3)
A study of the history of the novel from its early appearance to present times with emphasis on the 19th and 20th centuries. Authors to be studied include Chretien de Troyes, Rabelais, Balzac, Flaubert, Proust, Camus, Sartre, Robbe-Grillet, and others. Progress specific to year or year.

FRW 4101 INTRODUCTION TO FRENCH DRAMA AND POETRY (3)
A study of the history of drama and poetry. Will include medieval drama, Racine, Corneille, Moliere, Anouilh, Sartre, Ionesco and others. Will also include Villon, Ronsard, DuBellay, Lamartine, Hugo, Vigny, Musset, Baudelaire, Mallarme, Rimbaud, Valery, Peguy, Eluard, Apollinaire, Char, and others. Course content may vary from year to year.

FRW 4310 CLASSICAL DRAMA (3)
PR: FRW 4101. Cornelle, Moliere, and Racine.

FRW 5222 CLASSICAL PROSE AND POETRY (3)
PR: FRW 4101. Emphasis on Malherbe, La Fontaine, Boileau, Descartes, and Pascal.

FRW 5226 20TH CENTURY POETRY AND THEATRE (3)

FRW 5565 THE 20TH CENTURY NOVEL (3)
PR: FRW 4100. Proust, Gide, Mauriac, Malraux, Camus, Robbe-Grillet.

FRW 5415 LITERATURE OF THE MIDDLE AGES (3)
PR: FRW 4100 or FRW 4101. Major genres, including epics, Arthurian romances, drama and lyric poetry. Reading in modern French translation.

FRW 5425 LITERATURE OF THE RENAISSANCE (3)
PR: FRW 4100 or FRW 4101. A study of Renaissance French humanism, including Rabelais, Montaigne, and Pleide poets.

FRW 5445 18TH CENTURY LITERATURE (3)
PR: FRW 4100. The classical tradition and the new currents of thought in the Age of Enlightenment.

FRW 5525 PRE-ROMANTICISM (3)

FRW 5535 ROMANTICISM (3)
PR: FRW 4100. A study of the early and realistic movements with emphasis on Lamartine, Vigny, Musset, Hugo and Balzac.

FRW 5556 REALISM AND NATURALISM (3)
PR: FRW 4100 or FRW 4101. A detailed study of realism and naturalism with emphasis on Flaubert, Zola, les Goncourt, Maupassant, and Daudet.

FRW 5934 SELECTED TOPICS (1-3)
PR: Upper-level or graduate standing. Study of an author, movement or theme.

German

GER 1120 BEGINNING GERMAN I (4)
CR: GER 1120L. Development of basic skills in listening and reading comprehension, speaking and writing of German.

GER 1120L BEGINNING GERMAN I LABORATORY (1)
CR: GER 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

GER 1121 BEGINNING GERMAN II (4)
PR: GER 1120 or equivalent. CR: GER 1121L. Continued development of basic skills in listening and reading comprehension, speaking and writing German.

GER 1121L BEGINNING GERMAN II LABORATORY (1)
CR: GER 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

GER 2200 GERMAN III (3)
PR: GER 1121 or equivalent. A review of the basic structure of spoken and written German. May be taken concurrently with GER 2201.

GER 2201 GERMAN IV (3)
PR: GER 1121 or equivalent. Readings in German on the intermediate level. May be taken concurrently with GER 2200.

GER 3244 CONVERSATION I (3)
PR: GER 1121. For development of basic conversational skills.

GER 3420 COMPOSITION I (3)
A fundamental course for students who have completed GER 2200 or GER 2201.

GER 3500 GERMAN CIVILIZATION (3)
PR: GER 2200 or GER 2201. Readings in German on the cultural history of Germany.

GER 4410 CONVERSATION II (3)
Free conversation based on the current German idiom.

GER 4421 COMPOSITION II (3)
Practical training in modern German usage and differences of style.

GER 5845 HISTORY OF THE GERMAN LANGUAGE (3)
A diachronic approach to the study of the German language. The course traces the history and development of the language from Indo-European through Germanic, Old, Middle, and New High German.

GEW 4100 SURVEY OF GERMAN LITERATURE I (4)
Old High German and Middle High German literature in modern German translation; the literature of Humanism and Baroque, the classical period.

GEW 4101 SURVEY OF GERMAN LITERATURE II (4)
The romantic period, 19th and 20th centuries.

GEW 4900 DIRECTED STUDY (1-3)
Departmental approval required.

GEW 4930 SELECTED TOPICS (1-3)
Study of an author, movement or theme.

GEW 5475 20TH CENTURY LITERATURE TO 1945 (3)
A study of major styles in German literature from 1900 to WW II with emphasis on Hauptmann, Schnitzler, Hofmannsthal, George Rilke, Kaiser, Heym, Traki, Thomas Mann, Hesse, Kafka, Benn, Brecht.

GEW 5489 20TH CENTURY LITERATURE: 1945 TO PRESENT (3)
Study of major trends in German literature since WW II with emphasis on Borchert, Frisch, Durrenmatt, Boll, Uwe Johnson, Grass, Aichinger, Eich Enzensberger, Bachmann.

GEW 5515 THE ENLIGHTENMENT (3)
Selected dramas and critical writings by Lessing, Wieland, Kant.

GEW 5545 ROMANTICISM (3)
Jenaer circle and Heidelberger circle; the late romantic period, the writers between Classicism and Romanticism.

GEW 5555 REALISM (3)
Selected works by Grillparzer, Grabbe, Buchner, Hebbe, Heine, Immumer, Stifter, Keller, Meyer, Storm, Raabe, Hulshoff, and Morike.

GEW 5605 GOETHE (3)

GEW 5606 FAUST (3)
Sources, form, content, and literary significance of Urfaust and Faust.

GEW 5615 SCHILLER (3)
Selected dramas, philosophical and aesthetic writings.

GEW 5934 SELECTED TOPICS (1-3)
PR: Upper-level or graduate standing. Study of an author, movement or theme.

Greek

GRK 1120 BEGINNING MODERN GREEK I (4)
CR: GRK 1120L. An intensive study of basic skills; pronunciation, listening comprehension, speaking and some composition.

GRK 1120L BEGINNING MODERN GREEK I LABORATORY (1)
CR: GRK 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.
GRK 1121 MODERN GREEK II
PR: GRK 1120 or its equivalent; CR: GRK 1121L. A continuation of GRK 1120. An intensive study of basic skills; pronunciation, listening comprehension, speaking, and some composition.

GRK 1121L MODERN GREEK II LABORATORY
CR: GRK 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

GRK 2201 MODERN GREEK III
PR: GRK 1121 or the equivalent. For language students who intend to attain basic proficiency.

Hebrew
HBR 1120 MODERN HEBREW I
CR: HBR 1120L. An intensive study of basic skills; pronunciation, listening comprehension, speaking and some composition.

HBR 1120L MODERN HEBREW I LABORATORY
CR: HBR 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

HBR 1121 MODERN HEBREW II
PR: HBR 1120 or its equivalent; CR: HBR 1121L. A continuation of HBR 1120. An intensive study of basic skills; pronunciation, listening comprehension, speaking and some composition. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

HBR 1121L MODERN HEBREW II LABORATORY
CR: HBR 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

HBR 2200 MODERN HEBREW III
PR: HBR 1121 or the equivalent. For language students who intend to attain basic proficiency.

HBR 2200 MODERN HEBREW IV
PR: HBR 2200 or its equivalent. Continuation of HBR 2200. Practice of writing, speaking and listening skills for language students who intend to attain basic proficiency.

HBR 4905 DIRECTED STUDY
Permits study options in Modern Hebrew not available in the regularly scheduled curriculum at departmental discretion. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

HBR 4930 SELECTED TOPICS
Course permits classes in Modern Hebrew not available in the regularly scheduled curriculum at departmental discretion. Departmental approval required. May be repeated up to 10 credit hours.

Italian
ITA 1120 BEGINNING ITALIAN I
CR: ITA 1120L. The first course in the study of elementary Italian. Emphasis on the development of basic skills in comprehension, speaking, and reading.

ITA 1120L BEGINNING ITALIAN LABORATORY
CR: ITA 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

ITA 1121 BEGINNING ITALIAN II
CR: ITA 1121L. The second course in the study of elementary Italian. Emphasis is on the development of basic skills in comprehension, speaking and reading.

ITA 1121L BEGINNING ITALIAN II LABORATORY
CR: ITA 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

ITA 2200 INTERMEDIATE ITALIAN I
PR: ITA 1121 or equivalent. Readings in Italian on the elementary level. A review of the basic structure of spoken and written Italian.

ITA 3240 ITALIAN CONVERSATION I
(4) To develop fluency and correctness in spoken Italian. Intensive study for conversational skill based particularly upon the current Italian idiom. Syntax is intensified and the vocabulary and idiomatic expressions expanded.

ITA 3420 COMPOSITION
(3) A fundamental composition course for students who have completed ITA 2200 and ITA 2201.

ITA 4241 ITALIAN CONVERSATION II
(4) To assist students who have already made a start in speaking Italian, who have not had the advantages of travel or who have non-Italian speaking parents, to improve their skill in speaking Italian. Current events; literary discussions; free conversation; prepared speeches. Differences of media, syntactical signal.

ITW 4100 SURVEY OF ITALIAN LITERATURE I
(4) A survey of Italian literature from the earliest monuments through the classicism of the 18th century.

ITW 4101 SURVEY OF ITALIAN LITERATURE II
(4) A survey of Italian literature beginning with the Classicism of the 18th century and continuing to present.

ITW 4905 DIRECTED STUDY
(1-3) Departmental approval required.

Japanese
JPN 1120 MODERN JAPANESE I
CR: JPN 1120L. An intensive study of basic skills: pronunciation, listening comprehension, speaking, and some composition.

JPN 1120L MODERN JAPANESE I LABORATORY
CR: JPN 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

JPN 1121 MODERN JAPANESE II
PR: JPN 1120 or equivalent. CR: JPN 1121L. More sophisticated oral/aural skills are attained. Basic reading skills are acquired.

JPN 1121L MODERN JAPANESE II LABORATORY
CR: JPN 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

JPN 2200 MODERN JAPANESE III
PR: JPN 1121 or equivalent. Continuing study to attain basic proficiency in Japanese.

JPN 2201 MODERN JAPANESE IV
PR: JPN 2200 or equivalent. Continuation of JPN 2200. Practice of writing, speaking, and listening skills to attain basic proficiency.

JPN 4905 DIRECTED STUDY
(1-5) Permits study options in Japanese not available in regularly scheduled curriculum at departmental discretion. Departmental approval required. May be repeated up to 10 credit hours.

JPN 4930 SELECTED TOPICS
(1-5) Course permits study options in Japanese not available in the regularly scheduled curriculum at departmental discretion. Departmental approval required. May be repeated up to 10 credit hours.
### Polish

**POL 1120 BEGINNING POLISH I** (4)
- **CR:** POL 1120L. This course features all four major skills: listening, reading, speaking, and writing. Grammar exercises, dictation, readings and vocabulary-building are central in this first course. Knowledge of Russian can help. S/U available.

**POL 1120L BEGINNING POLISH I LABORATORY** (1)
- **CR:** POL 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**POL 1121 BEGINNING POLISH II** (4)
- **PR:** POL 1120 or equivalent by examination. **CR:** POL 1121L. This course continues the four basic skills of POL 1120, with continued emphasis on structures, dialogues, readings, dictation, and vocabulary-building. Knowledge of Russian can help. S/U available.

**POL 1121L BEGINNING POLISH II LABORATORY** (1)
- **CR:** POL 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**POL 2200 POLISH III** (4)
- **PR:** POL 2200 or equivalent. For language students who intend to attain basic proficiency.

**POL 2201 POLISH IV** (4)
- **PR:** POL 2200 or equivalent. Continuation of POL 2200. Practice of writing, speaking and listening skills for language students who intend to attain basic proficiency.

**POL 4905 DIRECTED STUDY** (1-5)
- **Permits study options in Polish not available in regularly scheduled curriculum at departmental discretion. Departmental approval required. May be repeated up to 10 credit hours.**

**POL 4930 SELECTED TOPICS** (1-5)
- **Continues permits classes in Polish not available in the regularly scheduled curriculum at departmental discretion. Departmental approval required. May be repeated up to 10 credit hours.**

### Portuguese

**POR 1120 BEGINNING PORTUGUESE I** (4)
- **CR:** POR 1120L. Development of basic skills in listening and reading comprehension, speaking and writing of Brazilian Portuguese.

**POR 1120L BEGINNING PORTUGUESE I LABORATORY** (1)
- **CR:** POR 1120. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**POR 1121 BEGINNING PORTUGUESE II** (4)
- **PR:** POR 1120 or equivalent. **CR:** POR 1121L. Continued development of basic skills in listening and reading comprehension, speaking and writing of Brazilian Portuguese.

**POR 1121L BEGINNING PORTUGUESE II LABORATORY** (1)
- **CR:** POR 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**POR 2200 INTERMEDIATE PORTUGUESE I** (3)
- **CR:** POR 2200 builds upon the four language skills (speaking, comprehension, reading, and writing) introduced in POL 1120 and POR 1121. It is available to all foreign language students and includes lab attendance of at least two hours per week. May not be repeated for credit.

**POR 2201 INTERMEDIATE PORTUGUESE II** (3)
- **CR:** POR 2201. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

### Russian

**RUS 1120 BEGINNING RUSSIAN I** (4)
- **CR:** RUS 1120L. The first course in the study of elementary Russian. Emphasis on the development of basic skills in comprehension, speaking and reading.

**RUS 1120L BEGINNING RUSSIAN I LABORATORY** (1)
- **CR:** RUS 1120L. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**RUS 1121 BEGINNING RUSSIAN II** (4)
- **PR:** RUS 1120 or CI. **CR:** RUS 1121L. The second course in the study of elementary Russian. Emphasis on the development of basic skills in comprehension, speaking and reading.

**RUS 1121L BEGINNING RUSSIAN II LABORATORY** (1)
- **CR:** RUS 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

**RUS 2200 RUSSIAN III** (4)
- **PR:** First year Russian or equivalent. Review and development of basic skills in conversation, composition, and reading.

**RUS 2201 RUSSIAN IV** (4)
- **PR:** RUS 2200 or equivalent. Review and development of basic skills in conversation, composition, and reading.

**RUS 2270 OVERSEAS STUDY** (1-6)
- **Intensive study of the Russian language in Russia involving at least 20 hours per week of classroom instruction and cultural excursions conducted in Russian around Moscow and other parts of Russia. May be repeated up to 12 credit hours.**

**RUS 3240 CONVERSATION** (4)
- **PR:** Second year Russian or equivalent. Development of basic conversational skills.

**RUS 3470 OVERSEAS STUDY** (1-6)
- **Intensive Russian at Moscow Linguistic University with excursions in Moscow and Russia. Must be enrolled in the USF Summer Study in Moscow program. Two years Russian required. Students from other institutions eligible.**

**RUS 3500 RUSSIAN CIVILIZATION - 6A** (3)
- **A survey of the cultural history of Russia.**

**RUS 4241 CONVERSATION II** (4)
- **PR:** Previous course in series or equivalent. Development of conversational skills.

**RUS 4402 ADVANCED RUSSIAN CONVERSATION & COMPOSITION I** (4)
- **PR:** RUS 4241 or CI. Third year Russian.

**RUS 4403 ADVANCED RUSSIAN CONVERSATION & COMPOSITION II** (4)
- **PR:** RUS 4241 or CI. Third year Russian.

**RUS 4471 ADVANCED OVERSEAS STUDY** (1-6)
- **Intensive Russian at Moscow Linguistic University with excursions in Moscow and Russia. Must be enrolled in the USF Summer Study in Moscow program. Three years Russian required. Students from other institutions eligible.**

**RUS 4700 RUSSIAN LINGUISTICS** (3)
- **PR LIN 3010 or equivalent or CI. An introduction to Russian Linguistics content: Phonology, Morphology, Word-formation, Syntax.**

**RUS 4900 SELECTED TOPICS** (1-3)
- **Study of an author, movement or theme.**

**RUS 4905 DIRECTED STUDY** (1-3)
- **Departmental approval required**

**RUT 3110 RUSSIAN CLASSICS IN ENGLISH - 6A** (3)
- **Masterpieces of 19th century Russian literature in English. The major works of Pushkin, Lermontov, Gogol, Turgeniev, Destovsky, Tolstoy, and Chekhov. Elective for all students in all departments.**

**RUT 3111 TWENTIETH-CENTURY RUSSIAN LITERATURE IN ENGLISH - 6A** (3)
- **Masterpieces of 20th century Soviet literature in English. The major works of Bely, Olesha, Babel, Zamyatin, Bulgakov, Pasternak, and Solzhenitsyn. Elective for all students in all departments.**

### Spanish

**SPN 1120 BEGINNING SPANISH I** (4)
- **CR:** SPN 1120L. Development of basic skills in listening and reading comprehension, speaking and writing of Spanish.

**SPN 1120L BEGINNING SPANISH I LABORATORY** (1)
- **CR:** SPN 1120L. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.
COLLEGE OF ARTS AND SCIENCES

UNIVERSITY OF SOUTH FLORIDA - 1993/94 UNDERGRADUATE CATALOG

SPN 1121 BEGINNING SPANISH II (4)
PR: SPN 1120 or equivalent. CR: SPN 1121L. Continued development of basic skills in listening and reading comprehension, speaking and writing of Spanish.

SPN 1121L BEGINNING SPANISH II LABORATORY (1)
CR: SPN 1121. A laboratory designed to offer additional practice using various instructional technologies and media. Concurrent enrollment with a lecture session is required, and, if dropped, then dropped simultaneously.

SPN 1130 ACCELERATED SPANISH FOR NEAR-NATIVE SPEAKERS AND OTHERS (1-4)
PR: CI. Accelerated course for near-native speakers and others with some knowledge of Spanish capable of making rapid progress.

SPN 2200 SPANISH III (3)
PR: SPN 1121 or equivalent. A review of the basic structure of spoken and written Spanish. May be taken concurrently with SPN 2201.

SPN 2201 SPANISH IV (3)
PR: SPN 1121 or equivalent. Readings in Spanish on the intermediate level. May be taken concurrently with SPN 2200.

SPN 3420 SPANISH AMERICAN CIVILIZATION (3)
PR: SPN 2201 or equivalent. A study of syntax, grammar and writing.

SPN 3520 SPANISH AMERICAN CIVILIZATION (3)
PR: SPN 2201 or equivalent. Introduction to the study of Spanish-speaking countries. Prior departmental approval and early registration are required.

SPW 4101 SURVEY OF SPANISH LITERATURE II (3)
PR: SPW 3030 or equivalent. A study of the later periods of Spanish literature.

SPW 4131 SURVEY OF SPANISH-AMERICAN LITERATURE (3)
PR: SPW 3030 or equivalent. An introduction to the study of Spanish-American literature from the Modernism period to the present. Emphasis on modern writers since Dario.

SPW 4900 DIRECTED STUDY (1-3)
Departmental approval required.

SPW 4930 SELECTED TOPICS (1-3)
Study of an author, movement or theme.

SPW 5135 COLONIAL SPANISH AMERICAN LITERATURE (3)
PR: SPW 4131. An introduction to Colonial Spanish American Literature from the Discovery through the Romantic Period.

SPW 5335 SPANISH AMERICAN DRAMA & POETRY (3)
PR: SPW 4131. Major writers of all genres. Emphasis on modern writers.

SPW 5387 SPANISH AMERICAN PROSE (3)
PR: SPW 4131. Emphasis on the gauchito theme and contemporary prose fiction.

SPW 5465 19TH CENTURY LITERATURE (3)
PR: SPW 4101. Poetry and drama of the first half of the 19th century.

SPW 5605 CERVANTES (3)
PR: SPNW 4131. Cervantes' masterpiece Don Quijote de la Mancha.

SPW 5726 VANGUARD LITERATURE OF 1918 AND 1936 (3)

SPW 5934 SELECTED TOPICS (3)
PR: Upper-level or graduate standing. Study of an author, movement or theme.

Yoruba

YOR 1120 YORUBA I (4)
This course is designed to familiarize students with modern orthography and to develop skills in reading, writing, speaking, and understanding the Yoruba language. Pronunciation in Yoruba and achieving basic communicative competence in the language are among the skills to be attained in the course.

YOR 1121 YORUBA II (4)
A continuation of YOR 1120, this course delves further into the structure of Yoruba and its grammatical functions. Also covered in this course is Yoruba oral literature with emphasis on grammar, vocabulary, and an appreciation for style. Also included is composition and drills in oral work. May be repeated up to 8 credit hours.

PHILOSOPHY

PHI 3000 INTRODUCTION TO PHILOSOPHY-6A (3)
An introduction to selected philosophical problems and traditions.

PHI 3062 HISTORY OF PHILOSOPHY: ANCIENT AND MEDIEVAL (3)
A survey of Western philosophy from the pre-Socratics to the end of the Middle Ages.

PHI 3420 HISTORY OF PHILOSOPHY: MODERN (3)
A survey of Western philosophy from the end of the Middle Ages to the nineteenth century.

PHI 4520 CONTINENTAL PHILOSOPHY (3)
A study of developments in post-Kantian European philosophy.

PHI 4600 CONTEMPORARY PHILOSOPHY-6A (3)
Selected schools of twentieth century thought such as idealism, positivism, pragmatism, realism, and existentialism.

PHI 4700 AMERICAN PHILOSOPHY-6A (3)
Major traditions in American thought, Puritanism, the Enlightenment, Transcendentalism, Idealism, Pragmatism, and Analytic Philosophy in relation to American culture.

PHI 1000 GREAT PHILOSOPHERS OF THE WESTERN WORLD (2)
Lectures and discussions of the great philosophers since Plato,
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI 1010</td>
<td>PHIL 1010 PHILOSOPHY OF MIND</td>
<td>A discussion of central controversies in philosophy such as the nature of love, violence, freedom, truth, morality, etc.</td>
</tr>
<tr>
<td>PHI 1100</td>
<td>CRITICAL THINKING</td>
<td>Methods of thinking that lead to reliable conclusions, with emphasis on concrete cases in ordinary thinking and the sciences.</td>
</tr>
<tr>
<td>PHI 2100</td>
<td>INTRODUCTION TO FORMAL LOGIC</td>
<td>An elementary study of propositional, predicate, class and syllogistic logic with some attention to basic problems of logical theory.</td>
</tr>
<tr>
<td>PHI 3404</td>
<td>SCIENTIFIC METHOD</td>
<td>Probability, inductive inference, the hypothetico-deductive method, experimentation, and selected topics in the philosophy of science.</td>
</tr>
<tr>
<td>PHI 3600</td>
<td>ETHICAL THEORY</td>
<td>A study of ethical theories, concepts, problems and methods.</td>
</tr>
<tr>
<td>PHI 3601</td>
<td>CONTEMPORARY MORAL ISSUES</td>
<td>Open to all students. A study of contemporary moral issues concerning racism, sex, sexism, abortion, poverty, crime, war, suicide, and human rights in general.</td>
</tr>
<tr>
<td>PHI 3631</td>
<td>ETHICS AND BUSINESS</td>
<td>An application of traditional ethical theories to contemporary problems in business.</td>
</tr>
<tr>
<td>PHI 3633</td>
<td>BIOMEDICAL ETHICS</td>
<td>This course will focus on the ethical issues arising from advances in medical practice, delivery of health care, and scientific research.</td>
</tr>
<tr>
<td>PHI 3700</td>
<td>PHILOSOPHY OF RELIGION</td>
<td>Analysis of religious experience and activity and examination of principal religious ideas in light of modern philosophy.</td>
</tr>
<tr>
<td>PHI 3905</td>
<td>DIRECTED STUDY</td>
<td>PR: Individual study directed by a faculty member. Approval slip from instructor required.</td>
</tr>
<tr>
<td>PHI 3930</td>
<td>SELECTED TOPICS</td>
<td>PR: CI. Selected topics according to the needs of the student.</td>
</tr>
<tr>
<td>PHI 4074</td>
<td>AFRICAN PHILOSOPHY</td>
<td>A descriptive and analytical study of African philosophical thought, featuring reflective comparisons of African and Western categories of thought. (May also be taken in African Studies.)</td>
</tr>
<tr>
<td>PHI 4300</td>
<td>THEORY OF KNOWLEDGE</td>
<td>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.</td>
</tr>
<tr>
<td>PHI 4320</td>
<td>PHILOSOPHY OF MIND</td>
<td>A study of historical and current issues in philosophy of mind, including the nature and status of mind, mind/body dualism, the relationship of mind and body, the problems of other minds, the physical basis for intelligence, etc.</td>
</tr>
<tr>
<td>PHI 4632</td>
<td>FEMINIST ETHICS</td>
<td>A study of the varied approaches to moral reasoning taken by feminist ethical writers such as Wollstonecraft, Mill, Gilligan, Daly, Hoagland and others. (May also be taken for credit in Women's Studies.)</td>
</tr>
<tr>
<td>PHI 4800</td>
<td>AESTHETICS</td>
<td>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.</td>
</tr>
<tr>
<td>PHI 4930</td>
<td>SELECTED TOPICS</td>
<td>PR: CI. Selected topics according to the needs of the senior students. Approval slip from instructor required.</td>
</tr>
<tr>
<td>PHI 5135</td>
<td>SYMBOLIC LOGIC</td>
<td>PR: CI. Study of topics such as the following: Metatheory of propositional and predicate logic, related metatheoretic results, alternative logics.</td>
</tr>
<tr>
<td>PHI 5225</td>
<td>PHILOSOPHY OF LANGUAGE</td>
<td>PR: Eight hours of philosophy, major in linguistics, or CI. An examination of semantic, 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. Seminar format.</td>
</tr>
<tr>
<td>PHI 5913</td>
<td>RESEARCH</td>
<td>PR: CI. Individual research supervised by a faculty member. Approval slip from instructor required.</td>
</tr>
<tr>
<td>PHI 5934</td>
<td>SELECTED TOPICS</td>
<td>PR: CI. Selected topics according to the needs of the student. Approval slip from instructor required.</td>
</tr>
<tr>
<td>PHM 3021</td>
<td>PHILOSOPHIES OF LOVE AND SEX</td>
<td>Discussion of Philosophies of Love/Sex of Plato, Aristotle, Epictetus, Aquinas, Hume, Kant, Schopenhauer, Russell, Sartre, Marx, etc.</td>
</tr>
<tr>
<td>PHM 3100</td>
<td>SOCIAL PHILOSOPHY</td>
<td>An analysis of rival theories of social order and their philosophical foundations.</td>
</tr>
<tr>
<td>PHM 3400</td>
<td>INTRODUCTION TO PHILOSOPHY</td>
<td>A study of the fundamental concepts of law from a philosophic standpoint including crime, justice, punishment, free speech, insanity, etc.</td>
</tr>
<tr>
<td>PHM 4322</td>
<td>ANTIQUE AND MEDIEVAL POLITICAL PHILOSOPHY</td>
<td>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.</td>
</tr>
<tr>
<td>PHM 4331</td>
<td>MODERN POLITICAL PHILOSOPHY</td>
<td>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.</td>
</tr>
<tr>
<td>PHM 4340</td>
<td>CONTEMPORARY POLITICAL PHILOSOPHY</td>
<td>A survey of political philosophy in the twentieth century, including an examination of the ethical, metaphysical and epistemological bases of these philosophies.</td>
</tr>
<tr>
<td>PHM 5125</td>
<td>TOPICS IN FEMINIST PHILOSOPHY</td>
<td>A study of recent feminist philosophical approaches to epistemology, aesthetics or political philosophy. May also be taken for credit in Women's Studies.</td>
</tr>
<tr>
<td>PHP 3786</td>
<td>EXISTENTIALISM</td>
<td>A study of the religious and atheistic existentialists and the bearing of their views on religion, ethics, metaphysics, and theory of knowledge.</td>
</tr>
<tr>
<td>PHP 4000</td>
<td>PLATO</td>
<td>The examination of Plato will include the dialogues Protagoras, Georgias, Meno, Republic, etc.</td>
</tr>
<tr>
<td>PHP 4010</td>
<td>ARISTOTLE</td>
<td>Study of Aristotle's philosophy.</td>
</tr>
<tr>
<td>PHP 4410</td>
<td>KANT</td>
<td>Lecture and discussion of Kant's philosophy, especially The Critique of Pure Reason.</td>
</tr>
<tr>
<td>PHP 4740</td>
<td>RATIONALISM</td>
<td>A careful study of the epistemologies of Descartes, Spinoza, Leibniz, and Malebranche.</td>
</tr>
<tr>
<td>PHP 4745</td>
<td>EMMICRISISM</td>
<td>A careful study of epistemologies of Locke, Berkeley, Hume, and Thomas Reid.</td>
</tr>
<tr>
<td>PHP 4784</td>
<td>ANALYTICAL PHILOSOPHY</td>
<td>A study of the method devoted to clarifying philosophical problems through analysis of the language in which these problems are stated.</td>
</tr>
<tr>
<td>PHP 4788</td>
<td>PHILOSOPHY OF MARXISM</td>
<td>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.</td>
</tr>
</tbody>
</table>
PHY 2020 CONCEPTUAL PHYSICS (3)
A qualitative, non-mathematical investigation of physics, emphasizing its influence on life today. (No credit for physics B.S. or mathematics majors.)

PHY 2038 ENERGY AND HUMANITY (3)
Social, economic, and political aspects of energy. Includes energy conservation, environmental impact, energy-source alternatives, changing lifestyles, and personal use of solar energy, and changing life styles. The relevant basic laws of physics and the scientific method are emphasized. Field trips and audiovisual presentations play important roles.

PHY 3048, 3048L GENERAL PHYSICS AND LABORATORY (3, 1)
PR: MAC 3281 or MAC 3311. First semester of a two semester sequence of general physics (mechanics, wave motion, sound, electricity, magnetism, optics, and modern physics) and laboratory for physics majors and engineering students. Must be taken concurrently and, if dropped, then dropped simultaneously.

PHY 3049, 3049L GENERAL PHYSICS AND LABORATORY (3, 1)
PR: MAC 3282 or MAC 3312, PHY 3048, PHY 3048L. Second semester of general physics and laboratory for physics majors and engineering students. Must be taken concurrently and, if dropped, then dropped simultaneously.

PHY 3053, 3053L GENERAL PHYSICS AND LABORATORY (3, 1)
First semester of a two semester sequence of general physics (mechanics, heat, wave motion, sound, electricity, magnetism, optics, and modern physics) and laboratory for science students. Must be taken concurrently and, if dropped, then dropped simultaneously.

PHY 3054, 3054L GENERAL PHYSICS AND LABORATORY (3, 1)
PR: PHY 3053, PHY 3053L. Second semester of general physics and lab for science students. Must be taken concurrently and, if dropped, then dropped simultaneously.

PHY 3101 MODERN PHYSICS (3)

PHY 3221 MECHANICS (3)
CR: MAC 3283 or MAC 3313 and either PR: PHY 3048 or PHZ 3101. First semester of a two semester sequence. Review of vector algebra and vector calculus. Dynamics of single particles and systems of particles; central forces; rotation about an axis; statics; and virtual work.

PHY 3323C ELECTRICITY AND MAGNETISM I (4)
PR: PHY 3049, MAC 3283 OR MAC 3313. Electrostatic fields and potentials, dielectrics, classical conductivity, RC circuits, Fourier and finite element methods. Laboratory. First semester of sequence PHY 3323C, PHY 4324C.

PHY 3424 OPTICS (4)
PR: PHY 3101 or PHY 3049; CR: MAC 3283 or MAC 3313. Reflection, refraction, dispersion, interference, diffraction, polarization, and laboratory.

PHY 3822L INTERMEDIATE LABORATORY (2)
PR: PHY 3101 or PHY 3049 or equivalent; CR: PHY 3101 Experiments in modern physics, including the area of atomic, nuclear, solid state and wave phenomena.

PHY 4222 MECHANICS II (3)
PR: PHY 3221; CR: MAP 4302. Continuation of PHY 221. Coupled oscillators and normal modes; moving coordinate systems; Lagrange's and Hamilton's equations; inertia tensor; general rotation of rigid bodies.

PHY 4324C ELECTRICITY AND MAGNETISM II (4)
PR: PHY 3323C; CR: MAP 4302. Introduction to special relativity, magnetic fields and potentials, magnetic materials, RL and RLC circuits, Maxwell's equations and applications. Laboratory. Second semester of sequence PHY 3323C, PHY 4324C.

PHY 4523 STATISTICAL PHYSICS (3)

PHY 4604 QUANTUM MECHANICS I (3)
PR: PHY 3101, PHY 4222, or CR. Postulates, Schrodinger's equation, one dimensional problems, matrix mechanics, uncertainty principle, angular momentum, and central forces. First semester of sequence PHY 4604, 4605.

PHY 4744C INTRODUCTION TO ELECTRONICS AND TEST INSTRUMENTATION (3)
PR: General Physics or CR. Introduces the fundamentals of analog and digital electronics used in measurements and instrumentation. Weekly labs give hands-on experience in breadboarding electronic circuits and using test instrumentation (oscilloscopes, digital multimeters, etc.) (Not for major credit).

PHY 4823L ADVANCED LABORATORY (2)
PR: PHY 3822L. Experimental work primarily related to nuclear physics. Emphasis on modern physical experimental techniques employing some of the new types of equipment.

PHY 4905 INDEPENDENT STUDY (1-3)
PR: CI. Specialized, independent study determined by the student's need and interest. The written contract required by the College of Arts and Sciences specifies the regulations governing independent study. May be repeated. (S/U only.)

PHY 4910 UNDERGRADUATE RESEARCH (1-4)
PR: Senior or advanced junior standing and CC. An individual investigation in the laboratory or library or both, under the supervision of the instructor. Credit hours and other contractual terms, are to be determined by student/instructor agreement. (S/U only.)

PHY 4936 SELECTED TOPICS IN PHYSICS (1-4)
PR: Senior or advanced junior standing and CC. Each topic is a course in directed study and under the supervision of a faculty member.

PHY 5624 QUANTUM MECHANICS II (3)
PR: PHY 4604 or CR. Symmetrical, identical particles, scattering approximation methods, Dirac equation, field quantizations.

PHY 5700 ELECTRONICS FOR RESEARCH (4)
PR: CI. A rigorous introduction to the fundamentals of analog and digital electronics. Theoretical circuit analysis and weekly labs introduce practical diodes, transistors, analog and digital ICs, breadboarding techniques and electronic test instrumentation.

PHY 5937 SELECTED TOPICS IN PHYSICS (1-4)
PR: Senior or advanced standing and CC. Each topic is a course in directed study under the supervision of a faculty member.

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PHY 5937 SELECTED TOPICS IN PHYSICS (1-4)
PR: Senior or advanced standing and CC. Each topic is a course in directed study under the supervision of a faculty member.
PHZ 5505 PLASMA PHYSICS I
PR: PHY 4324 or CI. Introduction to Boltzmann, magnetohydrodynamic and orbit approaches to plasmas. Longitudinal and electromagnetic waves in plasmas. Collisions and radiation. Instabilities.

CPO 3002 INTRODUCTION TO COMPARATIVE POLITICS
Comparison and analysis of representative European and non-Western political systems.

CPO 4034 POLITICS OF THE DEVELOPING AREAS
An analysis of the ideologies, governmental structures, and political processes of selected nations of the non-Western world.

CPO 4930 COMPARATIVE GOVERNMENT AND POLITICS OF SELECTED COUNTRIES OR AREAS
Studies political systems with common elements. Structure, process, domestic and foreign policies, and regional roles are considered. May be repeated up to 9 credit hours as topics vary.

INR 3002 INTRODUCTION TO INTERNATIONAL RELATIONS
Concepts and analytical tools applied to events such as politics among nations, control of foreign policies, types of actors, war and peace.

INR 3102 AMERICAN FOREIGN POLICY
Analysis of the development and scope of United States foreign policy, emphasizing goals and objectives, policy formulation and implementation, themes and issues.

INR 4035 INTERNATIONAL POLITICAL ECONOMY
Analysis of the development and politics of the international economic system, focusing on questions of cooperation and conflict in trade, aid, and investment relationships.

INR 4334 DEFENSE POLICY
Analytic institutional factors contributing to formulation of defense policy and the impact of such policy on international relations.

INR 4403 INTERNATIONAL LAW
Examines essential components of the international legal system; recognition; succession; sea, air and space law, treaties, diplomats, International Court of Justice; laws of war, etc. Introduces the student to legal reasoning as employed in the international context.

INR 5002 INTERNATIONAL ORGANIZATIONS
Study of the operations and structure of international organizations and effects on world politics; background and achievement of the UN; regional organizations and multi-national corporations.

INR 5006 ISSUES IN INTERNATIONAL RELATIONS
Explore specific topics and provides the student with an opportunity for in-depth study of historical and contemporary problems in international politics. May be repeated for credit as topics vary.

POS 2041 AMERICAN NATIONAL GOVERNMENT
Analysis of basic principles and procedures of the American governmental system with emphasis on current issues and trends.

POS 2112 STATE AND LOCAL GOVERNMENT AND POLITICS
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.

POS 3142 INTRODUCTION TO URBAN POLITICS AND GOVERNMENT
Governmental and political structures and processes as they function in urban areas, with special focus on municipalities and locally based public services.

POS 3145 GOVERNING METROPOLITAN AREAS
Examine governmental units and interactions in metropolitan areas, proposals for changes in governance, and policy areas of area-wide concern, such as human services.

POS 3173 SOUTHERN POLITICS
Examines changes in electoral politics in the South, and the role of interest groups and the state and federal government in facilitating change.

POS 3182 FLORIDA POLITICS AND GOVERNMENT
A study of Florida political culture, political parties and elections, the legislative, executive, and judicial systems, and policy patterns.

POS 3273 PRACTICAL POLITICS
PR: POS 2041 or POS 3453 or CI. Coordinated scholarly and practical activity through class lecture and supervised field work in local political parties and election campaigns.

POS 3283 JUDICIAL PROCESS AND POLITICS
The organization, development, and functioning of American court systems and the causes and consequences of judicial behavior from an empirical perspective.

POS 3453 POLITICAL PARTIES AND INTEREST GROUPS
Analysis and understanding of role, functions, structure, and composition of such, and their impact on American governmental institutions.

POS 3691 INTRODUCTION TO LAW AND POLITICS
Nature of law, legal process, relationship to political life of constitutions, law, administrative law, the judicial process, and private law.

POS 3713 EMPIRICAL POLITICAL ANALYSIS
Fundamentals of empirical political inquiry: systematic data collection and quantitative analysis techniques. Laboratory exercises using the computer are required.

POS 3931 SELECTED TOPICS
Selected topics in political science with course content based upon student demand and instructor's interest. May be repeated for up to 6 credits as topics vary.

POS 4165 COMMUNITY LEADERS AND POLITICS
Analysis of the roles and powers of mayors, city managers, council members, and interest and ethnic groups; distribution of community power.

POS 4204 POLITICAL BEHAVIOR, PUBLIC OPINION, AND ELECTIONS
Analysis of economic and socio-psychological factors influencing mass and elite political behavior; voting behavior, public opinion, and political activism.

POS 4413 THE AMERICAN PRESIDENCY-6A
The presidency as a political institution; analysis of powers; legislative, administrative, political, and foreign policy leadership; crisis management and decision making; White House staffing; limits on power.

POS 4424 THE AMERICAN CONGRESS
Organization, procedures, committee system, party leadership, relations with governmental and nongovernmental organizations and agencies, oversight, decision-making processes, House/Senate comparisons.

POS 4614 CONSTITUTIONAL LAW I
PR: POS 2041. Leading social problems, principle institutions, and the scope of powers. Analysis of Supreme Court decisions, scholarly commentaries, and the writings of leading public figures.

POS 4624 CONSTITUTIONAL LAW II
PR: POS 2041. Analysis of Supreme Court decisions and scholarly commentaries on the constitutional rights of individuals.

POS 4693 WOMEN AND LAW I
Introduction to issues concerning the legal aspects of sex and sexual discrimination as embodied in statutory and case law; focusing on constitutional and family law and reproductive freedom issues. (May also be taken for credit in Women's Studies.)

POS 4694 WOMEN AND LAW II
PR: POS 4693 or CI. Legal position of women in American society and remedies available to challenge current laws and practices, with specific emphasis on employment and education issues as they relate to both women and men. (May also be taken for credit in Women's Studies.)

POS 4905 INDEPENDENT STUDY
PR: 3.0 average in Political Science and CI. Specialized study determined by the student's needs and interests. (S/U only.)
PSY CHOLOGY

PSY 4004 COMPARATIVE PSYCHOLOGY (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. The study of the evolution of behavior, similarities, and differences in capacities for environmental adjustment and for behavioral organization among important types of living beings.

CLP 4003 PSYCHOLOGY OF ADJUSTMENT (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. This course is designed to help students better understand the psychological processes of adjustment to everyday life. This course is intended for those who wish to develop skills in adjusting to life's challenges.

CLP 4143 ABNORMAL PSYCHOLOGY (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Descriptions, theoretical explanations, research evidence, and future directions of disordered behavior.

CLP 4144 BEHAVIOR MODIFICATION (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Introduction to behavior analysis, and application of learning principles, behavioral measurement, research designs, and interventions in treatment settings.

CLP 4433 PSYCHOLOGICAL TESTS AND MEASUREMENT (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. A consideration of the instruments for intellectual and personality assessment including their applications, development, and potential abuses. Students may not receive credit for both CLP 4433 and EDF 4430.

DEP 3103 CHILD PSYCHOLOGY (3)
Developmental and psychosocial aspects of childhood, including hereditary, maturational, psychological, and social determinants of child behavior. Not for major credit.

DEP 4005 DEVELOPMENTAL PSYCHOLOGY (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Survey of methods, empirical findings, and theoretical interpretations in the study of human development.

DEP 4135 PSYCHOLOGY OF LANGUAGE DEVELOPMENT (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Survey of methods, empirical findings, and theoretical interpretations in the study of human development. Presents data and theory on phonological, semantic, syntactic, and pragmatic development.

EXP 4204 SENSORY PROCESSES (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Available both to majors and non-majors. Surveys the course of and processes underlying normal language development. Presents data and theory on phonological, semantic, syntactic, and pragmatic development.

EXP 4205 PERCEPTION (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Topics include sensory and physiological bases of perception and how people process relevant information in their environments.

EXP 4304 MOTIVATION (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. An examination of human and animal motivations from both physiological and psychological viewpoints.

EXP 4404 PSYCHOLOGY OF LEARNING (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Survey of methods, empirical findings, and theoretical interpretations in conditioning and instrumental learning.

EXP 4523C COGNITIVE PSYCHOLOGY (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Survey of methods, empirical findings, and theoretical interpretations of human learning, information processing, verbal learning, and judgment and decision-making.

INP 3101 APPLIED PSYCHOLOGY (3)
The application of psychological principles and the functions of psychologist in education, government, industry, and clinical practice.

INP 4004 INDUSTRIAL PSYCHOLOGY (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Applications of psychological principles to industry. Topics include: selection, training, motivation, job satisfaction, supervision, decision-making.

PPE 4004 PERSONALITY (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Methods and findings of personality theories and an evaluation of constitutional, biosocial, and psychological determinants of personality.

PSB 4013C NEUROPSYCHOLOGY (3)
PR: PSY 3213 with a grade of C or better, psychology major or Cl. Gross neural and physiological components of behavior. Structure and function of the central nervous system and theory of brain functions.

PSY 2012 AN INTRODUCTION TO CONTEMPORARY PSYCHOLOGY (3)
A broad survey of psychology for both majors and non-majors with special emphasis on the more applied areas of psychology (e.g., social psychology, abnormal psychology, personality, and developmental psychology.)

PSY 3022 CONTEMPORARY PROBLEMS IN PSYCHOLOGY (3)
The content of this course varies depending on the needs and interest of students and faculty. Offerings include in-depth
coverage of specialized aspects of psychology applied to contemporary problems not studied in general introductory courses.

**PSY 3044 EXPERIMENTAL PSYCHOLOGY** (3)
PR: PSY 2012, psychology major or Cl. Designed as an in-depth examination of the basic principles and concepts of psychological science. Extensive coverage will be given to the areas of learning, perception, physiological psychology, and cognition.

**PSY 3213 RESEARCH METHODS IN PSYCHOLOGY** (4)
PR: PSY 3044, psychology major, or Cl. This course considers the logic of experimental design, concept of control and the analysis of experimentally obtained data. The laboratory section provides experience applying the concepts discussed in lecture. Two lectures plus two-hour lab. May be taken concurrently with PSY 3044.

**PSY 4205 EXPERIMENTAL DESIGN AND ANALYSIS** (3)
PR: PSY 3213 with grade of C or better, psychology major, or Cl. Detailed coverage of those research designs and statistical techniques having the greatest utility for research problems in psychology. Emphasis on topics from analysis of variance.

**PSY 4604 SYSTEMATIC PSYCHOLOGY** (3)
PR: PSY 3213 with grade of C or better, psychology major or Cl. The historical roots of modern psychological theories, investigation of the various schools of psychology such as behaviorism, Gestalt psychology, psychoanalysis, and phenomenological psychology.

**PSY 4913 DIRECTED STUDY** (1-3)
PR: Upper-level standing, psychology major and Cl. The student plans and conducts an individual research project or program of directed readings under the supervision of a faculty member. (S/U Only.)

**PSY 4931 SELECTED TOPICS: SEMINAR** (3)
PR: Upper-level standing, psychology major and Cl. Graduate-type seminar designed to provide the advanced undergraduate student with an in-depth understanding of a selected sub-area within psychology. May be repeated with a maximum of six (6) hours credit for the major.

**PSY 4932 HONORS SEMINAR** (3)
PR: Admission to honors program in psychology and Cl. Graduate-type seminar designed to provide honors students with an opportunity to present, discuss, and defend their own research and to explore in-depth topics in several areas of psychology. May be repeated with a maximum of 6 hours credit.

**PSY 4970 HONORS THESIS** (1-3)
PR: Admission to honors program in psychology and Cl. The student under supervision of a faculty member will formalize, conduct, analyze, and report in writing a research project in psychology. May be repeated with a maximum of 6 credit hours.

**SOP 3742 PSYCHOLOGY OF WOMEN** (3)
An examination of theories of female personality in historical perspective. Current research on sex differences, socialization, sexuality, psychology of reproduction. Emerging roles of women as related to social change and developmental tasks of the life cycle. (Also offered under Women's Studies.)

**SOP 4004 SOCIAL PSYCHOLOGY** (3)
PR: PSY 3213 with grade of C or better, psychology major or Cl. Survey of methods, empirical findings, and theoretical interpretations in the study of an individual’s behavior as it is affected by others.

**SOP 4714 ENVIRONMENTAL PSYCHOLOGY** (3)
PR: PSY 2012 or PSY 3044, psychology major or Cl. Explores the influences of environment on behavior. Topics considered include crowding, privacy, territorial behavior, environmental design, and pollution effects. Designed for both psychology majors and non-majors.

**PUBLIC ADMINISTRATION**

**PAD 3003 INTRODUCTION TO PUBLIC ADMINISTRATION** (3)
Examination of organizational behavior and change, policy process, public management, financial administration, and personnel management from the perspective of public and social delivery.

**PAD 4204 PUBLIC FINANCIAL ADMINISTRATION** (3)
Analysis of problems in the growth and development of public budgetary theory and Federal budgetary innovations.

**PAD 5035 ISSUES IN PUBLIC ADMINISTRATION AND PUBLIC POLICY** (3)
Selected topics in critical areas of Public Administration and Public Policy. May be repeated for credit as topics vary.

**PAD 5133 CONCEPTS AND ISSUES IN PUBLIC PLANNING** (3)
PR: URP 4050 or URP 6056, Analysis of basic concepts, issues, and strategies of planning; policy determination, collection of information, and decision-making.

**PAD 5605 ADMINISTRATIVE LAW** (3)
An examination of the constitutional and statutory bases and limitations of the administrative process, administrative adjudication, rule making, and the judicial review of such actions.

**PAD 5612 ADMINISTRATIVE REGULATION** (3)
Analysis of the regulatory functions and influences in the American political system: regulatory commissions, their functions, powers, management, reforms, and relationship with other branches of government.

**PAD 5700 RESEARCH METHODS IN PUBLIC ADMINISTRATION** (3)
This course provides the student with the fundamental skills and knowledge of how research is designed, implemented, analyzed, and utilized in public sector agencies. Available to majors and non-majors.

**PAD 5807 ADMINISTRATION OF URBAN AFFAIRS** (3)
Analysis of the role of the administrator at the municipal level: the division of functions; policy formation; alternative governmental structures; effects on the administrative process.

**PAD 5836 COMPARATIVE PUBLIC ADMINISTRATION** (3)
How organizations and managers perform within a particular environment, potential impact of innovation, and how service is accomplished in a variety of socio-economic environments.

**REHABILITATION COUNSELING**

**EGC 3060 REHABILITATION COUNSELING: CONCEPTS AND APPLICATIONS** (3)
This introductory course (1) surveys the theories, concepts, and attitudes involved in helping disabled or impaired persons become increasingly able. (2) provides initial experiences with these counseling perspectives and methods and their personal application.

**EGC 5065 FOUNDATIONS AND ETHICS** (4)
An overview of rehabilitation history and introduction to rehabilitation processes and ethical issues in the public and private sectors. Ethical, legal, and professional standards in rehabilitation and mental health counseling are emphasized.

**EGC 5376 MEDICAL ASPECTS OF DISABILITY** (4)
PR: EGC 5065 or Cl. A survey of medical conditions and disabilities encountered by rehabilitation and mental health counselors. Examines the relationship of client handicaps, physical and mental, to rehabilitation and mental health programming.

**EGC 5493 SEMINAR I: HUMAN DEVELOPMENT**

**THEORY IN COUNSELING** (3)
PR: EGC 5065, EGC 5725 or Cl. Human development theory as applied in psychotherapy and case management in mental health, addictions, and other rehabilitation settings. Must be taken concurrently with EGC 5850. (S/U Only.)

**EGC 5496 THEORETICAL ISSUES IN APPLIED ALCOHOL ABUSE IN REHABILITATION COUNSELING** (4)

**EGC 5725 INTERPERSONAL COUNSELING I**

**PERSONALITY THEORY** (4)
PR: Cl. Focuses on the utilization of one’s self in rehabilitation and mental health counseling relationships. Emphasis on the experiential exploration and development of interpersonal skills within the context of personality theories.

**EGC 5850 PRACTICUM I** (1)
PR: EGC 5065, EGC 5725 or Cl. Supervised experience and participation in counseling in a variety of rehabilitation settings for a minimum of 120 hours. Must be taken concurrently with EGC 5493. (S/U Only.)

**EGC 5905 DIRECTED STUDIES** (1-4)
PR: Cl. Supervised rehabilitation studies relevant to student’s
This course examines the phenomenon of religion, particularly the religious thought (mythology and theology) and religious behavior (ritual and morality) are closely examined.

REL 3120 RELIGION IN AMERICA
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 3132 WITCHCRAFT AND PAGANISM IN AMERICA
A study of contemporary witchcraft and paganism, including theories, methods, history, myths and symbols, beliefs, rituals, and practices, believers, recruitment, socialization, and organizations.

REL 3145 WOMEN AND RELIGION -6A
Analysis of the status and roles of women as compared to men in the Judeo-Christian tradition. Contemporary issues of feminist theology, and the controversies surrounding them. (May also be taken for credit in Women's Studies.)

REL 3170 RELIGION, ETHICS AND SOCIETY -6A
An ethical analysis of contemporary social issues through films, drawing on religious narrative traditions from Eastern and Western cultures which have contributed to the development of an ethic of human dignity, human rights and human liberation after Auschwitz and Hiroshima.

REL 3210 HEBREW BIBLE/OLD TESTAMENT
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 3210 and REL 4221 may not both be credited toward the major.

REL 3240 INTRODUCTION TO THE NEW TESTAMENT
An introduction to the critical study of the New Testament in context of Christian beginnings in the first century A.D. REL 3240 and REL 4244 may not both be credited toward the major.

REL 3280 BIBLICAL ARCHAEOLOGY
An in depth examination 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 3300 WORLD RELIGIONS
An introduction to and a comparison of the ideas, the literature and institutions of the major religions of the world including Judaism, Christianity, Islam from the Near East and Hinduism, Taoism, Confucianism, and Buddhism from the Far East. General comparison of Western and Eastern beliefs.

REL 3330 THE RELIGIONS OF INDIA
All religions of the subcontinent of India and all became Indian. What is this "Indianness" which stems from Hinduism, Buddhism, Jainism and Sikhism, but extended itself to include Judaism, Christianity, Islam, Zoroastrianism and Baha'i. Readings from classical texts and modern literature.

REL 3350 RELIGIONS OF CHINA AND JAPAN
This course will investigate the philosophy of ancient China and its two major interpreters, Lao Tzu and Confucius. It will also look at the native Japanese Shinto religion.

REL 3420 CONTEMPORARY RELIGIOUS THOUGHT
An examination of the central ideas of recent theological thinkers; such men as Barth, Brunner, Bultmann, Bonhoeffer, Rahner, Tillich, Cox, Alzter, Buber, Niebuhr.

REL 3500 HISTORY OF CHRISTIANITY
The historical development of Christianity, its ideas and institutions, from the first century to the rise of religious modernism in the 19th century.

REL 3600 INTRODUCTION TO JUDAISM -6A
An introduction to Judaism: its religious tenets; its codes of ethics; its rites and customs. This course is intended as a description of what it means to be a Jew.

REL 3602 CLASSICS OF JUDAISM -6A
PR: One course in Religious Studies. How to read the principal documents of Judaism beyond the Old Testament, particularly the Mishnah, Talmuds, and Midrash.

REL 3611 HISTORY OF JUDAISM
A study of the evolution of the religion of ancient Israel from the Exodus to the end of the second century of our era, seen against the background of its historical, geographical, political, social and spiritual setting.

REL 3612 HISTORY OF JUDAISM II
A study of the history of Judaism and the Jews from the third century of our era through the Middle Ages to the Emancipation in the 19th century. Taking History of Judaism I first is advantageous.

REL 3613 MODERN JUDAISM
A study of Jewish life in the West since 1789, emphasizing Jewish beliefs, practices, and institutions.

REL 3900 DIRECTED READINGS
PR: Cl. Individual guidance in concentrated reading on a selected topic.

REL 3921 COLLOQUIUM
This colloquium will be held at least 3 times each semester in order to bring all religion and religious studies faculty and undergraduate majors together to discuss research of a particular faculty member, student, or guest scholar. May be repeated up to 3 semester hours. (S/U only.)

REL 3936 SELECTED TOPICS
PR: Cl. Course contents depend on students' needs.

REL 4161 RELIGION, TECHNOLOGY AND SOCIETY
An exploration of the way in which religion and technology have interacted in Western civilization so as to both express and transform human values and identity. Special emphasis will be given to the value questions raised by modern technology.

REL 4162 RELIGION, SCIENCE AND SOCIETY
This course will explore the religious roots of science and the history of its emancipation. Special emphasis will be given to the interaction of religion and science in contemporary society.

REL 4171 CONTEMPORARY CHRISTIAN ETHICS -6A
PR: Jr. standing or Cl. This course will survey several major approaches to contemporary Christian ethics and their application to a number of ethical issues peculiar to personal and social life in contemporary society.

REL 4193 COMPARATIVE MYSTICISM
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 4221 HEBREW BIBLE/OLD TESTAMENT LAW AND HISTORY
An examination of the Pentateuch (Torah) from the point of view of its literary development, religious traditions, historical background, law, covenant theology, and the history of the religion of Israel.

REL 4224 HEBREW BIBLE II/PROPHETS AND WRITINGS
PR: REL 3210 or REL 4221 or Cl. An investigation of the prophetic movement and the historical and cultic writings in Israel from the point of view of theological developments, history presupposed, and the religious institutions depicted. Special attention is given to a theme such as Job and the problem of evil.
REL 4244 NEW TESTAMENT I: GOSPELS, ACTS (4)
An exploration of the Gospels and Acts, including their backgrounds in Judaism and pagan religion, literary and form criticism, historical Jesus research, and the social history of earliest Christianity.

REL 4250 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 4252 NEW TESTAMENT II: THE LETTERS OF PAUL AND OTHER NEW TESTAMENT WRITINGS (4)
PR: REL 4244 or REL 3240 or CI. An investigation of the phenomenon of earliest Christianity in its Pauline and non-Pauline forms, particularly as reflected in Paul's letters and in other writings of the New Testament. Special attention is given to the program of Apocalyptic, as in the book of Revelation.

REL 4333 HINDUISM (4)
The philosophy of the saints; the complex rituals of the Brahmins; the art of its temples; the psychology and physiology of yoga; the social rigidity of the caste system; the esoteric science of meditation; the ascetic activism of Mahatma Gandhi—all of these are Hinduism, and more. Close readings of classical texts, philosophic systems, and medieval poems.

REL 4343 BUDDHISM IN INDIA, SRI LANKA, AND SOUTH EAST ASIA (4)
The life and teachings of the Buddha; the order of monks and nuns; the Buddhist Emperor Ashoka; schisms; the rise of the Great Vehicle and the philosophy of emptiness; Buddhist missions; Buddhist art and culture; Buddhism and national liberation; contemporary social and political issues.

REL 4344 BUDDHISM IN CHINA, JAPAN, AND TIBET (4)
Mahayana Buddhism followed the silk routes to China and Japan, and later it crossed the Himalayas into Tibet. An overview of the variety of schools and practices of Buddhism and its adaptation by these ancient cultures.

REL 4506 FROM MYTH TO CHRISTIANITY (4)
Study of the religions/mythologies of the ancient Middle East and Eastern Mediterranean and how their influences shaped the theology and practices of Christianity up to the end of the fourth century; consequences of which continue to be evident in the traditional Roman and Eastern Orthodox churches.

REL 4670 JUDAISM AND CHRISTIANITY AFTER THE HOLOCAUST - 6A (4)
This course will explore the impact of the Holocaust on Jewish and Christian thought and identity in the light of the history of religious and cultural anti-semitism in Western civilization.

REL 4910 UNDERGRADUATE RESEARCH (1-4)
PR: Junior standing and CI. Individual investigations with faculty supervision.

REL 4931 SEMINAR IN RELIGION (3)
A course designed for persons, especially Religious Studies majors, whose prior religious studies have prepared them for a cooperative, creative and/or research effort in the area of religion.

REL 4936 SELECTED TOPICS (1-4)
PR: Junior standing and CI. Individual investigations with faculty supervision.

REL 4939 THE DEVELOPMENT OF RELIGIOUS STUDIES (3)
Course designed for senior majors (and minors) in religious studies to complement REL 4931 (Senior Seminar). Discussion of key figures and methodological advances in the development of the field from the 18th century to present, with readings of classics in the development.

WST 5318 FEMINIST SPIRITUALITY (3)
This course will focus on the many voices of contemporary feminist spirituality, emerging from women's experiences in diverse religious, ethnic and cultural traditions, and representing a range of theological perspectives from biblical feminism to goddess worship and wicca. May not be repeated.

Ancient Studies Sequence
CLA 3000 ANCIENT CIVILIZATIONS (4)
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.

CLA 3801 HISTORY OF THE ALPHABET (2)
Study, in reasonable detail, of the evolution of our "Roman" alphabet, as well as of other ancient and modern alphabets, from the writing system of ancient Egypt.

CLA 4160 EGYPTIAN CIVILIZATION (3)
Study of the Ancient Egyptian civilization, including customs, religion, art and architecture, language and literature, science and the calendar, and an introduction to hieroglyphic writing. (Alternate years.)

CLA 4171 MESOPOTAMIAN CIVILIZATION (3)
Study of the Ancient Mesopotamian (Sumero-Babylonian) civilization, including customs, religion, art and architecture, languages and literatures, and the calendar, and an introduction to cuneiform writing.

CLA 4900 DIRECTED READINGS (1-4)
PR: Consent of coordinator prior to registration. Readings in special topics chosen by the student in cooperation with the instructor. Reading of literature also possible in English translation.

CLA 4930 SELECTED TOPICS (1-4)
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), and The Bible as History (3).

HEB 1120, 1121 BASIC HEBREW I, II (4,4)
Designed to give students a working knowledge of Classical (Biblical) Hebrew and to introduce them to the Biblical literature in the original language.

NOTE: In any of the numbers CLA 4900, CLA 4930, enrollment is repeatable for different subject matters.

SOW 3101 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I (3)
PR: All pre-core courses. Restricted to Social Work majors, others by School permission. An integrating human behavior-social environment course emphasizing dynamics of behavior and environmental factors as they relate to social work practice with individuals, and families and groups.

SOW 3102 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II (3)
PR: SOW 3101. Restricted to Social Work majors; others by School permission. An integrating course emphasizing dynamics of behavior and environmental factors as they relate to social work practice with organizations and communities.

SOW 3203 THE AMERICAN SOCIAL WELFARE SYSTEM (2)
An introductory course tracing the development of the American social welfare system.

SOW 3302 INTRODUCTION TO SOCIAL WORK (3)
An introductory course tracing the development of social work as a profession including an examination of the knowledge, skill and attitudinal base of the profession and professional roles and functions.

SOW 3401 RESEARCH AND STATISTICS FOR SOCIAL WORK (4)
PR: All pre-core courses. Restricted to Social Work majors, others by School permission. The purpose of this course is two-fold: to familiarize the student with research as it is practiced in the profession of Social Work; and to equip the student with those theoretical understandings necessary to be a critical consumer of social work research.

SOW 4233 SOCIAL WELFARE: POLICY & PROGRAM (4)
PR: All pre-core courses and SOW 3203. Restricted to Social Work majors, others by School permission. An advanced policy course taking an analytical approach to contemporary social welfare policy issues and current social welfare programs.

SOW 4341 MULTI-METHODS OF SOCIAL WORK PRACTICE: MICRO-SYSTEM INTERVENTION (5)
PR or CI: SOW 3101; SOW 3401. Restricted to Social Work majors; others by School permission. First practice course emphasizing development of skills and interventional methods with individuals, families and small groups. Course includes both didactic and experiential learning components.
SOW 4510 FIELD PLACEMENT (10)
PR: Completion of all social work core courses except SOW 4522. Restricted to social work majors in Senior year. Supervised field placement in a social welfare organization consisting of 32 hours per week in the field and 4 hours per week in an integrated practice seminar which constitutes the third and final course in the practice sequence.

SOW 4522 SENIOR SEMINAR (2)
PR: All pre-core courses; all core Social Work courses, except that SOW 4510 may be taken as CR. This course is the final course taken in the BSW curriculum. It is restricted to Social Work majors in their final stages of the senior year. The course serves as a means for assisting the student in synthesizing and integrating the social work core curriculum and previous experiences in the BSW program.

SOW 4900 DIRECTED READINGS (1-6)
PR: Completion of four social work courses including SOW 3401, upper level standing, and School permission. Content dependent upon student interest and ability. A contract by major professor and instructor specifying nature of work to be completed may be repeated up to 6 credit hours.

SOW 4930 VARIABLE TOPICS IN SOCIAL WORK (1-3)
Restricted to Social Work majors; others by School permission. Variable title courses to expand on the four sequence areas in the Social Work core curriculum. Allows focus on areas relevant to student's educational interest.

SOW 5930C SELECTED TOPICS IN SOCIAL WORK (1-4)
Restricted to Social Work majors, both graduate and undergraduate; others by School permission. Course is taken as an elective. Variable title courses will selectively expand specific social work content areas. May be repeated in varying topic areas.

SOCIOLOGY
SYA 3010 FOUNDATIONS OF THEORY (3)
PR: SYG 2000 or CR. Consideration of selected theories in sociology and procedures of systematic theory construction.

SYA 3320 SOCIAL INVESTIGATION (3)

SYA 3503 COMMENTARY FILM MAKING IN THE SOCIAL SCIENCES (3)
PR: Major in the College of Arts and Sciences and CR in an upper level 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 cassette) in the commentary film. Ethics of film making.

SYA 3504 LABORATORY WORK IN COMMENTARY FILM MAKING IN THE SOCIAL SCIENCES (1)
PR: SYA 3503, CR 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 three credits. (S/U only.)

SYA 4430 COMPUTERS IN SOCIOCLOGICAL RESEARCH (3)
Introduction to the uses of computers in sociological research. Major emphasis is upon the use of statistical packages (principally SPSS) in data analysis. (S/U only.)

SYA 4910 INDIVIDUAL RESEARCH (1-3)
PR: Four courses in sociology, including SYA 3300, upper level standing, at least 3.0 overall GPA, or CR. Content dependent upon interest and competence of student. A contract specifying the work to be done must be completed and signed by both the student and the chairperson of the department before registration for this course will be permitted. May be repeated for credit. Up to 3 credits may be counted towards meeting major elective requirements.

SYA 4930 TOPICS IN SOCIOLGY (3)
PR: 12 semester hours of Sociology and prior CR. May be repeated for credit. See class schedule for content.

SYA 4935 SENIOR SEMINAR (3)
For seniors majoring in sociology or other social sciences. Major issues in sociology, stressing theory and research.

SYA 4949 SOCIOLOGICAL INTERNSHIP (1-6)
PR: Senior or graduate standing in Sociology plus CR. Supervised placement in community organization or agency for a minimum of 10 hours of volunteer work per week, and a weekly seminar on applying sociological skills and methods in the placement setting. May be repeated up to 6 credit hours. (S/U only.)

SYG 3710 INTERRATIONAL RELATIONS (3)
PR: SYG 2000 or CR. Comparative study of international relations, social tensions, attitudes, and modes of adjustment in various areas of the world.

SYD 4020 POPULATION (3)
PR: SYG 2000 or CR: upper level standing. Sociological determination of fertility, mortality and migration; theories of population change.

SYD 4410 URBAN SOCIOLOGY (3)
PR: SYG 2000 or CR; upper level standing. The social structure of the community in modern industrial societies. Analysis of community change.

SYD 4441 COMPARATIVE RURAL SOCIOLOGY (3)
PR: SYG 2000 or CR. The study of rural life in the United States; compares the situation in the United States with that of other societies as well as other times in history; some aspects of rural peasant societies and experiments in rural community formation.

SYD 4800 SOCIOLOGY OF SEX ROLES (3)
PR: SYG 2000; WST 2010 or 2011; or CR. Historical and contemporary exploration of current issues relevant to sex roles in America. Emphasis on sex role differences, interpersonal relationships and institutional participation. (Also offered under Women's Studies.)

SYG 2000 INTRODUCTION TO SOCIOLOGY (3)
Nature and application of sociological concepts, theories, and methods; analysis of societies, associations and groups; social processes and social change.

SYG 2412 MARRIAGE (3)
Study of pre-marital relations, Social, cultural, and personal factors related to success and failure in mate selection and marriage. Does not count for sociology major credit.

SYG 3010 CONTEMPORARY SOCIAL PROBLEMS (3)
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.

SOF 3130 THE FAMILY (3)
PR: SYG 2000 or CR. Principles of family organization, social adjustment, and control. Maturation, socialization, and stability of the family.

SYO 3320 SOCIOLOGY OF RELIGION (3)
PR: SYG 2000 or CR. Types, sources, and functions of religious behavior. Religious behavior in relation to other aspects of personality and culture.

SYO 3500 SOCIAL ORGANIZATION (3)
PR: SYG 2000 or CR. Social organization in the broadest sense, including institutions and associations, as well as variations in role and status.

SYO 3530 SOCIAL STRATIFICATION (3)
PR: SYG 2000 or CR. Social status and social stratification, social class as a factor in behavior, social mobility.

SYO 4300 POLITICAL SOCIOLOGY (3)
PR: SYG 2000 or CR. An examination of the social factors that affect government, politics, and political behavior.
SYO 4370 OCCUPATIONS AND PROFESSIONS  
PR: Upper level standing or Cl. A comparative analysis of professions, particularly medicine, law, teaching, allied health professions, engineering. Focus on process professionalizing service occupations like policework, business management, public administration and social work. 

SYO 4400 SOCIOLOGY OF MEDICINE  
PR: SYG 2000 or Cl. An examination of the major theoretical and methodological tools used by sociologists in studying medical care. A representative sampling of medical sociological studies will be reviewed and discussed. 

SYO 4430 SOCIAL PSYCHOLOGY  
PR: SYG 2012 or SYG 2000. Behavior of the individual human being as affected by social and cultural influences of modern society. 

SYO 4455 SYMBOLIC INTERACTION  
Interpersonal influence, complex behavior, role, conflict, and social situational factors. (PR: 3000 or Cl; upper division standing) 

SYO 4300 COLLECTIVE BEHAVIOR  
PR: SYG 2000 or Cl; upper level standing. Study of the development of group and mass behavior crowds, social movements. 

SYO 4440 SOCIETY IN TRANSITION  
PR: Introduction to Sociology and upper level standing. An analysis of the forces for change in contemporary society, utilizing a sociological perspective. 

SYO 4420 SOCIOLOGICAL IMPLICATIONS OF INDUSTRIALIZATION  
PR: SYG 2000 or Cl. Socio-cultural elements which define and accompany the process of industrialization as observed in mature industrial nations. 

SYO 4510 SOCIOLOGICAL ASPECTS OF DEVIANCÉ  
PR: SYG 2000, or Cl. Definition and theories of deviance applied to substantive areas such as drug use, sexual varieties, and other stigmatized activities, mental illness, and white collar crimes. 

SYO 4520 CRIMINOLOGY  
PR: SYG 2000 or Cl; upper level standing. Etiology of criminal behavior; law enforcement, crime in the United States, penology and prevention. 

SYO 4530 JUVENILE DELINQUENCY  
PR: SYG 2000 or Cl; upper level standing. Theories of delinquency, patterns of delinquent behavior methods of control and treatment. 

SYO 4640 LEISURE IN SOCIETY  
Facts and trends of changing leisure-time patterns in the USA and other countries; various conceptualizations of leisure; relationships time to work, attitudes, personality, family, community, subcultures, religion, value systems, social class, and the functions of government. 

SYO 4650 SPORT IN SOCIETY  
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. 

WOMEN'S STUDIES  

AFA 4335 BLACK WOMEN IN AMERICA  
An interdisciplinary survey of the contemporary experience of black women in America, including the African roots, myths, and realities surrounding that experience. (May also be taken for credit in African Studies.) 

AMH 3561 AMERICAN WOMEN I  
A study of women in the evolution of American society from European origins to 1877. Women's roles in the family, economy, politics, wars, religion and reform movements will be examined. (May also be taken for credit in History.) 

AMH 3562 AMERICAN WOMEN II  
A study of women in the evolution of American society from 1877 to the present. Women's roles in the family, economy, politics, wars, religion and reform movements will be examined. (May also be taken for credit in History.) 

AMS 3370 SOUTHERN WOMEN: MYTH AND REALITY -SA  
An analysis of the myths surrounding Southern Women, this course will identify these myths, discern their sources and purposes, and contrast them with history. (May also be taken for credit in American Studies.) 

ANT 4302 SEX ROLES IN CROSSCULTURAL PERSPECTIVE  
PR: ANT 3410 or Cl. Focuses on various theories, models and beliefs about male-female behaviors and interactions in human cultures throughout history and in various societies in the world today. (May also be taken for credit in Anthropology.) 

PHI 4632 FEMINIST ETHICS  
A study of the varied approaches to moral reasoning taken by feminist ethical writers such as Wollstonecraft, Mill, Gilligan, Daly, Hoagland and others. (May also be taken for credit in Philosophy.) 

PHM 5125 TOPICS IN FEMINIST PHILOSOPHY  
A study of recent feminist philosophical approaches to epistemology, aesthetics or political philosophy. (May also be taken for credit in Philosophy.) 

POS 4693 WOMEN AND LAW I  
Introduction to issues concerning the legal aspects of sex and sex-based discrimination as embodied in statutory and case law, focusing on constitutional and family law and reproductive freedom issues. Open to majors and non-majors. (May also be taken for credit in Government and International Affairs.) 

POS 4694 WOMEN AND LAW II  
PR: POS 4693 or Cl. Legal position of women in American society and remedies available to challenge current laws and practices, with specific emphasis on employment and education issues as they relate to both women and men. (May also be taken for credit in Government and International Affairs.) 

PUP 4323 WOMEN AND POLITICS  
An analysis of the impact of gender on power and influence in American society, and women's changing role in the political process. Open to majors and non-majors. (May also be taken for credit in Government and International Affairs.) 

REL 3145 WOMEN AND RELIGION -SA  
Status and roles of women as compared to men in the Judeo-Christian tradition. Contemporary issues of feminist theology, and the controversies surrounding them. (May also be taken for credit in Religious Studies.) 

SOP 3742 PSYCHOLOGY OF WOMEN  
Theories of female personality. Current research on socialization, sexuality, reproduction. Emerging lifestyles and developmental tasks of the life cycle. (May also be taken for credit in Psychology.) 

SYO 4800 SOCIOLOGY OF SEX ROLES  
PR: SYG 2000, WST 3010 or 3011; or Cl. Historical and contemporary exploration of current issues relevant to sex roles in America. Emphasis on sex role differences, interpersonal relationships and institutional participation. (May also be taken for credit in Sociology.) 

WST 2380 HUMAN SEXUAL BEHAVIOR  
The dynamics of human sexuality: biological, constitutional, cultural, and psychological aspects. The range of sexual behavior across groups. Sources of beliefs and attitudes about sex, including sex roles and especially female sexuality. 

WST 3010 INTRODUCTION TO WOMEN'S STUDIES  
Survey of major issues relevant to the female experience. The women's movement: historical, psychological, sociological, anthropological perspectives. 

WST 3011 ISSUES IN FEMINISM  
Survey of major issues relevant to the female experience: marriage and the family, sexuality, work, creativity. 

WST 3210 WOMEN IN WESTERN CIVILIZATION I-6A  
Survey of women in the ancient Near East, ancient Greece, ancient Rome, early Middle Ages. Origins of Western attitudes toward sex roles, female sexuality, relation of power to gender. (May also be taken for credit in History.) 

WST 3212 WOMEN IN WESTERN CIVILIZATION II  
Survey of European women from the late Middle Ages to the twentieth century: differing consequences of historical change for women and men. (May also be taken for credit in History.) 

WST 3270 AMERICAN WOMAN IN CONTEMPORARY SOCIETY I  
An analysis of the status and opportunities of contemporary American women in their social context, using both historical and socio-psychological data. (Only offered on the Ft. Myers campus.) 

WST 3271 AMERICAN WOMAN IN CONTEMPORARY SOCIETY II  
An analysis of current issues facing American women, focusing
on the nature and consequences of stereotyping, and on
women and employment, creativity, health issues, the family,
aging, poverty and abuse. (Only offered on the Ft. Myers
campus)

WST 3275 WOMEN IN THE DEVELOPING WORLD
Survey of status of women in Asia, Africa, Latin and Caribbean
America, compared to that in USA, Canada, West Europe,
Marxist-Leninist countries. (May also be taken for credit in
Government and International Affairs.)

(3)

WST 3360 MEN AND SEXISM
Ways in which sex role conditioning affects the lives of men.
Factors in this conditioning, and alternatives to masculine sex
role models.

(3)

WST 4250 RESEARCH ISSUES ON WOMEN OF COLOR
An interdisciplinary introduction to the research process as it has
been carried out on women of color nationally and internation-
ally.

(3)

WST 4262 LITERATURE BY AMERICAN WOMEN OF COLOR
An introduction to contemporary women writers of color in the
U.S.: Native Americans, African Americans, Asian Americans,
and Chicanas/U.S. Latinas. Readings will include literature and
textual articles on historical and cultural issues. (May also be
taken for credit in English Department.)

(3)

WST 4263 THIRD WORLD WOMEN WRITERS
Introduces the literature of women from various anglophone
countries in Africa, the Caribbean, and South Asia; some U.S.
writers will be included to represent a third world diasporic
consciousness. (May also be taken for credit in English Depart-
ment.)

(3)

WST 4309 THE FEMALE EXPERIENCE IN AMERICA
The female experience in America, in historical context, with an
emphasis on women in families of various classes, races, and
ethnic groups from colonial times to 1870. (May also be taken
for credit in History.)

(3)

WST 4310 FEMINISM IN AMERICA
Emergence of the women's movement in 19th century America: origins, theoretical and practical issues, relation to European
equality. Sources, issues, implications of 20th century femi-
nism. (May also be taken for credit in History.)

(3)

WST 4320 WOMAN'S BODY/WOMAN'S MIND
An analysis of the historical, social and political perspectives of
women's health and healing experiences, and how woman's role
as patient and provider of care are shaped by public and
cultural assumptions.

(3)

WST 4335 WOMEN AND FILM
A study of representation of women in Hollywood films and the
responses of feminist film theorists and filmmakers working in
documentary, experimental and narrative modes.

(3)

WST 4342 CLASSICS IN FEMINIST THEORY
A study of classic contributions to the elaboration of feminist
thought from the 18th century to the present in an attempt to
discuss the roots of the contemporary feminist movement. This
course is cross-listed with the Department of Philosophy.

(3)

WST 4900 DIRECTED READINGS
PR: Registration requires instructor's written consent and signed
contracts from instructor of choice. To provide advanced stu-
dents with interdisciplinary research experience in areas of
specific interest. May be repeated up to 6 credit hours.

(1-3)

WST 4910 DIRECTED RESEARCH
PR: Registration requires instructor's written consent and signed
contracts from instructor of choice. To provide advanced stu-
dents with interdisciplinary research experience in areas of
specific interest. May be repeated up to 6 credit hours.

(1-3)

WST 4930 SELECTED TOPICS
PR: WST 4010 or Cl. Study in special areas such as Feminist
Spirituality, Women Artists, etc.

(1-4)

WST 4933 SEMINAR IN WOMEN'S STUDIES
PR: WST 3011 or Cl. In-depth study of research in one or more
areas of topical interest to students and staff. Research involve-
ment by students required.

(3)

WST 5001 FEMINIST RESEARCH AND METHODOLOGY
The main goals of this course are to develop a more comprehen-
sive understanding of the situation of women in society and to
develop a theoretical basis for integrating this knowledge into
the student's graduate course of study.

(3)

WST 5266 WOMEN OF COLOR: ACTIVISM AND SOCIAL CHANGE
Intensive reading and discussion of the participation of women
of color in contemporary revolutionary and reformist activities.
Class project involvement is required.

(3)

WST 5318 FEMINIST SPIRITUALITY
This course will focus on the many voices of contemporary
feminist spirituality, emerging from women's experiences in
diverse religious, ethnic and cultural traditions, and representing
a range of theoretical perspectives from biblical feminism to
goddess worship and wicca. (May also be taken for credit in
Religious Studies.)

(3)

WST 5934 SELECTED TOPICS
Study of current research methods and scholarship on women
from a multidisciplinary perspective. May be repeated as topics
vary. (Cl.)

(1-4)
ACCOUNTING/LAW


ECOMONICS


FINANCE

Chairperson: G. Kanatas; Lykes Professor of Banking & Finance: J. L. Pappas; University Distinguished Service Professor and Serge Bonami Distinguished Professor of International Finance: A. Beenhakker; Associate Professor: A. Beenhakker, S. E. Bolten, R. G. Cox, G. Kanatas, S. Kaplin, R. L. Meyer, F. B. Power, A. Schwartz, K. F. Wleand; Associate Professors: S. Besley, S. B. Bulmash, D. A. Johnson, P. Kares, R. J. Rivard; Assistant Professors: L. Johnson, H. W. Lee, W. G. Modrow, S. Quintero, R. Sanders; Other Faculty: J. Rader.

INFORMATION SYSTEMS AND DECISION SCIENCES


MANAGEMENT


ACCOUNTING/LAW

ACG 2001 FINANCIAL AND MANAGERIAL ACCOUNTING I (3)
Study of basic accounting principles including the recording and reporting of financial activity. The preparation and interpretation of financial statements.

ACG 2011 FINANCIAL AND MANAGERIAL ACCOUNTING II (3)

ACG 3074 MANAGERIAL ACCOUNTING FOR ENGINEERS (3)
The study of the uses of accounting data internally by managers in planning and controlling the affairs of organizations. Does not count towards major or CPA requirements.

ACG 3102 INTERMEDIATE ACCOUNTING I (4)
PR: ACG 2011. Measurement theory and methodology underlying income measurement and reporting of financial position. The study of compound interest fundamentals, cash, temporary investment, receivables, inventories, property and equipment, and interim and annual term investments.

ACG 3112 INTERMEDIATE ACCOUNTING II (4)
PR: ACG 3102. Continuation of theory and principles underlying: financial statements: current and long-term financial statements, the concept of consistent accounting principles and income tax accounting, the preparation and interpretation of financial statements.

ACG 3341 COST ACCOUNTING AND CONTROL (3)
PR: FIN 3403, QMB 3200. Deals with relevant costs for decision making, standards and job order costing, flexible budgeting direct and absorption costing, regression analysis and decision models.

ACG 3401 ACCOUNTING INFORMATION SYSTEMS (3)

ACG 4201 ADVANCED ACCOUNTING (4)
PR: ACG 3112. Accounting for business combinations, preparation of consolidated financial statements, home office and branch operations, accounting for international operations and partnerships.

ACG 4351 COST ACCOUNTING AND CONTROL II (3)
PR: ACG 3341. Further development of the material covered in ACG 3341 with special emphasis on cost allocation issues and accounting in the new manufacturing environment.

ACG 4501 NONPROFIT ORGANIZATION ACCOUNTING (3)

ACG 4621 COMPUTER CONTROL AND AUDIT (3)
PR: ISM 3113. Study of information systems controls and auditing techniques emphasizing the effect both general and specific controls have on asset protection, data integrity, system effectiveness and efficiency in computerized business environments. Students who complete this course will not receive credit for ISM 4320.

ACG 4632 AUDITING I (3)
PR: ACG 3112, ACG 3401, and QMB 3200. Principles and procedures of internal and public auditing. The ethics, responsibilities, standards, and reports of professional auditing.

ACG 4642 AUDITING II (3)
PR: ACG 4632. Further development of material covered in ACG 4632, with special emphasis on additional reporting topics and auditing techniques not previously addressed.

ACG 4801 CONTEMPORARY ACCOUNTING THOUGHT (3)
PR: Intermediate Accounting II or equivalent. An in-depth coverage of selected topics in accounting. Emphasis placed on current significant developments that have taken place in the profession which the student should have for a well-rounded background in accounting but have not been exposed to in previous courses. Available to majors and non-majors.

ACG 4901 INDEPENDENT STUDY (1-3)
PR: Consent of Director. Specialized independent study determined by the student's needs and interests. May be repeated up to 6 credit hours. (S/U only.)

ACG 4911 INDEPENDENT RESEARCH (1-4)
PR: Consent of Director. Individual study contract with instructor and director required. The research project will be mutually determined by the student and instructor. May be repeated up to 12 credit hours.

ACG 4931 SELECTED TOPICS IN ACCOUNTING (1-4)
PR: CI. The course content will depend on student demand and instructor's interest.

ACG 5935 SELECTED TOPICS IN ACCOUNTING (1-4)
PR: CI. To allow advanced undergraduate students and graduate students to research and study contemporary and emerging topics in the field. May be repeated up to 6 credit hours.

TAX 4001 FEDERAL TAXES I (3)
PR: ACG 2011. An introduction to the federal income tax structure. Use of tax services and the concept of taxable income primarily applicable to individuals.

TAX 4001 FEDERAL TAXES II (3)
PR: TAX 4001. Advanced study of the federal income tax structure. Special topics and the concept of taxable income as it applies primarily to business enterprises.

ECOMONICS

ECO 1003 BASIC ECONOMICS (3)
Survey of Economic principles and issues. Scarcity, choice, markets, prices, the monetary system, unemployment, inflation, international trade and finance. (No credit after completing ECO
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>ECO 2013</td>
<td>ECONOMIC PRINCIPLES (MACROECONOMICS)</td>
<td>3</td>
<td>Introduction to the theory of income determination and the application of monetary and fiscal policies. Topics discussed are: objectives of full employment, price stability, economic growth, and balance of payments stability.</td>
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<tr>
<td>ECO 2023</td>
<td>ECONOMIC PRINCIPLES (MICROECONOMICS)</td>
<td>3</td>
<td>Fundamental economic concept of scarcity, and the problem of choice. How the economy decides what to produce, how to produce, and how to distribute goods and services to participants in the economy. Attention is focused on factors affecting consumer wants and on the determination of prices in markets.</td>
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<td>ECO 4303</td>
<td>HISTORY OF ECONOMIC THOUGHT</td>
<td>3</td>
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<tr>
<td>ECO 4401</td>
<td>INTRODUCTION TO MATERIALS</td>
<td>3</td>
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<tr>
<td>ECO 4504</td>
<td>PUBLIC ECONOMICS</td>
<td>3</td>
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<tr>
<td>ECO 2935</td>
<td>SELECTED TOPICS IN ECONOMICS</td>
<td>1-3</td>
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<tr>
<td>ECO 3101</td>
<td>INTERMEDIATE PRICE THEORY</td>
<td>3</td>
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<tr>
<td>ECO 3203</td>
<td>INTERMEDIATE INCOME &amp; MONETARY ANALYSIS</td>
<td>3</td>
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<td>ECO 3703</td>
<td>INTERNATIONAL ECONOMICS</td>
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<tr>
<td>ECO 4213</td>
<td>MONETARY THEORY</td>
<td>3</td>
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<tr>
<td>ECO 4303</td>
<td>HISTORY OF ECONOMIC THOUGHT</td>
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<tr>
<td>ECO 4323</td>
<td>MARXIST POLITICAL ECONOMY</td>
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<tr>
<td>ECO 4401</td>
<td>INTRODUCTION TO MATHEMATICAL ECONOMICS</td>
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<tr>
<td>ECO 4504</td>
<td>PUBLIC FINANCE</td>
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<tr>
<td>ECO 4713</td>
<td>INTERNATIONAL MONETARY RELATIONS</td>
<td>3</td>
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<tr>
<td>ECO 4723</td>
<td>INTERNATIONAL COMMERCIAL POLICIES</td>
<td>3</td>
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<td>ECO 4905</td>
<td>INDEPENDENT STUDY</td>
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<tr>
<td>ECO 4914</td>
<td>INDEPENDENT RESEARCH</td>
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<td>ECO 4935</td>
<td>SELECTED TOPICS IN ECONOMICS</td>
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<td>ECP 3203</td>
<td>LABOR ECONOMICS</td>
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<tr>
<td>ECP 3413</td>
<td>BUSINESS-GOVERNMENT RELATIONSHIPS</td>
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<td>ECP 3613</td>
<td>ECONOMICS OF THE URBAN ENVIRONMENT</td>
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<td>ECP 4232</td>
<td>COLLECTIVE BARGAINING AND PUBLIC POLICY</td>
<td>3</td>
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<td>ECP 4451</td>
<td>LAW AND ECONOMICS</td>
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<td>ECP 3013</td>
<td>ECONOMIC DEVELOPMENT</td>
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<td>ECS 4003</td>
<td>COMPARATIVE ECONOMIC SYSTEMS</td>
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<td>FIN 2935</td>
<td>SELECTED TOPICS IN FINANCE</td>
<td>1-4</td>
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<tr>
<td>FIN 3100</td>
<td>PERSONAL FINANCE</td>
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<tr>
<td>FIN 3105</td>
<td>INTRODUCTION TO INVESTMENTS</td>
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<tr>
<td>FIN 3233</td>
<td>MONEY AND BANKING</td>
<td>3</td>
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<tr>
<td>FIN 3403</td>
<td>PRINCIPLES OF FINANCE</td>
<td>3</td>
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use and acquisition of funds by a firm. Includes the management of the asset and liability structure of the firm under certain and risky situations. The financial decision process will include and recognize the international as well as domestic aspects of financial management.

FIN 3604 INTERNATIONAL FINANCE (3)
PR: ECO 2013 or CI. Study of factors affecting international business, assessment of risks, international managerial finance; institutions and instruments of international business finance.

FIN 4245 FEDERAL RESERVE SYSTEM AND MONETARY POLICY (3)
PR: FIN 3233 or CI. An analysis of the Federal Reserve System, with special emphasis on monetary theory and the formulation and administration of monetary policy.

FIN 4303 FINANCIAL INSTITUTIONS (3)
PR: FIN 3233. A study of financial institutions and their roles in the capital market includes the savings allocation, investment, and financial decision making processes.

FIN 4324 BANK MANAGEMENT (3)
PR: FIN 3403 and FIN 3233. Application of traditional financial concepts to the management of commercial banks with emphasis on decision making and problem solving techniques to major problem areas in banking.

FIN 4412 WORKING CAPITAL MANAGEMENT (3)
PR: FIN 3403. This course is designed to provide the student with an understanding of short-term financial management. Topics to be covered include cash management, credit and collection policy, inventory decisions, and sources of short-term financing.

FIN 4414 ADVANCED CORPORATION FINANCE (3)
PR: FIN 3403. An examination of the financial policies of corporations, with special reference to dividend policy, financial structure, capital expenditures, acquisitions, mergers, and reorganization.

FIN 4504 FINANCIAL POLICIES AND STRATEGIES (3)
PR: FIN 4414. A senior seminar for majors in Finance. Primarily a case course examining financial policies and the application of financial analysis to alternative strategies.

FIN 4504 PRINCIPLES OF INVESTMENTS (3)
PR: ECO 2013 and FIN 3403. 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 4514 ADVANCED INVESTMENT ANALYSIS AND MANAGEMENT (3)
PR: FIN 4504. A comprehensive survey of security analysis and portfolio management. The course will utilize a quantitative approach to investment selection and management.

FIN 4905 INDEPENDENT STUDY (1-3)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to six credit hours. (S/U only).

FIN 4915 INDEPENDENT RESEARCH (1-3)
PR: CI. Individual study contract with instructor and department chairperson. The research project will be mutually determined by the student and instructor. May be repeated up to 6 hours.

FIN 4934 SELECTED TOPICS IN FINANCE (1-3)
PR: CI. Topics to be selected by instructor and department chairperson on pertinent Finance issues.

REE 3043 PRINCIPLES OF REAL ESTATE (3)
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.

REE 3703 REAL ESTATE LOCATION THEORY AND URBAN DEVELOPMENT (3)
PR: ECO 2023. The spatial determinants of real property demand and supply. Theoretical bases for market feasibility, risk analysis, real estate market forecasting.

REE 4101 REAL ESTATE APPRAISAL (3)
PR: REE 3043. Comprehensive coverage of the basic concepts and principles of real estate appraisal. Emphasis placed on the use of valuation tools for the appraisal of real estate with emphasis on residential property.

REE 4143 INCOME PROPERTY VALUATION (3)
PR: REE 3043 and FIN 3403. Application of general appraisal methodologies and financial analysis to the valuation of income producing properties. Focus is on the income approach to valuation.

REE 4204 REAL ESTATE FINANCE (3)
PR: REE 3043. A comprehensive analysis of the institutional and legal framework of real estate financing together with an introduction to the financing techniques which are traditionally utilized to finance real estate. Includes methods of raising debt and equity funds. Analysis of real property for financing purposes is stressed in a decision-making context and how that decision affects the real estate investment.

REE 4303 REAL ESTATE INVESTMENT ANALYSIS (3)
PR: FIN 3403, REE 3043. A comprehensive study of the determinants of the market and financial feasibility of the real estate investment decision. The development of market and site analyses, theories or urban development patterns, and the role of taxation will be studied along with the application of analytical techniques for decision making.

REE 4313 REAL ESTATE FEASIBILITY ANALYSIS (3)
PR: REE 3703, REE 4143, and QMB 3200. A comprehensive and in-depth study of the determinants of the market and financial feasibility of the real estate investment decision.

RMI 3011 PRINCIPLES OF INSURANCE (3)
Analysis of insurable risks of both business and individuals. An examination of the characteristics of those areas of risk and uncertainty where the mechanisms of insurance are effective alternatives. The concept, contracts, and institutions involved in insurance are examined in relationship to the socio-economic environment.

RMI 4210 PROPERTY INSURANCE (3)
PR: RMI 3011. Course dealing with recognition of personal and business property risks, and coverages which may be used in dealing with these risks. Emphasizes the underwriting, marketing, and social problems associated with these coverages. Topics include commercial and residential fire insurance, inland marine and transportation coverages, and multiperil contracts. Not limited to Finance majors.

RMI 4220 CASUALTY INSURANCE (3)
PR: RMI 3011. Course dealing with recognition of personal and business casualty risks and coverages which may be used in dealing with these risks. Emphasizes the underwriting, marketing, and social problems associated with these coverages. Topics include workers' compensation, public liability, auto liability, suretyship, and crime insurance. Not limited to Finance majors.

GENERAL BUSINESS ADMINISTRATION

BUL 3320 LAW AND BUSINESS I (3)
This course covers the nature of legal and societal institutions and environments, and major aspects of public, private, UCC and related business law.

BUL 3321 LAW AND BUSINESS II (3)
PR: BUL 3112. Legal problems in marketing of goods, nature of property, sales of personal property, securing of credit granted, nature and use of negotiable instruments.

BUL 3360 THE LAW OF BUSINESS ASSOCIATIONS (3)
PR: BUL 3112. A study of the law of corporations, the law of partnerships, and the law of agency.

BUL 4331 LAW AND THE ACCOUNTANT (3)
PR: BUL 3112 or CI. A comprehensive study of commercial law as it affects the practice of accounting.

GEB 2935 SELECTED TOPICS IN BUSINESS (1-6)
PR: CI. Topics to be selected by department chairs. May be repeated if topics vary. Not available for credit to upper-level students who have been admitted to the College of Business.

GEB 4890 BUSINESS POLICY (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.

GEB 4905 INDEPENDENT STUDY (1-3)
PR: CI. Specialized independent study determined by the stu-
dent's needs and interests. May be repeated up to eight credit hours. (S/U only.)

GEB 5431 ELECTRONIC RESEARCH (1-4)
PR: CI. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 8 hours.

GEB 4935 SELECTED TOPICS IN BUSINESS ADMINISTRATION (1-4)
The content and organization of this course will vary according to student interest and the faculty and needs of students. May be repeated when subjects differ.

MAN 5925 CBA WORKSHOP (1-4)
Professional application workshop in various areas of finance, marketing, economics, accounting, management. May be repeated when subjects differ.

INFORMATION SYSTEMS AND DECISION SCIENCES

CGS 2000 COMPUTERS IN BUSINESS -6A
A study of the use and impact of computers in all areas of business organizations. Course includes hands-on experience and the use of software packages for business analysis.

ISM 3011 MANAGEMENT INFORMATION SYSTEMS
PR: CGS 2000; ACG 2001; ACG 2011 or equivalent. The study of information management, management information requirements and information systems in modern organizations.

ISM 3112 SYSTEMS ANALYSIS AND DESIGN
PR: CGS 3111C; COP 3120 or equivalent. Advanced study of structured systems design. Emphasis on strategies and techniques of structured analysis and structured design for producing logical methodologies for dealing with complexity in the development of information systems.

ISM 3113 SYSTEMS ANALYSIS AND DESIGN
PR: COP 3120 or equivalent. Study of the techniques and procedures used in assessing information requirements, analyzing information flows and processing activities, and designing computer-based business systems.

ISM 3431 MANAGEMENT SCIENCE PRODUCTION/OPERATION MANAGEMENT APPLICATIONS
PR: MAC 3233. Fundamentals of production operations management (POM) and fundamentals of management science (MS). The application of MS models in the solution of POM problems.

ISM 4212 DATABASE ADMINISTRATION
PR: ISM 3112C or ISM 3113. Principles of database administration. Database organization and models. Disaster planning for database files.

ISM 4220 DISTRIBUTED INFORMATION SYSTEMS
PR: ISM 3112C. Analysis, design, implementation and management of distributed information systems and networks.

ISM 4301 INFORMATION SYSTEMS
PR: ISM 3112C, ISM 4300. A seminar covering advanced topics in system analysis and design. Applications of these procedures to actual or hypothetical cases.

ISM 4300 MANAGING INFORMATION SERVICES
PR: MAN 3025, ISM 3111, or ISM 3113; or equivalent. An advanced study of information system management including system planning, project selection and management, and organizational information management policies.

ISM 4320 INFORMATION SYSTEMS CONTROLS
PR: ISM 3111or ISM 3113. MIS Major or CI. A study of information systems controls and its application in system design and system management. Students who complete this course will not receive credit for ACG 4621.

ISM 4400 DECISION SUPPORT SYSTEMS APPLICATIONS-COMPUTER ASSISTED DECISION MAKING
PR: FIN 3403, QMB 3200, and ISM 3111 or ISM 3113. Study of the principles of decision making of the human/computer alliance. Hands-on computer-assisted decision making in an organizational environment. Case studies and/or management games using micro-computers.

ISM 4905 INDEPENDENT STUDY
Independent study as directed by designated faculty. May be repeated up to 6 credit hours. (S/U only)

ISM 4930 SELECTED TOPICS IN MIS
PR: CI. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor.

MAN 4501 OPERATIONS MANAGEMENT: A SYSTEMS APPROACH (3)
PR: ISM 3431 or equivalent. Study of problems of "operations" in all types of enterprises in both the public and private sectors. Emphasis is placed on the application of various decision science methodologies to problem situations.

MAN 4507 OPERATIONS PRODUCTION SYSTEMS
PR: MAN 4504 or CI. Study of closed loop production planning and control systems. Master production planning, inventory management, materials requirements planning, capacity, management, production activity. Relationship to organizational effectiveness.

QMB 2150 BUSINESS AND ECONOMIC STATISTICS I-6A
PR: MAC 3233. Description of sample data; calculation of probabilities, frequency functions of random variables, the binomial and normal distributions; sampling theory and estimation; test of hypotheses; elements of Bayesian decision theory.

QMB 3200 BUSINESS AND ECONOMIC STATISTICS II
PR: MAC 3233, QMB 2150. Theory and use of statistical inference. Point and interval estimations; criteria for choosing estimation and decision rules; hypotheses tests; analysis of variance; correlation; multiple regression; and nonparametric methods.

QMB 4600 QUANTITATIVE APPROACH FOR BUSINESS DECISIONS
PR: ISM 3431. The use of systematic approaches and management science tools for decision making and problem solving in an organizational setting. Emphasis is on quantitative approaches for problem identification, analysis, choice and implementation.

QMB 4703 SIMULATION AND MODELING TECHNIQUES
PR: ISM 3431 or CI. 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.

MANAGEMENT

MAN 3025 PRINCIPLES OF MANAGEMENT
Study of the fundamentals of management. It treats topics in organizational theory, organizational behavior, and interpersonal relations which are relevant to effective management performance.

MAN 3240 ORGANIZATIONAL BEHAVIOR ANALYSIS
PR: MAN 3025. The course covers research literature relevant to organizational functioning including behavioral effects of power and authority, formal organization, structural variation, leadership, motivation, and communication.

MAN 3301 HUMAN RESOURCE MANAGEMENT
To develop a broad exposure to new approaches, techniques, and future trends in the management of personnel. A study of the major functions in personnel including job analysis, manpower planning, selection, performance evaluation, training, and wage and salary administration.

MAN 3401 INDUSTRIAL RELATIONS
A conceptualization of the administrative problems arising from unionization. Emphasis on the relationship between management and employee representatives in private and public employment.

MAN 4120 MANAGERIAL BEHAVIORAL LABORATORY
PR: MAN 3240 or equivalent. Development of direct understanding of personal, interpersonal, and intergroup factors present in organizational interaction. Stress is on a series of experiential exercises and written application of results within a laboratory setting.

MAN 4123 THEORY AND PRACTICE OF MANAGEMENT SKILLS
PR: MAN 3240. This course involves the transfer of management theories into practice. It requires the active involvement of students in developing and practicing the skills needed to be a successful manager.

MAN 4280 ORGANIZATIONAL DEVELOPMENT AND CHANGE
PR: MAN 3240 or CI. A lab course where students experimentally apply behavioral science techniques in an "action-research" framework to the cycle of planned change so as to build a more effective organization.

MAN 4282 ORGANIZATIONAL ASSESSMENT
PR: MAN 3240. The analysis and measurement of factors which
influence organizational effectiveness and the quality of work life. Data based cases will be used by students to assess managerial and supervisory skills and to measure organizational functioning and work design.

**MAN 4402 EMPLOYMENT LAWS**

Federal and state regulation of the employment relationship, including wage and hour laws; EEO; affirmative action programs; employee benefits; insurance; workers' compensation, safety, health, employee's personal rights; collective bargaining legislation.

**MAN 4430 SEMINAR IN NEGOTIATIONS AND ADMINISTRATION OF LABOR AGREEMENTS**

Case studies in contract negotiation, administration, grievance settlement, and arbitration. Assumes familiarity with industrial relations system.

**MAN 4802 ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT**

PR: ACC 2001, ACC 2021, MAR 3023, or Cl. Study of the factors involved in starting and managing a small- to medium-sized business. Emphasis on conduct of pre-business feasibility study, start-up of business, successful management of the firm, and options for succession or termination.

**MAN 4804 SMALL BUSINESS MANAGEMENT COUNSELING**

PR: MAN 4802 or Cl. Field application in small business settings by (a) analyzing an on-going small business and developing recommendations for making improvements; or (b) conducting a feasibility study for a new enterprise and developing a strategy for implementation if favorable.

**MAN 4905 INDEPENDENT STUDY**

PR: Cl. Specialized independent study determined by the students' needs and interests. May be repeated up to 8 credit hours. (S/U only.)

**MAN 4930 SELECTED TOPICS IN MANAGEMENT**

PR: Cl. Topics to be selected by instructor and department chairperson for pertinent Management issues.

**MAN 4931 INDEPENDENT RESEARCH**

PR: Cl. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 8 hours.

**MAN 5714 URBAN MANAGEMENT**

The applicability of business management theories and practices to problem solving in the public sector. A formal theory of organization is used to compare and contrast private and public sector decision environments.

**MAN 5806 ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT COUNSELING**

Small business management consulting in an on-going firm. Field application of various aspects of business administration in analyzing strengths and weaknesses, development of recommendations for improvement, and initiation of steps to assist business principals in evaluation and implementation. Emphasis on developing management counseling skills and recognizing implications of small business owner-manager's capabilities and attitudes for success in implementing recommendations.

**MARKETING**

**MAR 2931 SELECTED TOPICS IN MARKETING**

PR: Cl. Topics to be selected by department chairman. May be repeated if topics vary. Not available for credit to upper-level students who have been admitted to the College of Business. May be repeated up to 8 credit hours.

**MAR 3023 BASIC MARKETING**

PR: ACG 2001, ECO 2013, ECO 2023, or Cl. Survey of the marketing of goods and services within the economy. Attention is paid to the impact of marketing on other functional areas of business as well as society.

**MAR 3400 PROFESSIONAL SELLING**

PR: MAR 3023 or Cl. A study of the stages of the professional selling process, and the role of sales in today's marketing environment. Emphasis on learning adaptive selling techniques and developing effective interpersonal communications skills. Sales careers are examined.

**MAR 3613 MARKETING RESEARCH**

PR: QMB 3200, MAR 3023. A study of research methods and techniques applicable to problem solving in marketing. Attention is also given to defining information needs, determining the value of information, interpreting and reporting information for use in marketing decision making.

**MAR 4203 MARKETING MANAGEMENT**

PR: MAR 3023. An applied student-oriented study of the marketing function at an intermediate level. Emphasis upon techniques for analysis and problem-solving. Builds upon the principles and concepts learned in MAR 3023, and provides a strong foundation for the remaining courses in the marketing curriculum.

**MAR 4156 INTERNATIONAL MARKETING**

PR: MAR 3023. A study of procedures and problems associated with establishing marketing operations in foreign countries. Includes the institutions, principles and methods involved in the solution of these business problems as well as the effects of national differences on business practices and buyer behavior.

**MAR 4203 CHANNELS MANAGEMENT**

PR: MAR 3023. A detailed study of marketing channels as a functional area of marketing management responsibility and as a part of marketing strategy. Attention is given to wholesaling and retailing and their structural, dynamic interrelationships including distribution logistics.

**MAR 4213 LOGISTICS AND PHYSICAL DISTRIBUTION MANAGEMENT**

PR: MAR 3023 or Cl. A study of logistics in the marketing of goods and services. Includes a description and analysis of the logistics environment as well as components of the physical distribution system with emphasis on information flows and the application of quantitative techniques used in establishing and controlling customer service levels.

**MAR 4231 RETAILING MANAGEMENT**

PR: MAR 3023. A comprehensive study of the retailing structure, institutions, and environment. Includes pertinent management theories and practices in analyzing, organizing, planning and controlling retail operations, both large and small.

**MAR 4333 PROMOTION MANAGEMENT**

PR: MAR 3023 or Cl. A study of the role of promotion in the marketing program of the firm, including the promotional tools available to the marketing manager and the various types of decisions made in the promotional area. Decision making process in development of a promotional program is emphasized.

**MAR 4403 SALES MANAGEMENT**

PR: MAR 3023 or Cl. A study of sales management and strategy as a subset of marketing management. Emphasis is placed on developing the problem-solving and decision-making skills required of the sales manager in the modern market-oriented company.

**MAR 4453 INDUSTRIAL MARKETING**

PR: MAR 3023. A study of the marketing of goods and services to the industrial and institutional sectors. Includes characteristics of the markets and channels of distribution, sales, management, research and promotional practices, marketing policies and strategies.

**MAR 4503 BUYER BEHAVIOR**

PR: MAR 3023. A study of the basic concepts of buyer behavior, including pre- and post-purchase attitudes and behavior patterns, information processing relating to the functional areas of marketing and the buyer's decision-making process. Managerial applications to marketing are emphasized.

**MAR 4824 MARKETING MANAGEMENT PROBLEMS**

PR: Senior Standing, MAR 3823, MAR 3613, and two other 4000 level marketing courses, or Cl. The integration of marketing knowledge applied to decision roles in managing the total marketing effort of firms, and coordination with other major functional areas on specific problems.

**MAR 4903 INDEPENDENT RESEARCH**

PR: Cl. Individual study contract with instructor and department chairperson required. The research project will be mutually determined by the student and instructor. May be repeated up to 8 hours.

**MAR 4905 INDEPENDENT STUDY**

PR: Cl. Specialized independent study determined by the students' needs and interests. May be repeated up to 6 credit hours. (S/U only.)

**MAR 4933 SELECTED TOPICS IN MARKETING**

PR: Cl. Topics to be selected by instructor and department chairperson.
ASSISTANT COURSEPERSON:

Chairperson: W. E. Blank; Professor: F. F. Johnson, W. B. James; Associate Professors: W. E. Blank, R. Hill, K. Smith, Assistant Professor: D. B. Briscoe, D. Gardner, J. Scaglione; Visiting Instructors: J. Grisham, W. Helton, G. Kilpatrick; Other Faculty: K. Childress, M. Paul.

CHILDLIFE/LANGUAGE ARTS/READING EDUCATION


EDUCATIONAL LEADERSHIP


EDUCATIONAL MEASUREMENT AND RESEARCH

Chairperson: B. W. Hall; Professors: L. M. Carey, B. W. Hall, W. G. Katzenmeyer, D. E. Stone, R. E. Wilk; Associate Professors: C. V. Hines, G. Hutchcraft, R. M. Smith; Assistant Professor: R. F. Dedrick, J. D. Kromrey.

PHYSICAL EDUCATION


PSYCHOLOGICAL AND SOCIAL FOUNDATIONS


SECONDARY EDUCATION


SPECIAL EDUCATION


ADULT EDUCATION

ADE 4384 WORKING WITH THE ADULT LEARNER:

ADULT EDUCATION (3)

An investigation of the needs of the adult learner. Identification of principles of adult learning; physiological, psychological and social characteristics of adult learners, and corresponding implications are explored.

ART EDUCATION

ARE 3044 EXPERIENTIAL BASIS OF ARTISTIC MIND (3)

PR: Admission to College of Education. Designed to help the individual student discover and develop meanings and values in art and education with emphasis on communicative skills, both verbal and visual. Focus will be on the individual and potential alternatives in the teaching of art.

ARE 3354 ART TEACHING STRATEGIES (3)

PR: Admission to College of Education and ARE 3044. 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.

ARE 4112 EDUCATION THROUGH CRAFTS (3)

An in-depth study of arts and craft media for children. Emphasis will be placed on innovative use of new materials and curriculum in school restructuring.

ARE 4260 SEMINAR IN ART EDUCATION CLASSROOM MANAGEMENT (1)

PR: Admission to College of Education and ARE 3044. The concepts and areas of skill essential to successful practice in art education management. To include understanding of how art programs are funded, art facility planning, art curriculum development, art exhibition techniques, public relations promotion and supply and equipment requirements.

ARE 4440 ART TEACHING STRATEGIES II (3)

Media and the learning process will be explored through photographic arts, cinematography and video systems. Teaching strategies and media criticism for application at elementary and secondary levels.

ARE 4443 CRAFTS WORKSHOP IN ART EDUCATION (3)

PR: Admission to College of Education and ARE 3044. The study and practice of processes and media involved with the exploration and expression of cultural traditions and individual ideas through crafts.

ARE 4642 URBAN ENVIRONMENT/COMMUNITY ARTS WORKSHOP (3)

PR: Admission to College of Education and ARE 3044. Identification, exploration, and experimentation with unique community spaces and populations as potential new environments for teaching and learning in arts.

ARE 4909 DIRECTED STUDY: ART EDUCATION (1-3)

PR: Senior standing. To extend competency in teaching field.

ARE 4936 SENIOR SEMINAR IN ART EDUCATION (2)


ARE 4940 INTERNSHIP: ART EDUCATION (1-12)

CR: ARE 4936. One full semester of internship in a public or private school. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

BUSINESS AND OFFICE EDUCATION

BTE 4401 SPECIAL TEACHING METHODS: BUSINESS EDUCATION (4)

PR: Successful completion of BE competencies, or CI, Methods, techniques, and materials for skill development.

BTE 4410 METHODS OF TEACHING: BUSINESS EDUCATION (4)

PR: Successful completion of BE competencies, or CI, Methods, techniques and materials for instruction.

BTE 4909 DIRECTED STUDY: BUSINESS EDUCATION (1-3)

PR: Senior standing. To extend competency in teaching field.

BTE 4936 SENIOR SEMINAR IN BUSINESS AND OFFICE EDUCATION (2)

PR: Senior standing; CR: BTE 4940. Synthesis of teacher candidate's courses in complete college program.

BTE 4940 INTERNSHIP: BUSINESS EDUCATION (1-12)

CR: BTE 4936. One full semester of internship in a public or private school. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

BTE 4948 FIELD-BASED SEMINAR IN BUSINESS EDUCATION (3)

Supervised field experience and orientation to broad field business education. Specifically designed to be preparatory for the internship. (S/U only.)

BTE 5161 PROGRAM MANAGEMENT: BUSINESS EDUCATION (3)

Organization, coordination, and budgeting of adult, cooperative, and special programs.

BTE 5220 CURRICULUM CONSTRUCTION: BUSINESS EDUCATION (3)

Curriculum scope, the process of planning and organizing instructional programs with emphasis in task analysis and process evaluation.
OST 3324 BUSINESS AND OFFICE MACHINES  (3)
Instruction and practice on selected business and office machines to solve business mathematics problems.

OST 3501 ADMINISTRATIVE OFFICE MANAGEMENT  (3)
Functions of the business office to include systems and procedures, communications, records, management, office employee behavior, and the work of the office and principles of office organization.

OST 3711 OFFICE INFORMATION PROCESSING  (3)
Application of concepts and technology of information processing to office operations. Review of the grammar, punctuation, and transcription skills needed for editing in word processing operations. Available to majors and nonmajors.

OST 4402 OFFICE OCCUPATIONS PROCEDURES  (3)
PR: Successful completion of all basic competency exams required by the program area, or consent of program coordinator. This course is designed to integrate learnings from preceding business and office education courses.

COMPUTERS IN EDUCATION

EME 4002 INTRODUCTION TO COMPUTERS IN EDUCATION  (2)
Introduction to microcomputer technology and its function in the classroom to augment the teaching and learning processes. Topics include the critical evaluation of educational software; conceptualizing uses of computers in the classroom in terms of computer-directed instruction, computer-enhanced instruction, and computer-managed instruction; understanding hardware; using and applying commercial coursework, general applications software (word processors, database managers, etc.), and disk operating systems.

EME 5403 MICROCOMPUTERS IN EDUCATION: ELEMENTARY AND SECONDARY METHODS  (3)
Methods and applications of computers in education. Topics include: computer literacy, current trends and issues in computer education, and instructional pedagogy in computer science education.

COUNSELOR EDUCATION

EGC 4001 INTRODUCTION TO GUIDANCE PROCESSES  (3)
PR: Upper level standing. An introduction to the role and function of guidance, school psychology, social work and other pupil personnel services. Opportunities for increasing self-awareness.

EGC 4052 INTRODUCTION TO STUDENT PERSONNEL WORK IN HIGHER EDUCATION  (2)
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, etc.

EGC 4101 HUMAN RELATIONS SKILLS IN COUNSELING  (4)
PR: EGC 4001 or CI. Introduction to the theory of human relations dynamics and development of skills required for effective interpersonal relations. Lecture sessions and laboratory training.

EGC 4905 INDEPENDENT STUDY: GUIDANCE AND COUNSELING EDUCATION  (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

SLS 1101 THE UNIVERSITY EXPERIENCE  (2)
PR: Freshman only or CI. An extended introduction and orientation to USF. Topics include purposes of higher education, structure and function of USF, overview of the processes of career planning and selecting a major, study skills, and managing out-of-class time.

SLS 2401 CAREER DEVELOPMENT PROCESS  (2)
Students will study vocational choice theories and participate in career decision processes. Development of self-awareness and knowledge of career opportunities and requirements necessary for decision making. Available to lower level majors or nonmajors.

CURRICULUM AND INSTRUCTION

EDG 1300 INTRODUCTION TO TEACHING  (3)
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.

EDG 4620 CURRICULUM AND INSTRUCTION  (3)
An introduction to the field of curriculum and instruction. Emphasis is placed on identifying educational goals and objectives and applying instructional principles.

DISTRIBUTIVE AND MARKETING EDUCATION

DEC 4161 PROGRAM MANAGEMENT OF DISTRIBUTIVE AND MARKETING EDUCATION  (3)
The study of the purposes, processes, organization, planning, directing, coordinating and evaluation of Distributive and Marketing Education Cooperative Programs.

DEC 4401 SPECIAL TEACHING METHODS: DISTRIBUTIVE EDUCATION  (4)
Methods, techniques, and materials for skill development.

DEC 4411 METHODS OF TEACHING: DISTRIBUTIVE EDUCATION  (3)
Methods, techniques, and materials for instruction.

DEC 4905 INDEPENDENT STUDY: DISTRIBUTIVE AND MARKETING EDUCATION  (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

DEC 4936 SENIOR SEMINAR IN DISTRIBUTIVE AND MARKETING EDUCATION  (2)

DEC 4940 INTERNSHIP: DISTRIBUTIVE AND MARKETING EDUCATION  (1-12)
CR: DEC 4936. One full semester of internship in a public or private school. In special programs where the intern experience is distributed over two or more semesters students will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

DEC 4941 SUPERVISED FIELD EXPERIENCE: DISTRIBUTIVE EDUCATION  (1-4)
PR: CI. Planned supervised functions in the area of specialization and coordinated with selected schools, government offices, social agencies, businesses and industries on site.

DEC 5165 PROGRAM MANAGEMENT: DISTRIBUTIVE EDUCATION  (3)
Organization, coordination, and budgeting of adult, cooperative, and special programs.

ELEMENTARY EDUCATION

ARE 4313 ART FOR THE CHILD AND YOU  (3)
PR: Admission to College of Education. Art and the intellectual, creative, emotional, and aesthetic growth of children.

EDE 4301 TEACHING METHODS IN THE ELEMENTARY SCHOOL  (4)
PR: EDE 4941 and EDG 4620. Techniques and strategies appropriate to instruction of children in educational settings.

EDE 4905 INDEPENDENT STUDY: ELEMENTARY EDUCATION  (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

EDC 4941 DIRECTED STUDY: ELEMENTARY EDUCATION  (1-4)
PR: Senior standing. To extend competency in teaching field.

EDC 4936 SENIOR SEMINAR IN ELEMENTARY EDUCATION  (2)
PR: Senior standing; CR: EDE 4940. Synthesis of teacher candidate's courses in complete college program.

EDC 4940 INTERNSHIP: ELEMENTARY EDUCATION  (10)
PR: EDE 4941 and EDE 4942; CR: EDE 4936. Teacher candidate is required to demonstrate professional competencies during one semester of fullday internship in a public or private elementary school. (S/U only.)

EDC 4941 CHILDHOOD EDUCATION INTERNSHIP LEVEL I  (4)
PR: Admission to the Elementary or Elementary/Early Childhood programs. Students spend six hours per week in a supervised inschool experience and attend weekly seminar. Concurrent enrollment in EDG 4620-Elementary section. (S/U only.)

EDC 4942 CHILDHOOD EDUCATION INTERNSHIP LEVEL II  (6)
PR: EDE 4941. Students spend 12 hours per week in a supervised internship experience in classroom settings and attend a weekly seminar.
EEC 2000 INTRODUCTION TO EARLY CHILDHOOD EDUCATION  
An overview of early childhood education with emphasis on its historical development, current theories, and practices.

EEC 4203 PROGRAMS IN EARLY CHILDHOOD EDUCATION  
PR: Admission to College of Education. A study of school programs for children age 3-8. Analysis and evaluation of these programs in the light of the most effective current classroom practices. Observation and participation included.

EEC 4303 CREATIVE EXPERIENCES IN EARLY CHILDHOOD EDUCATION  
PR: Admission to College of Education. The development of the child's creative expression through art, music, dance, play, and drama; included are the materials, content, and teaching techniques.

EEC 4706 LANGUAGE AND LEARNING IN EARLY CHILDHOOD  
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.

EEC 4905 INDEPENDENT STUDY: ELEMENTARY EARLY CHILDHOOD EDUCATION  
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

EEC 4909 DIRECTED STUDY: ELEMENTARY EARLY CHILDHOOD EDUCATION  
PR: CI. Senior standing. To extend competency in teaching field.

EEC 4936 SENIOR SEMINAR IN ELEMENTARY EARLY CHILDHOOD EDUCATION  

EEC 4940 INTERNSHIP: ELEMENTARY EARLY CHILDHOOD  
CR: EEC 4936. Teacher candidate is required to demonstrate professional competencies during one semester of full-day internship in a public or private elementary school. Concurrent enrollment in EEC 4936. (S/U only.)

HLP 4722 HEALTH AND PHYSICAL EDUCATION FOR THE CHILD  
PR: Admission to the College of Education. The study of the importance of movement competency and its contribution to the development of a positive self-concept in children; content and methodology for developing appropriate movement experiences for children; content and methodology for teaching elementary school physical education.

LAE 4314 LANGUAGE ARTS IN CHILDHOOD EDUCATION  
PR: Admission to the College of Education. The exploration of the content, organization and instruction of oral communication and written expression in Childhood Education.

LAE 4414 LANGUAGE AND LITERACY IN CHILDHOOD EDUCATION  
PR: Admission to College of Education. The selection, evaluation and use of fiction, nonfiction and poetry for instructional, informational, and recreational purposes in Childhood Education.

MAE 4310 TEACHING ELEMENTARY SCHOOL MATHEMATICS I  
PR: Admission to College of Education and two college level mathematics courses. Methods for teaching number ideas, computation skills, and mathematical reasoning.

MAE 4326 TEACHING ELEMENTARY SCHOOL MATHEMATICS II  
PR: MAE 4310. Methods for teaching informal geometry, measurement, probability and statistics.

MAE 4510 DIAGNOSIS AND TREATMENT OF LEARNING DISABILITIES IN SCHOOL MATHEMATICS  
PR: MAE 4310 or equivalent. Presentation and analysis of teaching methods and models appropriate for use with students experiencing learning disabilities in mathematics; supervised conduct of a case study.

MUS 4310 MUSIC FOR THE CHILD  
PR: Admission to College of Education. Music fundamentals, the development of music skills and knowledge of music materials and teaching strategies for presenting music to children in the elementary school.

RED 4310 READING FOR THE CHILD  
PR: Admission to College of Education. Prereading, word recognition, comprehension and basic study skills and various reading approaches and reading interests.

SCE 4310 TEACHING ELEMENTARY SCHOOL SCIENCE  
PR: Admission to College of Education and completion of General Distribution Requirements in the Natural Science area. Techniques and materials for teaching science in the elementary school.

SSE 4313 TEACHING ELEMENTARY SCHOOL SOCIAL STUDIES  
PR: Admission to College of Education or CI. Methods of planning and teaching subjects related to the study of people and their relationships with other people and their environment.

ENGLISH EDUCATION

LAE 4325 METHODS OF TEACHING ENGLISH IN MIDDLE SCHOOL  
Whole language methods of integrating reading, writing, speaking, listening, viewing, and critical thinking activities into a literature-based program for middle school students. Must be taken one or two semesters prior to internship. Either this course or LAE 4642 must be taken concurrently with LAE 4530.

LAE 4454 ADOLESCENT LITERATURE FOR MIDDLE AND SECONDARY STUDENTS  
PR: English Education majors or CI. A study of the types of literature read by adolescents with an emphasis upon the criteria for the choice of good books and knowledge of available books and teaching materials.

LAE 4530 METHODS OF TEACHING ENGLISH: PRACTICUM  
PR: Senior standing or enrollment in Plan II Master's Program. Required concurrently with LAE 4642, or LAE 4642. Taken one semester (spring or fall) prior to internship.

LAE 4642 METHODS OF TEACHING ENGLISH: HIGH SCHOOL  
Whole language methods of integrating reading, writing, speaking, listening, viewing, and critical thinking activities into a literature-based program for high school students. Must be taken one or two semesters prior to internship. Either this course or LAE 4325 must be taken concurrently with LAE 4530.

LAE 4905 INDEPENDENT STUDY: ENGLISH EDUCATION  
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

LAE 4936 SENIOR SEMINAR IN ENGLISH EDUCATION  

LAE 4940 INTERNSHIP: ENGLISH EDUCATION  
PR: Certification in English. Intern takes Senior Seminar in English Education concurrently. In special programs where the intern experience is distributed over two or more semesters, student will be registered for credit which accumulates from 9 to 12 semester hours. (S/U only.)

LAE 5532 SELECTED TOPICS IN THE TEACHING OF ENGLISH  
PR: Certification in English and/or Mass Communications and approval of graduate advisor. 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.

FOREIGN LANGUAGE EDUCATION

FLE 4314 FOREIGN LANGUAGE TEACHING IN THE ELEMENTARY SCHOOL  
PR: EDG 4620 or concurrent registration. Fluency in target language and in English. Methods of planning and teaching foreign languages in the elementary school. The emphasis is on teaching communicatively and on integrating culture in the K-6 classroom.

FLE 4333 FOREIGN LANGUAGE TEACHING IN THE SECONDARY SCHOOL  
PR: FLE 4314. Fluency in the target language and in English (or CC). Methods of teaching foreign languages within a communicative framework. Includes examination and practice of current instructional techniques in listening, speaking, reading and writing skills, testing, error correction, and computer assisted language instruction. The emphasis is on teaching foreign languages and teaching for cultural understanding at the secondary level 7-12.
FLE 4370 PRACTICUM IN FOREIGN LANGUAGE
TEACHING IN THE SECONDARY SCHOOL (3)
PR: Senior standing or enrollment in Plan II Master's Program (or CC). Required concurrently with FLE 4314 or FLE 4333. Fluency in the target language and in English. Pre-internship field experience in a K-12 environment. Will include observation and practice in a K-12 classroom as well as class meetings.

FLE 4936 SENIOR SEMINAR IN FOREIGN LANGUAGE EDUCATION (2)

FLE 4940 INTERNSHIP: FOREIGN LANGUAGE EDUCATION (1-12)
One full semester of internship in a public or private school. Intern takes Senior Seminar in Education concurrently. (S/U only.)

EDG 4809 DIRECTED STUDIES
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

INDUSTRIAL AND TECHNICAL EDUCATION

EIA 3192 TECHNOLOGY IN EDUCATION AND SOCIETY (4)
Introduction to programs, facilities and opportunities in teaching technology education. Includes historical, current and futuristic implications of technology in society.

EIA 4360 SPECIAL TEACHING METHODS: TECHNICAL EDUCATION (3)
Equips Technology Education instructors with professional competencies for classroom and laboratory settings. Includes the selection of appropriate methods, planning, and delivery of instruction, along with supervision of students in laboratory areas.

EIV 4310 PROGRAM MANAGEMENT:
INDUSTRIAL-TECHNICAL EDUCATION (4)
PR: CI. Planning, organizing, motivating and controlling of the learning environment in Industrial-Technical Education Classroom and Laboratories. Program standards for OSHA, program review, record keeping, and budgeting will be examined.

EIV 4314 METHODS OF TEACHING: DIVERSIFIED COOPERATIVE TRAINING (3)
Methods, techniques, and materials for instruction. This course specializes in Diversified Cooperative Training.

EIV 4360 SPECIAL TEACHING METHODS:
INDUSTRIAL-TECHNICAL EDUCATION (4)
PR: EVT 4360 or CI. Instructional techniques in industrial-technical education. Vocational Industrial Clubs of America activities may be included.

EIV 5315 PROGRAM MANAGEMENT: DIVERSIFIED COOPERATIVE TRAINING (3)
Organization, coordination, and budgeting of adult, cooperative, and special programs.

EVT 3060 THE TEACHER IN THE WORLD OF WORK (3)
A study of educational efforts in preparing people for work, the relationship of a job to one's life style, and the concept of education as a life-long process.

EVT 4062C TEACHING IN INDUSTRIAL-TECHNICAL EDUCATION (1-3)
An overview of the ITE instructor's roles and responsibilities concerning students, the school and the community and a look at the organization of vocational education, liability, and professionalism.

EVT 4065 HISTORY AND PRINCIPLES OF VOCATIONAL EDUCATION (4)
An overview of current policies and principles in vocational education including their historical, sociological, and philosophical bases. Open to majors and non-majors.

EVT 4084C PROFESSIONAL DEVELOPMENT IN INDUSTRIAL TECHNICAL EDUCATION (1-3)
Designed for the ITE teacher in forming plans of professional development. Competencies include the development of a personal education philosophy; attributes in creating harmonious school community relationships; and desirable staff and teacher associations.

EVT 4165 CURRICULUM CONSTRUCTION:
INDUSTRIAL-TECHNICAL EDUCATION (4)
PR: EVT 4360 or CI. Design, development, implementation and evaluation of effective curricular materials in industrial, technical and health related occupations; includes individualized and self-paced materials. Open to majors and non-majors.

EVT 4263 ORGANIZATION AND ADMINISTRATION OF STUDENT VOCATIONAL ORGANIZATIONS (4)
Includes the organization and administration of the local student vocational organization in industrial, health occupations, business and distributive education.

EVT 4312 TEACHING METHODS: HEALTH OCCUPATIONS (4)
Equips health occupations instructors with professional competencies for classroom, laboratory and clinical settings. Includes selection of appropriate methods, planning and delivery of effective demonstrations, use of media and supervision of students in clinical areas.

EVT 4365 BASIC TEACHING METHODS IN VOCATIONAL EDUCATION (4)
Examines the role of the vocational instructor in the teaching learning process; looks at factors that promote and inhibit learning. Reviews a wide variety of instructional approaches, techniques and methods; includes selection of techniques for situations.

EVT 4367 ASSESSING STUDENT SKILL IN INDUSTRIAL TECHNICAL EDUCATION (4)
Techniques for assessing student's mastery of skills in industrial/technical education. Focuses on specific competencies including developing and administering performance tests, monitoring student process, and others. Open to majors and non-majors.

EVT 4540 READING SKILLS IN ADULT AND VOCATIONAL EDUCATION (2)
PR or CR: RED 4360. Students will study reading and communication skills as they relate to their particular content areas in Adult and Vocational-Technical Education. This course, along with RED 4360, satisfies State certification requirement pertaining to secondary reading.

EVT 4562 VOCATIONAL EDUCATION FOR SPECIAL NEEDS STUDENTS (4)
PR: EVT 4365. Focuses on modifying the vocational education curriculum, laboratory, shop, student outcomes, learning activities, tests, media, etc. to accommodate the unique learning needs of minority, handicapped, disadvantaged, non-traditional and other special needs students.

EVT 4905 INDEPENDENT STUDY: INDUSTRIAL-TECHNICAL EDUCATION (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

EVT 4909 DIRECTED STUDY: INDUSTRIAL-TECHNICAL EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

EVT 4936 SENIOR SEMINAR IN INDUSTRIAL-TECHNICAL EDUCATION (2)
PR: Senior standing; CR: EVT 4940. Synthesis of teacher candidate's courses in complete college program.

EVT 4940 INTERNSHIP: INDUSTRIAL-TECHNICAL EDUCATION (1-12)
CR: EVT 4936. One full semester of internship in a public or private school. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9-12 semester hours. (S/U only.)

EVT 4946 SUPERVISED FIELD EXPERIENCE:
INDUSTRIAL-TECHNICAL EDUCATION (1-6)
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. (S/U only.)

EVT 5285 OCCUPATIONAL SAFETY AND HEALTH (OSHA) (3)
Planning and organizing safety and health course content to be included in occupational education programs in Florida. Content to be identified in and selected from Federal Registers, Department of Labor, Occupational Safety and Health Standards.

EVT 5369 PREPARATION AND DEVELOPMENT FOR TEACHING (4)
The development of selected instructional materials, use of new educational media, performance evaluation instruments, and counseling techniques.

EVT 5664 SCHOOL COMMUNITY DEVELOPMENT (4)
This course is an approach to identifying, assessing, and analyzing, individual, institutional and community needs for the pur-
<table>
<thead>
<tr>
<th>COURSE</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>PEM 1201 GYMNASTICS I</td>
<td>Introductory experiences in the various gymnastics events. Opportunities to specialize in areas of personal interests.</td>
</tr>
<tr>
<td>PEM 1461 FOIL FENCING</td>
<td>Progressive experiences in the sport of Foil Fencing, fundamental skills, strategy, information, and participation.</td>
</tr>
<tr>
<td>PEM 2116 STRENGTH AND AEROBIC DEVELOPMENT</td>
<td>Varied activities designed to effect changes in body configuration and functional ability.</td>
</tr>
<tr>
<td>PEM 2131 WEIGHT TRAINING</td>
<td>Knowledge and techniques necessary for increasing muscle function. Assessment of status and development of a personal program.</td>
</tr>
<tr>
<td>PEM 2141 JOGGING</td>
<td>Introduction to the knowledge and techniques necessary for increasing cardiorespiratory efficiency. Assessment of status and development of a personal program.</td>
</tr>
<tr>
<td>PEM 2202 GYMNASTICS II</td>
<td>Continuation of PEM 1201. Extended opportunities to master the various gymnastics events. Competition and individual routines.</td>
</tr>
<tr>
<td>PEM 3030 KARATE</td>
<td>Introductory experiences in the sport of Karate. Fundamental skills, strategy, information, and participation.</td>
</tr>
<tr>
<td>PEM 2930 SELECTED TOPICS</td>
<td>Activities offered are selected to reflect student need and faculty interest. May be repeated up to 6 credit hours.</td>
</tr>
<tr>
<td>PEM 2113 LIFEGUARD TRAINING</td>
<td>PR: PEN 2172 or equivalent. Development of the essential skills and knowledge necessary for serving the lives of others in the event of aquatic emergency. ARC certification offered.</td>
</tr>
<tr>
<td>PEM 2126 SKIN &amp; SCUBA DIVING</td>
<td>PR: PEN 2172 or equivalent. Development of the essential skills and knowledge necessary for enjoying swimming. Emphasis on personal safety.</td>
</tr>
<tr>
<td>PEM 2172 SWIMMING II</td>
<td>PR: PEN 1121 or equivalent. Continuation of PEN 1121. Special emphasis on development of endurance and efficient stroking.</td>
</tr>
<tr>
<td>PET 3030 SELECTED TOPICS</td>
<td>Topics offered are selected to reflect student need and faculty interest. May be repeated up to 9 credit hours.</td>
</tr>
<tr>
<td>HSC 2400 FIRST AID</td>
<td>Meets the American Red Cross certification requirements in standard and advanced first aid.</td>
</tr>
<tr>
<td>PEO 4941 WELLNESS INTERNSHIP</td>
<td>PR: CC. Completion of all curriculum requirements. Supervised performance in adult fitness and/or wellness programs. Full semester on-site. Open to Wellness Leadership Physical Education Majors only.</td>
</tr>
<tr>
<td>PEP 3940 PRACTICUM IN HEALTH PROMOTION/WELLNESS</td>
<td>PR: CI. Completion of Semesters I and II and admission to the College of Education. Practical experience as a professional in a community or worksite health promotion or wellness program.</td>
</tr>
<tr>
<td>PEP 3965 COMMUNICATION SKILLS FOR WELLNESS LEADERS</td>
<td>PR: Completion of Semester I and II in Wellness Leadership track or CI. Designed to develop knowledge and skills in communication and counseling that is specific to wellness and health promotion.</td>
</tr>
<tr>
<td>PEQ 3161 AEROBICS</td>
<td>PR: Red Cross beginning swimmer's skills or equivalent. Includes analysis of swimming skills, teaching methodology, conducting class activities, and organizing and conducting aquatic programs.</td>
</tr>
<tr>
<td>PEQ 3170 AQUATIC EXERCISE</td>
<td>PR: CC. An instructor training course in aquatic exercise. Focuses on teaching aerobic, strength, flexibility, and weight control exercises performed in swimming pools. Open to non-majors.</td>
</tr>
</tbody>
</table>
PET 2000 INTRODUCTION TO PHYSICAL EDUCATION IN TODAY'S SOCIETY

PR: CR. An overview of the field of physical education, including the role of the physical education teacher and non-teaching career options. The role of play, sport, and physical education in today's society is examined. The power of the competencies necessary for careers in physical education. (S/U only.)

PET 3012 PERSONAL/PROFESSIONAL DEVELOPMENT SEMINAR

PR: CR. Identification of personal and professional knowledge, skills, and attitudes necessary for successful professional practice of physical educators and wellness leaders. Introduction to curriculum and the historical, philosophical, and sociological foundations of the profession. Development of a personal-professional development plan. Field work required. Majors only.

PET 3031 MOTOR DEVELOPMENT AND ASSESSMENT

PR: CR. Study of the assessment, evaluation and motor development performance of children and adolescents and application of principles of motor skills acquisition in physical education instruction. Open to non-majors.

PET 3080 SURVEY OF WELLNESS PROGRAM

PR: CR. An analysis of various types of wellness programs in the public and private sector including community-based programs, commercial health and fitness enterprises, government-based programs, corporate-based programs, and hospital health and fitness centers.

PET 3310 KINESIOLOGY

PR: CR. A study of the structure and function of the skeletal and muscular systems and of mechanical principles related to psychomotor performance. Open to non-majors.

PET 3351 EXERCISE PHYSIOLOGY I

PR: CR. A study of the effects of physical activity on the body. Topics include acute and chronic adaptation of the cardiovascular, muscular, metabolic, hormonal, and energy systems to exercise. Open to non-majors.

PET 3421 CURRICULUM AND INSTRUCTION IN PHYSICAL EDUCATION

PR: CR. Development of knowledge and skills related to the instruction process of physical education. Preparation of materials and planning instruction.

PET 3422 INSTRUCTIONAL DESIGN AND CONTENT: MOVEMENT EXPERIENCES

PR: CR. This course develops a variety of motor skills and includes the study of systems for analyzing movement. It prepares students to plan and conduct movement experiences in a wide variety of educational settings.

PET 3441 INSTRUCTIONAL DESIGN AND CONTENT: MIDDLE SCHOOL PHYSICAL EDUCATION

PR: CR. The development of physical education content and instructional practices for middle school students. The focus is upon matching appropriate content and learning experiences to the unique needs of the pre- and early adolescent learner.

PET 3640 ADAPTED PHYSICAL EDUCATION

PR: CR. A study of characteristics, programming needs and teaching of physical education for handicapped students.

PET 3943 PHYSICAL EDUCATION INTERNSHIP: MIDDLE SCHOOL

PR: CR. A part-time internship in middle school physical education focusing on the relationship of physical education to the needs of the pre- and early adolescent learner, the organization and purpose of the middle school, and application appropriate content and methodologies.

PET 4141 TRENDS AND TASKS - ELEMENTARY PHYSICAL EDUCATION

PR: CR. Current trends are evaluated from a historical and philosophical perspective. Non-teaching tasks are identified as part of the professional role. Evaluate and continue personal-professional development plan developed in previous semesters. Taken concurrently with Physical Education Internship: Elementary. Physical Education Majors only.

PET 4142 TRENDS AND TASKS - SECONDARY PHYSICAL EDUCATION

PR: CR. Current trends are evaluated from a historical and philosophical perspective. Non-teaching tasks are identified as part of the professional role. Evaluate and continue personal-professional development plan developed in previous semesters. Taken concurrently with Physical Education Internship: Secondary. Physical Education Majors only.

PET 4304 PRINCIPLES AND ISSUES IN COACHING

PR: CR. The application of principles from philosophy, psychology, sociology, and physiology to competitive athletics and coaching.

PET 4332 EXERCISE PHYSIOLOGY II

PR: CR. & PET 3352. A study of Exercise Physiology focusing on the adult. Includes specific populations such as the obese, heart patients, arthritics, elderly, and high performance athletes. Open to non-majors.

PET 4384 HEALTH-FITNESS APPRAISAL & EXERCISE PRESCRIPTION

PR: CR. & PET 3352. Techniques in conducting health-fitness test and exercise prescription for adults. Includes cardiovascular strength, flexibility, body composition, health risk testing, exercise prescribing, and monitoring. Open to non-majors.

PET 4401 ORGANIZATION & ADMINISTRATION OF PHYSICAL EDUCATION PROGRAMS

PR: CR. A study of organizational and administrative procedures for physical education programs in elementary and secondary schools. Includes scheduling, budget, facilities, extracurricular programs, and the selection and supervision of staff.

PET 4404 ORGANIZATION & ADMINISTRATION OF WELLNESS PROGRAMS

PR: CR. Design and implementation of various types of wellness programs with emphasis on assessment and evaluation, management, staffing, participant adherence, program design, budgeting, legal liability, and marketing.

PET 4432 INSTRUCTIONAL DESIGN AND CONTENT: PHYSICAL EDUCATION ELEMENTARY

PR: CR. This is the second of a three-course sequence in which students study movement forms and instructional processes suitable for elementary age students.

PET 4433 INSTRUCTIONAL DESIGN AND CONTENT: PHYSICAL EDUCATION ELEMENTARY II

PR: CR. This course prepares students to select, plan, conduct complex movement experiences for students K-6.

PET 4442 INSTRUCTIONAL DESIGN AND CONTENT: PHYSICAL EDUCATION SECONDARY

PR: CR. Development of knowledge and skills related to the teaching of selected movement activities such as team sports, gymnastics, and physical fitness. Focus is on understanding mechanical principles utilized within those activities as well as on instructional progression and the preparation of materials for instruction at the secondary level.

PET 4443 INSTRUCTIONAL DESIGN AND CONTENT: PHYSICAL EDUCATION SECONDARY II

PR: CR. In this course, students are prepared to plan, conduct, and evaluate complex movement experiences in games, dance, gymnastics and physical fitness appropriate for students.

PET 4622C CARE AND PREVENTION OF PHYSICAL INJURIES

PR: CR. Principles and techniques of conditioning athletes for competition; prevention and care of injuries in physical education and athletic activities.

PET 4905 INDEPENDENT STUDY: PROFESSIONAL PHYSICAL EDUCATION

PR: CR. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

PET 4933 SENIOR SEMINAR IN SECONDARY PHYSICAL EDUCATION

PR: CR. Synthesis of teacher candidate's courses in complete college program. Reflective evaluation of teaching experience. Required concurrently with Associate Teaching in Physical Education: Secondary. Physical Education Majors only.

PET 4934 SENIOR SEMINAR IN ELEMENTARY PHYSICAL EDUCATION

PR: CR. Synthesis of teacher candidate's course in complete college program. Reflective evaluation of teaching experience. Required concurrently with Associate Teaching in Physical Education: Elementary. Physical Education Majors only.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PET 4942</td>
<td>Physical Education Internship: Elementary</td>
<td>4</td>
<td>A part-time internship in elementary school physical education. Focus on the nature of the total elementary school curriculum, characteristics of students, and application of appropriate content and instructional competencies. (S/U only.)</td>
</tr>
<tr>
<td>PET 4944</td>
<td>Physical Education Internship: Secondary</td>
<td>4</td>
<td>A part-time internship in high school level physical education with focus on the relationship of physical education to the needs of the early adolescent and the implementation of appropriate content and methodology. (S/U only.)</td>
</tr>
<tr>
<td>PET 4947</td>
<td>Physical Education Internship: Secondary</td>
<td>4</td>
<td>A part-time internship in high school level physical education with focus on the relationship of physical education to the needs of the early adolescent and the implementation of appropriate content and methodology. (S/U only.)</td>
</tr>
<tr>
<td>EDF 4947A</td>
<td>Athlete Training Practicum</td>
<td>2</td>
<td>PR: PET 4622. A ten-week training room practicum on skills in preventive strapping and review first aid and rehabilitation techniques, followed by a five-week practicum with local high schools or professional teams. Enrolment in these courses requires admission to the Physical Education program.</td>
</tr>
<tr>
<td>EDF 4947B</td>
<td>Athlete Training Practicum</td>
<td>2</td>
<td>PR: PET 4622. A ten-week training room practicum on skills in preventive strapping and review first aid and rehabilitation techniques, followed by a five-week practicum with local high schools or professional teams. Enrolment in these courses requires admission to the Physical Education program.</td>
</tr>
<tr>
<td>EDF 3228</td>
<td>Behavior Modification Techniques</td>
<td>4</td>
<td>PR: EDF 3214. Special techniques in behavior modification for children with learning difficulties. Minimum of two hours field experience per week required in addition to regular class hours.</td>
</tr>
<tr>
<td>EDF 3232</td>
<td>Philosophy of Education</td>
<td>3</td>
<td>PR: EDF 3228. Upper level standing. A study of philosophy of education with an emphasis on aspects that are relevant to an understanding of the issues and problems of teaching.</td>
</tr>
<tr>
<td>EDS 3604</td>
<td>Social Foundations of Education</td>
<td>3</td>
<td>PR: EDF 3604. Completion of 26 hours in approved science areas, EDF 4620 (or CR), CC. Techniques and materials of instruction in secondary school sciences.</td>
</tr>
<tr>
<td>EDS 4936</td>
<td>Senior Seminar in Social Education</td>
<td>2</td>
<td>PR: Senior standing; CR: EDF 4940. Synthesis of teacher candidate's courses in complete college program.</td>
</tr>
<tr>
<td>SSE 4940</td>
<td>Internship: Social Education</td>
<td>2-12</td>
<td>CR: SSE 4936. One full semester of internship in a public or private school.</td>
</tr>
<tr>
<td>SSE 5937</td>
<td>Selected Topics in Social Education</td>
<td>1-4</td>
<td>May be repeated when topics are not duplicated.</td>
</tr>
<tr>
<td>SSE 4333</td>
<td>Teaching Middle Grade Social Science</td>
<td>3</td>
<td>This introductory course is concerned with the identification of the major content areas selected from the various social sciences. Topics related to selecting, organizing, and sequencing teaching materials and methods related to the unique problems of teaching teenage youth are studied.</td>
</tr>
<tr>
<td>SSE 4334</td>
<td>Specialized Social Science Education</td>
<td>3</td>
<td>PR: SSE 4333. This course is designed to identify and study selected techniques and strategies used in social science education instruction. Emphasis is placed upon the learner’s ability to demonstrate skill in selecting methods, techniques, materials, and evaluative forms. Field work is a requirement.</td>
</tr>
<tr>
<td>SSE 4640</td>
<td>Communication Skills in the Social Studies</td>
<td>2</td>
<td>PR: CC. Specialized independent study determined by the student’s needs and interests. May be repeated when subjects vary. (S/U only.)</td>
</tr>
<tr>
<td>SSE 4670</td>
<td>Economics USA: Principles of Economics for Teachers</td>
<td>3</td>
<td>A television course focusing on content and teaching methodology related to micro/macroeconomic principles. (S/U only.)</td>
</tr>
<tr>
<td>SSE 4936</td>
<td>Senior Seminar in Social Science Education</td>
<td>2</td>
<td>PR: Senior standing; CR: SSE 4940. Synthesis of teacher candidate’s courses in complete college program.</td>
</tr>
<tr>
<td>SSE 4940</td>
<td>Internship: Social Science Education</td>
<td>1-12</td>
<td>CR: SSE 4936. One full semester of internship in a public or private school. In special programs where the intern experience is distributed over two or more semesters, students will be reimbursed for credit which accumulates from 9 to 12 Semester hours. (S/U only.)</td>
</tr>
</tbody>
</table>
| SSE 5644   | Economic Decision-Making for Teachers            | 3     | PR: Admission to the College of Education or CC. Provides teachers (K-12) with content related to the operation of busi-
necessities in a market economy. Teachers analyze economic/business concepts from the perspective of individuals currently operating businesses in the Tampa Bay area. Focus of the instruction is on the application of content to K-12 instructional programs.

SPECIAL EDUCATION

EED 4011 INTRODUCTION TO BEHAVIOR DISORDERS (3)
PR: EEX 3010, or equivalent or CI. Survey of emotional, behavioral, and social disorders in children and youth. History of the field of behavior disorders, special classifications, theoretical approaches, intervention techniques, classroom management, service delivery models, trends and issues.

EED 4905 INDEPENDENT STUDY: BEHAVIOR DISORDERS (1-3)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated up to 3 credit hours when subjects vary. (S/U only.)

EED 4909 DIRECTED STUDY: BEHAVIOR DISORDERS (1-3)
PR: Senior standing. To extend competency in teaching field.

EED 4941 UNDERGRADUATE SUPERVISED PRACTICUM IN BEHAVIOR DISORDERS (1-6)
PR: EEX 3010 and major in behavior disorders. Supervised field experience in assessment, classroom management, and clinical teaching with children who have emotional and behavioral disabilities. Repeatable up to 6 credit hours. (S/U only.)

EEX 3010 INTRODUCTION TO SPECIAL EDUCATION (3)
Characteristics and needs of children who are learning disabled, emotionally disturbed, mentally retarded, physically handicapped, speech impaired, and visually limited.

EEX 4070 INTEGRATING EXCEPTIONAL STUDENTS IN THE REGULAR CLASSROOM (2-3)
Designed for non-special education majors. Includes basic identification techniques, characteristics, needs and abilities of children with exceptionalities. Repeatable up to 3 credit hours when subjects vary. (S/U only.)

EEX 4221 EDUCATIONAL ASSESSMENT OF EXCEPTIONAL STUDENTS (3)
PR: EDF 3214 and EEX 3010. Taken concurrently with EED 4941, ELD 4941, or EMR 4941. Introduction to assessment of exceptional students through formal and informal techniques. Emphasis placed on the interpretation of information for educational programming and individualization of instruction.

EEX 4906 CLINICAL TEACHING IN SPECIAL EDUCATION (3)
PR: EEX 3010. Taken concurrently with EED 4941, ELD 4941, or EMR 4941. Effective teaching principles, instructional management procedures, and specialized teaching techniques for exceptional students.

EEX 4423 EDUCATION OF THE EXCEPTIONAL ADOLESCENT AND ADULT (3)
PR: EEX 3010 or equivalent or CI. Procedures for implementing educational programs for exceptional adolescents and adults. Topics include service delivery, curriculum, academic remediation, advocacy, utilization of ancillary services, alternative programs, and community resources.

EEX 4604 BEHAVIOR MANAGEMENT FOR SPECIAL NEEDS AND AT RISK STUDENTS (3)
PR: EEX 3010. Taken concurrently with EED 4941, ELD 4941, or EMR 4941. Techniques to prevent, analyze, and manage challenging and disruptive classroom behavior as well as teaching social skills.

EEX 4905 INDEPENDENT STUDY: EXCEPTIONAL STUDENT EDUCATION (1-3)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated up to 3 credit hours when subjects vary. (S/U only.)

EEX 4909 DIRECTED STUDY: EXCEPTIONAL STUDENT EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Repeatable up to 3 credit hours.

EEX 4936 SENIOR SEMINAR IN EXCEPTIONAL STUDENT EDUCATION (2)

EEX 4940 INTERNSHIP: EXCEPTIONAL STUDENT EDUCATION (1-10)
CR: EEX 4936. One full semester of internship in an accredited public or private school. (S/U only.)

EEX 5575 WORKING WITH FAMILIES: A PLURALISTIC PERSPECTIVE (3)
PR: Graduate standing or CI. The impact of the socio-cultural environment on the education of at-risk and handicapped children; family systems theory, principles of multi-cultural education, strategies for working effectively with families of school-age children, diverse cultures and family structures represented in school.

EGI 5051 UNDERGRADUATE SUPERVISED PRACTICUM IN GIFTED STUDENT EDUCATION (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.

EGI 5051 NATURE AND NEEDS OF THE GIFTED (3)
Characteristics and educational needs of gifted children and youth. Emphasis on five types of giftedness as defined by National Department of Education (1) intellectual giftedness, (2) specific academic aptitude, (3) visual and performing arts, (4) leadership and (5) kinesthetic.

EGI 5220 CREATIVE PROBLEM SOLVING FOR THE CHILD (3)
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.

ELD 4011 INTRODUCTION TO SPECIFIC LEARNING DISABILITIES (3)
PR: EEX 3010 or CI. Characteristics, needs and abilities of children with SLD. Emphasis is on theories, issues, trends, and philosophy of problems for such children.

ELD 4905 INDEPENDENT STUDY: SPECIFIC LEARNING DISABILITIES (1-3)
PR: CI. Specialized independent study determined by student's needs and interests. May be repeated up to 3 credit hours when subjects vary. (S/U only.)

ELD 4909 DIRECTED STUDY: SPECIFIC LEARNING DISABILITIES (1-3)
PR: Senior standing. To extend competency in teaching field.

ELD 4941 UNDERGRADUATE SUPERVISED PRACTICUM IN SPECIFIC LEARNING DISABILITIES (1-6)
PR: EEX 3010 and major in Specific Learning Disabilities. Supervised field experiences in assessment, behavior management and clinical teaching with classes for children who have specific learning disabilities. Repeatable up to a total of 6 hours. (S/U only.)

EMR 4011 INTRODUCTION TO MENTAL RETARDATION (3)
PR: EEX 3010. Introduction to the classification, diagnosis, characteristics, and treatment of the mentally retarded.

EMR 4905 INDEPENDENT STUDY: MENTAL RETARDATION (1-3)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only.)

EMR 4909 DIRECTED STUDY: MENTAL RETARDATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

EMR 4941 UNDERGRADUATE SUPERVISED PRACTICUM IN MENTAL RETARDATION (1-6)
PR: EEX 3010 and major in Mental Retardation. Supervised field experiences in assessment, behavior management, and clinical teaching with children who have mental retardation. Repeatable up to a total of 6 hours credit. (S/U only.)

EPH 5051 ADVANCED THEORIES IN MOTOR AND PHYSICAL DISABILITIES (3)
PR: EEX 3010 or CI. Biological and functional aspects of motor and physical health disabilities, including dysfunctions in central nervous system covering motor, sensory, language and psychological disorders.

EPH 5321 EDUCATIONAL STRATEGIES FOR PHYSICALLY AND MULTlHANDICAPPED STUDENTS (3)
PR: EPH 5051. Educational management of students with cerebral palsy, motor disabilities and multihandicapped conditions.
including rehabilitation and other community services.

EVI 5311 THE VISUALLY HANDICAPPED IN THE CLASSROOM (3)
PR: EEX 3010 or CI. The visually handicapped in the classroom, structure, hygiene and educational implications.

THEATRE EDUCATION
EDG 4320 INTRODUCTION TO CREATIVE DRAMA (3)
This course for classroom teachers introduces the theory and practice of creative drama as it applies to use by elementary, middle school and secondary school teachers. Beginning with a study of dramatic play as it relates to human development, the course includes basic procedures and teaching strategies when using pantomime, voice improvisation, theatre games and role playing and story dramatization.

THE 4722 THEATRE FOR PRE-SECONDARY SCHOOLS: THE PRODUCTION PROCESS (3)
The play production process as it applies to theatre artist-in-schools programs, including development of related classroom workshops and preparation of study guides and educational program materials as well as design, direction and rehearsal of play and touring methods. May be repeated for elective credit two times; once for major credit.

THE 4723 THEATRE FOR PRE-SECONDARY SCHOOLS: THE PERFORMANCE PROCESS (3)
The artistic process of performing for various school audiences and practice conducting classroom workshops following each performance. May be repeated for elective credit two times; once for major credit.

THE 4761 METHODS OF TEACHING THEATRE FOR ADOLESCENTS (3)
Methods of effective drama and theatre instruction in middle school, junior and senior high schools, recreation centers, community, and professional theatres.
### CHEMICAL ENGINEERING

### CIVIL ENGINEERING AND MECHANICS

### COMPUTER SCIENCE AND ENGINEERING

### ELECTRICAL ENGINEERING

### INDUSTRIAL AND MANAGEMENT SYSTEMS ENGINEERING

### MECHANICAL ENGINEERING

### BASIC AND INTERDISCIPLINARY ENGINEERING
**EGN 1002 ENGINEERING ORIENTATION**
The role of engineering in society, characteristics of different fields of engineering, required preparation for engineering careers, techniques and approaches used by engineers in their profession. (S/U only.)

**EGN 2200 ENGINEERING WITH COMPUTERS**
PR: EGN 2210. Fundamental concepts in engineering and computer applications. Examples chosen from various areas of engineering to illustrate design modelling and analysis with computer assistance. Some topics involve laboratory.

**EGN 2210 FORTRAN FOR ENGINEERS**
PR: MAC 3281. The FORTRAN programming language will be used to solve and illustrate typical Engineering problems on modern computing equipment. The student will learn the syntax of the FORTRAN programming language; the practical utilization of modern computing equipment and operating systems; general problem solving techniques; and modern programming practices.

**EGN 3311 STATICS**

**EGN 3321 DYNAMICS**
PR: EGN 3311. Dynamics of discrete particles; kinematics and kinetics for rigid bodies. Lec.

**EGN 3331 MECHANICS OF MATERIALS**
PR: EGN 3311. Stress, strain, Hook's Law; torsion, beam, column analysis; combined stresses; inelastic effects, limit design. Lec.

**EGN 3331L MECHANICS OF MATERIALS LABORATORY**

**EGN 3343 THERMODYNAMICS**

**EGN 3353C BASIC FLUID MECHANICS**

**EGN 3365L MATERIALS ENGINEERING I**
PR: CHM 2046, EGN 3311. Structure and property relationships in engineering materials, i.e., metal, ceramic and polymeric systems. Environmental effects are treated.

**EGN 3373 INTRODUCTION TO ELECTRICAL SYSTEMS I**

**EGN 3374 INTRODUCTION TO ELECTRICAL SYSTEMS II**
PR: EGN 3373. Continuation of EGN 3373.

**EGN 3375 INTRODUCTION TO ELECTRICAL SYSTEMS III**
PR: EGN 3373. Continuation of EGN 3373 or EGN 3374.

**EGN 3433 SYSTEM DYNAMICS**
PR: PHY 3049, EGN 3321. Dynamic analysis of electrical, mechanical, hydraulic and thermal systems; Laplace transforms; numerical method; use of computers in dynamic systems.

**EGN 3443 ENGINEERING STATISTICS I**
PR: MAC 3283. An introduction to the basic concepts of statistical analysis with special emphasis on engineering applications.

**EGN 3613C ENGINEERING ECONOMY I**
A study in analyzing the economic limitations imposed on engineering activities using basic models which consider the time value of money.

**EGN 4366 MATERIALS ENGINEERING II**
PR: EGN 3365L. Applications and structure property relationships of commonly used engineering materials. Steel, nonferrous alloys and their welding, heat treatment and processing. Introduction to ceramic and polymeric materials.

**EGN 4420 NUMERICAL METHODS OF ANALYSIS**

**EGN 4450 INTRODUCTION TO LINEAR SYSTEMS**
PR: MAP 4302. Study and application of matrix algebra, differential equations and calculus of finite differences.

**EGN 4505 INDEPENDENT STUDY**
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

**EGN 5422 ENGINEERING ANALYSIS II**

**EGN 5423 ENGINEERING ANALYSIS III**
PR: CC or EGN 4450. Finite fields and coding applications. Probabilities of error detection and correction. Advanced matrix algorithms: LU and QR factorizations, least-squares, pseudoinverses.

**EGN 5424 ENGINEERING ANALYSIS IV**
PR: MAC 4302 or CC. Analytic functions, conformal mapping, residue theory, Laurent series, transforms. Applications to various problems in engineering and physics.

**EGN 5425 ENGINEERING ANALYSIS V**
PR: EGN 4450 and MAP 4302, or CC. Survey of theory and software for matrix computations: factorization methods, least squares and pseudoinverses, eigenvector algorithms. Special matrices and representations for control system and finite element applications.

**EGN 5113 INTRODUCTION TO DESIGN GRAPHICS**
An introduction to the basic principles of engineering design. The course will include the graphic projective systems used in engineering drawing and design. Methods of graphic communication and graphic analysis of engineering design problems will be investigated.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECH 3264</td>
<td>TRANSPORT PROCESSES</td>
<td>(3)</td>
<td>PR: ECH 3264 or CI. Engineering laboratory experiments in fluid flow and heat transfer. Formal oral and written presentations.</td>
</tr>
<tr>
<td>ECH 3023</td>
<td>INTRODUCTION TO PROCESS ENGINEERING</td>
<td>(3)</td>
<td>PR: ECH 3023. Design, sizing, and selection of fluid flow and heat transfer equipment to satisfy process demands. Lecture/laboratory.</td>
</tr>
<tr>
<td>ECH 4123</td>
<td>PHASE AND CHEMICAL EQUILIBRIA</td>
<td>(3)</td>
<td>PR: ECH 3023 or CHM 4410. Correlation of thermodynamic properties of real systems and solutions. Description of multicomponent, multiphase systems in equilibrium. Applications to separation processes.</td>
</tr>
<tr>
<td>ECH 4244L</td>
<td>TRANSPORT PROCESSES LAB</td>
<td>(0)</td>
<td>PR or CR: ECH 3264C or CI. Engineering laboratory experiments in fluid flow and heat transfer. Formal oral and written presentations.</td>
</tr>
<tr>
<td>ECH 4415</td>
<td>REACTING SYSTEMS</td>
<td>(3)</td>
<td>PR or CR: ECH 4415 or CI. Engineering laboratory experiments in reacting systems. Formal oral and written presentations.</td>
</tr>
<tr>
<td>ECH 4415L</td>
<td>REACTING SYSTEMS LAB</td>
<td>(0)</td>
<td>PR or CR: ECH 4415 or CI. Engineering laboratory experiments in reacting systems. Formal oral and written presentations.</td>
</tr>
<tr>
<td>ECH 4625</td>
<td>TRANSPORT PROCESSES I</td>
<td>(3)</td>
<td>PR: ECH 3264. Design, sizing, and selection of mass transfer equipment. Absorption, distillation, extraction, humidification. Lecture/laboratory.</td>
</tr>
<tr>
<td>ECH 4415</td>
<td>REACTING SYSTEMS</td>
<td>(3)</td>
<td>PR or CR: ECH 4415 or CI. Engineering laboratory experiments in reacting systems. Formal oral and written presentations.</td>
</tr>
<tr>
<td>ECH 4415L</td>
<td>REACTING SYSTEMS LAB</td>
<td>(0)</td>
<td>PR or CR: ECH 4415 or CI. Engineering laboratory experiments in reacting systems. Formal oral and written presentations.</td>
</tr>
<tr>
<td>ECH 4605</td>
<td>PROCESS ECONOMICS AND OPTIMIZATION</td>
<td>(3)</td>
<td>PR: ECH 3023, 3GN 4450, or CI. Methods of economic analysis to determine profitability of process investments; replacement and alternative analysis. Single and multivariable optimization using analytical and numerical methods. Process and equipment design under risk and uncertainty.</td>
</tr>
<tr>
<td>ECH 4615</td>
<td>PLANT DESIGN AND ECONOMICS</td>
<td>(3)</td>
<td>PR: ECH 4415, ECH 4265, or PR or CR: ECH 4323 or CI. Methods of cost estimation and profitability measures. Analysis and synthesis of optimal chemical processing routes. Design of chemical process equipment. Introduction to computer-aided design. Case studies.</td>
</tr>
<tr>
<td>ECH 4905</td>
<td>INDEPENDENT STUDY</td>
<td>(1-4)</td>
<td>PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated up to 9 credit hours.</td>
</tr>
<tr>
<td>ECH 4930</td>
<td>SPECIAL TOPICS IN CHEMICAL ENGINEERING I</td>
<td>(1-4)</td>
<td>PR: CC. May be repeated up to 9 credit hours.</td>
</tr>
<tr>
<td>ECH 4931</td>
<td>SPECIAL TOPICS IN CHEMICAL ENGINEERING II</td>
<td>(1-4)</td>
<td>PR: CI. May be repeated up to 9 credit hours.</td>
</tr>
<tr>
<td>ECH 5185C</td>
<td>SEMINAR IN THE PHILOSOPHY OF THERMODYNAMICS</td>
<td>(2)</td>
<td>PR: CI. Philosophical and technical aspects of contemporary thermodynamics, including entropy, time, irreversible processes, complex structures, and analysis of biological systems. Includes topics in philosophy of science. Open to majors and non-majors.</td>
</tr>
<tr>
<td>ECH 5285</td>
<td>TRANSPORT PHENOMENA</td>
<td>(3)</td>
<td>PR: Senior or graduate standing in engineering. Basic descriptive equations of fluid, heat, and mass transport. Description and solution to intermediate problems, including unsteady state and multidimensional systems. Estimation of transport and convective coefficients.</td>
</tr>
<tr>
<td>ECH 5324</td>
<td>AUTOMATIC PROCESS CONTROL II</td>
<td>(3)</td>
<td>PR: ECH 4323 or CI. The course covers the root locus and frequency response methods. The techniques of rational, cascade feed forward, selective, override, and multivariable control techniques are discussed in detail. The course also shows how to utilize these techniques to design control systems. Z-transforms and discrete control including PID, Dahlin, and deadtime compensations.</td>
</tr>
<tr>
<td>ECH 5740</td>
<td>THEORY AND DESIGN OF BIOPROCESSES</td>
<td>(4)</td>
<td>PR: Senior standing in engineering or CI. Introduction to biotechnology, including applied microbiology, enzyme technology, biomass production, bioreactor design, and transport processes in biostems. Open to majors and non-majors with CI.</td>
</tr>
<tr>
<td>ECH 5742</td>
<td>PHARMACEUTICAL ENGINEERING</td>
<td>(2)</td>
<td>PR: Senior or graduate standing in engineering or CI. Introduction to pharmaceutical engineering, including dosage forms (tablets, capsules, powders, liquids, topical forms, and aerosols), excipients, regulatory issues, clinical studies, and good manufacturing practices.</td>
</tr>
<tr>
<td>ECH 5746</td>
<td>INTRODUCTION TO BIOMEDICAL ENGINEERING</td>
<td>(3)</td>
<td>PR: Senior standing in engineering or CI. Introduction to biomedical engineering, including transport phenomena in biomedical systems, biometals, biomedical instrumentation, prosthetic devices, and clinical engineering. Open to non-engineering students with CI.</td>
</tr>
<tr>
<td>ECH 5747C</td>
<td>SELECTED TOPICS IN CHEMICAL ENGINEERING BIOTECHNOLOGY</td>
<td>(1-3)</td>
<td>PR: Selected topics in chemical engineering biotechnology, including pharmaceutical engineering, immobilized enzyme technology, food engineering, and fermentation. Open to majors and non-majors with CI. May be repeated for credit as subjects vary.</td>
</tr>
<tr>
<td>ECH 5820</td>
<td>PRODUCT DEVELOPMENT</td>
<td>(2)</td>
<td>Senior or graduate standing in engineering or CI. An introduction to the development of consumer products, including the history of innovation, creativity development, the product development environment, and a detailed examination of several product areas.</td>
</tr>
<tr>
<td>ECH 5910</td>
<td>DIRECTED RESEARCH IN BIOENGINEERING</td>
<td>(1-3)</td>
<td>PR: CI. Directed research in an area of biomedical engineering or engineering biotechnology. May be repeated up to 4 credit hours.</td>
</tr>
<tr>
<td>ECH 5930</td>
<td>SPECIAL TOPICS III</td>
<td>(1-4)</td>
<td>PR: CI. May be repeated up to 9 credit hours.</td>
</tr>
<tr>
<td>ECH 5931</td>
<td>SPECIAL TOPICS IV</td>
<td>(1-4)</td>
<td>PR: CI. May be repeated up to 9 credit hours.</td>
</tr>
<tr>
<td>CEG 4011</td>
<td>SOIL MECHANICS</td>
<td>(3)</td>
<td>PR: EGN 3353C. Fundamental and experimental concepts in soil mechanics with emphasis on soil properties, soil moisture, soil structure, and shearing strength.</td>
</tr>
<tr>
<td>CEG 4011L</td>
<td>GEOTECHNICAL LABORATORY</td>
<td>(1)</td>
<td>PR: CEG 4011. Demonstrates and experiments verifying theoretical bases of Geotechnical Engineering. One hour lecture and two laboratory hours per week.</td>
</tr>
<tr>
<td>CEG 4012</td>
<td>SOIL MECHANICS II</td>
<td>(3)</td>
<td>PR: CEG 4011. Design of retaining walls, earth slopes, foundations to control settlement, soil stabilization and foundations subjected to dynamic loads. Computer applications to soil mechanics will be covered.</td>
</tr>
<tr>
<td>CEG 4012L</td>
<td>GEOTECHNICAL DESIGN</td>
<td>(2)</td>
<td>PR: CEG 4011. Design of geotechnical systems including foundations, embankments, and dams. Computer applications to geotechnical engineering are covered.</td>
</tr>
</tbody>
</table>

CGN 4703 CEMENT AND CONCRETE DESIGN
PR: EGN 3365L. Classifications and production of cements. Design and testing of concrete mixes to produce desired properties.

CGN 4905 INDEPENDENT STUDY
PR: CC. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

CGN 4911 RESEARCH IN CIVIL ENGINEERING
PR: CC.

CGN 4923 SENIOR PROJECT
PR: CI. Problem-solving experience and training for seniors in research and/or design projects. Written final reports are required.

CGN 4933 SPECIAL TOPICS IN CIVIL ENGINEERING
PR: CI. New technical topics of interest to civil engineering students.

CGN 5933 SPECIAL TOPICS IN CIVIL ENGINEERING
PR: CI. New technical topics of interest to civil engineering students. May be repeated up to 6 credit hours.

CWR 4103 WATER RESOURCES ENGINEERING
PR: CWR 4202. A study of the engineering principles involved in sustaining and managing the quantity and quality of water available for human activities with particular emphasis on surface water and ground water hydrology.

CWR 4203 HYDRAULICS
PR: EGN 3353C. Fundamental and applied aspects of pipe flow, free surface flow, and unsteady flow for hydraulic systems.

CWR 4810 HYDRAULIC DESIGN
PR: CWR 4103, 4202. Design of hydraulic systems, including drainage, water supply, and flood control.

CWR 4811 FLUID SYSTEMS DESIGN
PR: CWR 4202. Design of fluid systems. Consideration of pressure, drag, and gravity forces.

EMA 4324 CORROSION OF ENGINEERING MATERIALS I
PR: EGN 3365L. Principles of electrochemical corrosion and the representation of corrosion processes by polarization diagrams. Origin and prevention of the localized forms of corrosion and approaches to corrosion control.

EMA 4325 CORROSION CONTROL SYSTEM DESIGN
PR: EMA 4324. Design of corrosion prevention systems and prediction of the behavior of materials in various corrosive environments.

EMA 4360 PROCESSES IN MATERIALS ENGINEERING
PR: EGN 3365L. Introduction to the basic theories of solidification and ultrapurification of materials, and discussion of the primary methods of shaping and forming materials.

EMA 4703 FAILURE ANALYSIS AND PREVENTION

EMA 4704 SELECTION AND APPLICATION OF ENGINEERING MATERIALS
PR: EGN 3365L. Determination of the property requirements for the utilization of materials in specific applications, comparison of properties of metals, plastics, and ceramics, the effect of heat treatment, etc., on materials, property limitations.

ENV 3001 ENVIRONMENTAL ENGINEERING
CR: EGN 3353C. An introduction to various aspects of environmental problems facing today's society. Topics covered are air pollution, water pollution, noise pollution, solid waste management, ionizing radiation, disease transmission, and food protection.

ENV 4004L ENVIRONMENTAL ENGINEERING LABORATORY
PR: CHM 3200, ENV 3001. Laboratory experience in the measuring of environmental parameters.

ENV 4101 AIR POLLUTION CONTROL
PR: EGN 3363C. Behavior and effects of atmospheric contami-
nants and the principles of making measurements in the air environment. Basic concepts of meteorology and control technology are discussed. Regulatory aspects and air pollution standards are covered.

**ENV 4417: WATER QUALITY AND TREATMENT**
- **PR:** CWR 4202. An introduction to municipal water supply and waste water treatment. Topics include water requirements and waste volumes, water quality, physical and chemical treatment processes, and advanced wastewater treatment processes.

**ENV 4502: ENVIRONMENTAL UNIT OPERATIONS**
- **PR:** EGN 3353C. Corequisite ENV 4503. A design oriented course which utilizes the theory obtained in the Unit Operations course to design both industrial and domestic water treatment and water transport systems. It emphasizes the design procedures normally used in engineering practice.

**ENV 4503: ENVIRONMENTAL UNIT PROCESSES**
- **PR:** EGN 3353C. Corequisite ENV 4503. The theory and design of unit operations normally used in the practice of environmental engineering, such as agitation and mixing of liquids, filtration, teaching, gas absorption, sedimentation and clarification, drying, and evaporation.

**ENV 5213: WATER SYSTEMS DESIGN**
- **PR:** ENV 4503. Emphasis is placed upon design practice and economics for a comprehensive design of a wastewater system and a collection system.

**ENV 5252L: ENVIRONMENTAL UNIT OPERATIONS AND PROCESSES LABORATORY**
- **PR:** EGN 3353C. Corequisite ENV 4503. Experimental work of the theory and design practices learned in Unit Operations and Unit Processes lectures courses. It provides the student familiarity with the development of bench and pilot plant processes and operations used in environmental engineering.

**ENV 5105: AIR RESOURCE MANAGEMENT**
- **PR:** EGN 3353. Corequisite ENV 4503. Experimental work of the theory and design practices learned in Unit Operations and Unit Processes lectures courses. It provides the student familiarity with the development of bench and pilot plant processes and operations used in environmental engineering.

**ENV 5345: SOLID AND HAZARDOUS WASTE CONTROL**
- **PR:** EGN 3353C. Corequisite ENV 4503. Experimental work of the theory and design practices learned in Unit Operations and Unit Processes lectures courses. It provides the student familiarity with the development of bench and pilot plant processes and operations used in environmental engineering.

**ENV 5614: ENVIRONMENTAL RISK ANALYSIS**
- **PR:** EGN 3353C. Corequisite ENV 4503. Experimental work of the theory and design practices learned in Unit Operations and Unit Processes lectures courses. It provides the student familiarity with the development of bench and pilot plant processes and operations used in environmental engineering.

**SUR 3140C: ENGINEERING LAND SURVEYING**
- **PR:** TTE 4004, SUR 3140. Techniques for the geometric route surveying of land; the use of surveying instruments; horizontal and vertical alignments. Spiral curves, superelevations and earthwork analysis; drainage, soils, and a rigid and flexible pavement design; right-of-way acquisition and Environmental Impacts; site layout & design, and operation of alternate models including bus, air, rail, water, and pipeline facilities and terminals.

**TTE 4004: TRANSPORTATION ENGINEERING I**
- **PR:** EGN 3321. Principles of surface transportation system development, design, and operations; administration, modal characteristics, capacities, and functional classifications; vehicle kinematics, human factors and minimum design standards; traffic flow theory and queuing, capacity and signalization; transportation planning and economics.

**TTE 4005: TRANSPORTATION ENGINEERING II**
- **PR:** TTE 4004, SUR 3140. Techniques for the geometric route surveying of land; the use of surveying instruments; horizontal and vertical alignments. Spiral curves, superelevations and earthwork analysis; drainage, soils, and a rigid and flexible pavement design; right-of-way acquisition and Environmental Impacts; site layout & design, and operation of alternate models including bus, air, rail, water, and pipeline facilities and terminals.

**TTE 4005: TRANSPORTATION SYSTEMS DESIGN**
- **PR:** TTE 4005. Comprehensive surface transportation design laboratory experience involving function design, traffic and facility sizing, complete alignments, site surveying & layout plan and quantity preparation with computerized designed applications.

**CAP 5400: DIGITAL IMAGE PROCESSING**
- **PR:** EEL 4851C. Basic concepts, tools and techniques used to produce and study intelligent systems. Designing knowledge-based systems such as expert systems; using knowledge, exploiting constraints, searching spaces, understanding natural languages, problem solving strategies, etc.

**CAP 5625: INTRODUCTION TO ARTIFICIAL INTELLIGENCE**
- **PR:** EEL 4851C. Basic concepts, tools and techniques used to produce and study intelligent systems. Designing knowledge-based systems such as expert systems; using knowledge, exploiting constraints, searching spaces, understanding natural languages, problem solving strategies, etc.

**CAP 5628: EXPERT AND INTELLIGENT SYSTEMS**
- **PR:** EEL 4851C. Basic concepts, tools and techniques used to produce and study intelligent systems. Designing knowledge-based systems such as expert systems; using knowledge, exploiting constraints, searching spaces, understanding natural languages, problem solving strategies, etc.
CIS 4935 COMPUTER SCIENCE AND ENGINEERING SEMINAR (2)
PR: CC. This is a seminar course for majors in Computer Science and Engineering. May be repeated up to 4 credit hours.

COP 3002 COMPUTER SCIENCE LABORATORY (1)
CR: COP 3002. Laboratory for implementation of algorithms in a general-purpose computer language.

COP 3002 INTRODUCTION TO COMPUTER SCIENCE (3)
PR: EGN 2210 or CR: COP 3000L. Introduction to the concepts of algorithmic formulation of problems for computer solution and the general abstract operations used in these formulations.

COP 3510 PROGRAMMING CONCEPTS (3)
PR: COP 3000L, COP 3002 or CC. An examination of a modern programming language emphasizing programming concepts and design methodology.

COP 4020 PROGRAMMING LANGUAGES (3)
PR: EEL 4851C and COP 4400. An introduction to programming languages, survey of language types and design of translators and interpreters.

COP 4025 COMPARISON OF PROGRAMMING LANGUAGES (3)
PR: EEL 4851C. A comparative study of procedural and nonprocedural computer languages, emphasizing the fundamental differences in information binding, string and data structures manipulation, control and I/O structures in different languages.

COP 4400 COMPUTER SYSTEMS (3)
PR: COP 3002, COP 3000L or CC. Principles of computer organization, machine and assembly language programming.

COP 4600 COMPUTER GRAPHICS I (3)
PR: EEL 4851C, COP 4400. Introduction to systems programming. Design of operating systems. Concurrent processing, synchronization, and storage management policies.

COP 5010 TOPICS IN COMPUTERS AND PROGRAMMING (3)
PR: CI. Survey of topics in machine organization systems programming.

EEL 3100 INTRODUCTION TO DISCRETE STRUCTURES (3)
PR: MAC 3281 or equivalent. Introduction to set algebra, propositional calculi and finite algebraic structures as they apply to computer systems.

EEL 3101 INTRODUCTION TO AUTOMATA THEORY AND FORMAL LANGUAGES (3)
PR: EEL 4851C or CC. Introduction to the theory and application of various types of computing devices and the languages they recognize.

EEL 3212 SYMBOLIC COMPUTER FOR ARTIFICIAL INTELLIGENCE 990 (3)
PR: COP 3000L, COP 3002. An examination of the fundamental symbolic computing and its role in artificially intelligent computers. Includes program writing in LISP with emphasis on procedural and data abstraction.

EEL 4400 ANALYSIS OF ALGORITHMS (3)
PR: EEL 4851C. Design principles and analysis techniques applicable to various classes of computer algorithms frequently used in practice.

EEL 4705 LOGIC DESIGN (3)
PR: EGN 3373, CR: EEL 4705L or CC; for CS & E students CR: EEL 3302. Binary number systems; truth functions; Boolean algebra; canonical forms; minimization of combinational logic circuits; synchronous logic circuits in computers.

EEL 4705L LOGIC LABORATORY (1)
CR: EEL 4705.

EEL 4743L MICROPROCESSOR LABORATORY (1)
CR: EEL 4744. Laboratory for Microprocessor use and evaluation.

EEL 4744 MICROPROCESSOR PRINCIPLES AND APPLICATIONS (3)

EEL 4748 MICROPROCESSOR-BASED SYSTEM DESIGN AND APPLICATION (3)
PR: EEL 4757, EEL 4743L. Study of techniques for design of microprocessor-based systems used in various applications. Includes a project on development of an experimental application system.

EEL 4781C DISTRIBUTED PROCESSING AND COMPUTER NETWORKS (3)
PR: COP 4600, CDA 4100. Design and analysis of distributed processing systems. Covers communication hardware and soft-

EEL 4851C DATA STRUCTURES (3)
PR: COP 3002, COP 3000L. Fundamentals of data organization for purposes of program efficiency, clarity and simplicity will be addressed.

EEL 4852C DATA BASE SYSTEMS (3)
PR: COP 4400 and EEL 4851C. Fundamentals of data base management. CODASYL, network, hierarchical, and relational data base systems are analyzed, and typical applications are presented.

EEL 5771 INTRODUCTION TO COMPUTER GRAPHICS I (3)
PR: CC. An introduction to the evolution of computer graphics including point-plotting, line drawing, two-dimensional transformations and graphics software packages.

EEL 3100 NETWORK ANALYSIS AND DESIGN (3)

EEL 3302 ELECTRONICS II (3)
PR: EGN 3373. A course in the physical principles of electronic devices with emphasis on semi-conductor electronics. Includes the analysis and design of amplifiers and switching circuits.

EEL 3410, 4411 FIELDS AND WAVES I, II (3, 3)
PR: MAP 4302, PHY 3049, PHY 3049L. A basic introduction to electromagnetic field theory, including static and dynamic electromagnetic fields.

EEL 4102 LINEAR SYSTEMS ANALYSIS (3)
PR: EEL 3100. Provides further study in the analysis of linear networks and systems. Includes time and frequency domain points of view. Laplace, Fourier and superposition integrals.

EEL 4110 DISTRIBUTED NETWORKS (3)
PR: EEL 3410, EEL 3100. Transmission lines, standing waves, impedance, waveguides.

EEL 4163 COMPUTER AIDED DESIGN AND ANALYSIS (2)
PR: EEL 3302, EEL 4705. The emphasis is upon applications and how to use the major CAD tools as effective tools to solve a wide range of engineering problems. The coverage includes solid state design, systems analysis, digital logic, and transfer function solutions.

EEL 4305 ELECTRONICS II (3)
PR: EEL 3302. Provides further study in electronic circuits. Includes feedback and frequency response techniques in amplifier design.

EEL 4351C SEMICONDUCTOR DEVICES (3)
PR: EEL 3302. An introduction to the fundamentals of semiconductor materials and semiconductor device operation.

EEO 4411 See EEL 4411.

EEL 4511 COMMUNICATIONS LABORATORY (3)

EEL 4512C INTRODUCTION TO COMMUNICATION SYSTEMS (3)
PR: EEL 3100. Signals and Fourier transforms in communication systems; measure of information in signals. AM, FM, and PM modulation and demodulation systems. Sampling, quantization and PCM. Data communication; terminals, and modems; repeaters, timing circuits, and interfaces. Local networks.

EEL 4567 ELECTRO-OPTICS (3)
PR: EEL 3301L, EEL 3302L, EEL 3410. An introduction to the field of electro-optics, including visible and infra-red sources and detectors, radiometry, optical and electronic components, and fiber optic systems.

EEL 4567L ELECTRO-OPTICS LABORATORY (1)
CR: EEL 4567. Experiments in electro-optics, including sources, detectors, radiometry, optical and electronic components, and fiber optic systems.

EEL 4657 LINEAR CONTROL SYSTEMS (3)
PR: EEL 3100. Introduction to analysis and design of linear
COLLEGE OF ENGINEERING

feedback control systems. Covers block diagram, flow charts, Bode, Nyquist, and root locus techniques.

EEL 4705 LOGIC DESIGN (3)
PR: EGN 3373. Non-majors may enroll with CI. Binary number system; truth functions; Boolean algebra; canonical forms; minimization of combinational logic circuits; logic circuits in computers.

EEL 4705L LOGIC LABORATORY (1)
CR: EEL 4705.

EEL 4743L MICROPROCESSOR LABORATORY (1)
CR: EEL 4744. Laboratory for microprocessor use and evaluation.

EEL 4744 MICROPROCESSOR PRINCIPLES AND APPLICATIONS (3)

EEL 4905 INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the students' needs and interests. May be repeated up to 15 credit hours. (S/U only.)

EEL 4906 DESIGN PROJECT (2)
PR: Senior standing. An individual or team project involving the design of an electrical component system. Required of all electrical seniors.

EEL 4935, 4936, 4937 SPECIAL ELECTRICAL TOPICS I, II, III (1-4 each)

EEL 5250 POWER SYSTEM ANALYSIS (3)
Analysis technique for AC power systems.

EEL 5344C DIGITAL CMOS/VLSI DESIGN (3)
PR: EEL 4705 or CC. Design, layout, simulation, and test of custom digital CMOS/VLSI chips, a CMOS cell library and state-of-the-art CAD tools. Digital CMOS static and dynamic gates, flip flops, CMOS array structures commonly used in digital systems. Top down design example of a bit slice processor.

EEL 5351 MICROELECTRONICS (3)
PR: EEL 3410. Quantum mechanics with emphasis on electronic properties in atoms, molecules, and crystals; quantum statistics; energy band theory; crystal structures; defect chemistry; semiconductor properties.

EEL 5356 INTEGRATED CIRCUIT TECHNOLOGY (3)
PR: EEL 4351 or CI. Physics and Chemistry of integrated circuit and discrete device fabrication, materials limitations, processing schemes, failure and yield analysis. A laboratory is integral to the course.

EEL 5357 ANALOG CMOS/VLSI DESIGN (3)

EEL 5358 INTRODUCTION TO PLASMA PROCESSING AND TECHNOLOGY (3)
PR: Prior knowledge in microelectronics and electromagnetics required at the level of EEL 4305 and EEL 4411 or the equivalent. A graduate level self contained introduction to plasma manufacturing methods employed in semiconductor fabrication. Covers physics and chemistry pertaining to plasma processes.

EEL 5437 MICROWAVE ENGINEERING (3)
PR: EEL 4411 or CC. Introduction to passive and active components, devices, and circuits, including transmission lines and waveguides, employed in microwave integrated circuits and systems.

EEL 5482 ANTENNA THEORY (3)
PR: EEL 4411 or CC. Antenna theory beginning with fundamental parameter definitions and continuing with mathematical concepts, elemental antennas and arrays.

EEL 5572 C LOCAL AREA NETWORKS AND INTERFACING (3)
PR: EEL 4512. Network components: Communication terminals. PC's telephone, etc. Basics of LAN's, Tx media topologies, access methods, and LAN characteristics. Interfacing of terminals and LAN's to LAN's and other interfacing devices; interface selection. LAN design issues, repeaters, timing circuits, gateways.

EEL 5592 VIDEO TRANSMISSION AND HIGH-DEFINITION TELEVISION (3)
PR: EEL 4512 or CC. Principles of video transmission and television. Enhanced definition and high definition television principles, standards, and technology. Digital TV and HDTV.

EEL 5631 DIGITAL CONTROL SYSTEMS (3)
PR: EEL 4657. Sample data and digital control processes.

EEL 5754C MICROPROCESSOR BASED DIGITAL SIGNAL PROCESSING (3)
PR: EEL 4705 or CC. Arithmetic systems, processing structures, efficient algorithms. DSP hardware, TI, NEC and other DSP microprocessors; multiprocessing hardware and software. System development. Application to telecommunications and voice processing.

EEL 5830 IMAGE PROCESSING (3)
PR: EEL 5755 or CC. Two-dimensional signal processing 2-D, random fields. Image data compression; image enhancement, and object detection. Image processing by computers, applications of image processing.

EEL 5935, 5936, 5937 SPECIAL ELECTRICAL TOPICS I, II, III (1-3 each)

EIN 4301L LABORATORY 1 (1)
PR: EGN 3373.

EIN 4302L LABORATORY 2 (1)
PR: ELR 3301L and EEL 3302, CR: EEL 4305.

EIN 4303L LABORATORY 3 (1)
PR: ELR 3302L; EEL 4305.

EIN 4306L LABORATORY 4 (1)
PR: ELR 3301L CR: EEL 4411.

INDUSTRIAL AND MANAGEMENT SYSTEMS

EIN 4304C INTRODUCTION TO INDUSTRIAL ENGINEERING (3)
History of industrial engineering. Introduction to basic industrial processes and controls. Students research specific industries and visit local industrial plants.

EIN 4312C WORK ANALYSIS (3)
PR: EGN 4313; EGN 4343; CR: AGC 3074. Operation analysis and workspace design, work measurement, standard data, ergonomics, and labor costing.

EIN 4313C HUMAN FACTORS (3)
Design of man-machine systems, by taking into consideration both human and machine capabilities and limitations.

EIN 4333 PRODUCTION CONTROL (3)
PR: ESI 4312. Planning and control of production systems. Includes: forecasting and inventory control models, scheduling and sequencing, MRP, CPM/PERT, and resource requirements.

EIN 4364C FACILITIES DESIGN I (3)
PR: EIN 4312 EIN 4411. Design and modification of industrial production and material handling facilities. Basic analysis techniques, use of computer programs, automated warehousing.

EIN 4365 FACILITIES DESIGN II (3)
PR: EIN 4364. CAD/CIEM, complete design of a plant facility. Course to use computers and software geared toward plant design and operation. A team of students is to be responsible for the complete project.

EIN 4411 MANUFACTURING PROCESSES (3)
PR: EGN 3365. The study of basic manufacturing processes and precision assembly. CAD/CAM including NC programming.

EIN 4601L AUTOMATION AND ROBOTICS (3)
PR: EIN 4411. Introduction to the practices and concepts of automation as applied to material handling, inventory storage, material transfer, industrial processes and quality control.

EIN 4933 SPECIAL TOPICS IN INDUSTRIAL ENGINEERING (1-5)
Special topics related to economic analysis, optimization, human factors, manufacturing and automation aspect of industrial systems. Repeatable up to 5 credit hours.

EIN 5245 WORK PHYSIOLOGY AND BIOMECHANICS (3)
PR: CC. A study of the human physiological limitations encountered in the design, analysis and evaluation of man-machine systems.

EIN 5325 PRINCIPLES OF HUMAN PROBLEMS IN AUTOMATION (3)
The study of analysis of combined human operations, automated processes, and robotics in industrial environments.

EIN 5301C INDUSTRIAL ENGINEERING CONCEPTS (3)
Survey of industrial and management engineering methodology. Work measurement, methods, production and inventory control, design, and facility design, and facility management.

EIN 5322 PRINCIPLES OF ENGINEERING MANAGEMENT (3)
Introduction to the fundamentals of accounting, finance, management, and marketing as needed by engineers, scientists, and
other professionals in managerial positions.

EIN 5357 ENGINEERING VALUE ANALYSIS (3)
Statistical models for analyzing engineering alternatives from an economic viewpoint. The use of advanced engineering economy concepts in solving industrial problems.

EIN 5382 TECHNOLOGY FORECASTING (3)
Introduction to forecasting techniques used to plan and schedule production and inventory control functions. Smoothing and decomposition time-series methods, regression methods, and autoregressive/moving average methods are presented. Integrating forecasting and planning into the engineering organization is discussed.

EIN 5914, 5915, 5916 SPECIAL INDUSTRIAL PROJECTS I, II, III (1-3 each)
PR: CC.

ESI 4161C COMPUTERS IN INDUSTRIAL ENGINEERING (3)

ESI 4221 INDUSTRIAL STATISTICS AND QUALITY CONTROL (3)
PR: EGN 3443. Application of statistical techniques to the control of industrial processes. Control charts, acceptance sampling, design of experiments, analysis of variance and regression.

ESI 4244 DESIGN OF EXPERIMENTS (3)
PR: EGN 3443. Activity forecasting models and control. Design and use of inventory control models, both designs applicable to engineering analyses. Analysis of variance and regression.

ESI 4313 PROBABILISTIC O.R. (3)

ESI 4523 INDUSTRIAL SYSTEMS SIMULATION (3)
PR: ESI 4313. A study of the development and analysis of computer simulation models: Monte Carlo, time-slice, and next-event. Introduction to special purpose simulation languages.

ESI 4905 INDEPENDENT STUDY (1-5)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated up to 15 credit hours. (S/U only)

ESI 4911 SENIOR PROJECT (2)
PR: EIN 4364, CR: EIN 4333, ESI 4523. Analysis and design of systems in a directed project format. Individual or group work consisting of project proposal, project activities, and final report. Student projects are directed by faculty, with chairman's approval.

ESI 5219 STATISTICAL METHODS FOR ENGINEERING MANAGERS (3)
Study of statistical methods applied to engineering management problems involving estimation and prediction under conditions of uncertainty. Not open to students who have had EGN 3443.

ESI 5236 RELIABILITY ENGINEERING (3)
PR: EGN 3443 or equivalent. Fundamental concepts of reliability, estimation of reliability of systems and components. Measures of availability, maintainability and reliability.

ESI 5306 OPERATIONS RESEARCH FOR ENGINEERING MANAGEMENT (3)
Linear programming, non-linear programming, queueing, inventory, network analysis. Not open to students who have had ESI 4315.

ESI 5470 MANUFACTURING SYSTEMS ANALYSIS (3)
PR: CC. The study of systems of manufacturing entities such as machine tools, robots, and materials handlers. Emphasis is on mathematical description of integrated systems and system optimization.

ESI 5522 COMPUTER SIMULATION II (3)

COMPUTER SERVICE COURSES
(No credit for Engineering Majors)

CGS 2080 COMPUTERS AND SOCIETY (3)
This computer literacy course covers the fundamentals of hardware, software, and programming languages, presents a broad overview of data processing concepts, and applications for students with little or no computing background. (For non-engineering majors only.)

CGS 3062C INTRODUCTION TO COMPUTERS AND PROGRAMMING IN BASIC-6A (3)
An overview of computer systems and their role in society. Survey of the evolution of computer hardware and software technology with emphasis on current applications. Introduction to programming using the BASIC language.

CGS 3425 SC APL PROGRAMMING (3)
PR: CGS 3060. The use of the APL language as an interactive mode to solve business and scientific programs.

CGS 3462 SC PASCAL PROGRAMMING (3)
PR: CGS 3060. Structured programming implemented with the PASCAL language. Emphasis on program structure and data manipulation.

CGS 3702 SC GPSS SIMULATION (3)
PR: COP 3200. The development and execution of discrete event simulation models of real-world systems using the GPSS language.

CGS 3744 SC SIMSCRIPT SIMULATION (3)

CGS 4120 SC COMPUTER APPLICATIONS (3)
PR: COP 3200. Applications of various high level languages to current scientific and engineering problems.

CGS 5560 SC MINI-COMPUTER APPLICATIONS (3)
PR: CGS 4465. Study of mini-computer system components, I-O devices, theory of computer operation.

CGS 4465 SC DATA REPRESENTATION AND MANIPULATION (3)
PR: CDA 3100. Study of the internal representations of data, data storage and retrieval, and data manipulations.

CGS 5540 SC COMPUTERS FOR RESEARCH I (3)
PR: Graduate student status. The use of the FORTRAN language in solving research problems.

COP 3120 SC COBOL PROGRAMMING I (3)

COP 3121 SC COBOL PROGRAMMING II (3)
PR: COP 3120. Advanced applications of ANSI Standard COBOL. Development of subroutines, relative I-O and data base applications as used in a comprehensive data processing environment.

COP 3132 SC PL/I PROGRAMMING (3)

COP 3200 SC FORTRAN PROGRAMMING (3)
PR: CGS 3060. Solution of scientifically oriented problems using the FORTRAN language. Particular emphasis is placed on file manipulation and system libraries.

MECHANICAL ENGINEERING

EAS 4121 HYDRO AND AERODYNAMICS (3)
PR: EML 3701, MAP 4302. Advanced fluid dynamics, ideal and viscous flows, applications to flow around immersed bodies.

ECH 3301 INSTRUMENT SYSTEMS (4)

EML 3703 MECHANICAL ENGINEERING LAB I (3)

EML 3262 KINEMATICS AND DYNAMICS OF MACHINERY (3)
PR: MAC 3282, PHY 3048. Kinematics of machines and mechanisms; position, velocity, and acceleration analysis of mecha-
and rocket engines. Application to ground and air transportation. Advanced propulsion concepts. Special topics for class discussion.

**EML 4501 MACHINE ANALYSIS AND DESIGN II**
PR: EML 3500, EML 3264. Continuation of EML 3500. Antifriction bearings, journal bearings, power transmission, shafting.

**EML 4551 PROJECT DESIGN I**
PR: EML 4503. Comprehensive design or feasibility project requiring application of previously acquired engineering knowledge; use of ANSYS and CAD.

**EML 4552 PROJECT DESIGN II**
PR: EML 4551 or CC. Comprehensive design or feasibility study project. In some cases may be a continuation of EML 4551.

**EML 4601 REFRIGERATION AND AIR CONDITIONING**

**EML 4905 INDEPENDENT STUDY**
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated up to 15 credit hours.

**EML 4930 SPECIAL TOPICS IN MECHANICAL ENGR. I**
PR: CC. May be repeated up to 9 credit hours.

**EML 4931 SPECIAL TOPICS IN MECHANICAL ENGR. II**
PR: CC. May be repeated up to 9 credit hours.

**EML 5225 ACOUSTICS AND NOISE CONTROL**

**EML 5325 MECHANICAL MANUFACTURING PROCESSES**
PR: CI. Description of mechanical material cutting, forming and fabrication methods, as used in modern industrial manufacturing processes.

**EML 5395 MOTOR SELECTION AND CONTROL**
PR: EGN 3373, EGN 3433. Standard electrical voltages; power wiring in industrial plants; NEMA motor designs, techniques for estimating motor starting times and temperature rise; motor selection; starting and operating safety interlocks; conventional motor starting and control systems; direct digital (programmable) controls; electrical code requirements for conductors and protective devices.

**EML 5930 SPECIAL TOPICS III**
PR: CC. May be repeated up to 9 credit hours.

**EML 5931 SPECIAL TOPICS IV**
PR: CC. May be repeated up to 9 credit hours.
**ART**


**MUSIC**


**MUSEUM EDUCATION**

Director: C. P. Doane; Professors: V. A. Bridges, C. P. Doane, J. J. Heller; Associate Professor: C. P. Doane; Assistant Professor: J. L. S. Moore, J. W. Richmond.

**THEATRE**


**ARH 3001 INTRODUCTION TO ART - 6A (4)**

An expanded introductory treatment of basic concepts. For art majors and non-art majors.

**ARH 2050 HISTORY OF VISUAL ARTS I (3)**

A survey of World Art to AD 1300. Students are introduced to problems of analyzing and interpreting the art of various cultures without making the Western perspective a privileged one. Required for Art Majors. Open to non-majors.

**ARH 2051 HISTORY OF VISUAL ARTS II (3)**

A survey of World Art since 1300. Students are introduced to problems of analyzing and interpreting the art of various cultures without making the Western perspective a privileged one. Required for Art Majors. Open to non-majors.

**ARH 2790 SELECTED TOPICS IN THE HISTORY OF FILM (4)**

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

**ARH 4100 PREHISTORIC AND ANCIENT ART (4)**

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

**ARH 4170 GREEK AND ROMAN ART (4)**

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

**ARH 4200 MEDIEVAL ART (4)**

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

**ARH 4301 RENAISSANCE ART (4)**

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

**ARH 4350 BAROQUE AND ROCOCO ART (4)**

A comprehensive study of the painting, sculpture and architecture in France, Italy, Spain and the Netherlands in the seventeenth and early eighteenth centuries.

**ARH 4430 NINETEENTH CENTURY ART (4)**

A comprehensive study of nineteenth century painting, sculpture and architecture in France and England.
ART 3469 PHOTO-PRINTMAKING (4)
PR: ARH 3001, ART 2201C, ART 3301C. Investigation of Photo-Printmaking and Darkroom Techniques including: Photo Etching, Photo Screen Printing, Photo Woodcut, and Photogravure with emphasis on development of individual concepts.

ART 3470C INTAGLIO I (4)
PR: ARH 3001, ART 2201C, ART 3301C. Introduction to Art and Drawing I. Intermediate projects in intaglio with emphasis on the exploration of methods and media and the development of individual concepts.

ART 3510C PAINTING I (4)
PR: ARH 3001, ART 2201C, ART 3301C. Intermediate projects in painting with emphasis on the exploration of methods and media and the development of individual concepts.

ART 3701C SCULPTURE I (4)
PR: ARH 3001 and ART 2203C. Intermediate problems in sculpture with emphasis on the exploration of materials and media and the development of individual concepts.

ART 3935C STUDIO TECHNIQUES: SELECTED PROJECTS (2)
PR: ARH 3001, ART 2201C, ART 2203C, and Cl. Concentration in specialized technical data and process. May be repeated for credit for different topics only.

ART 4111C CERAMICS II (4)
PR: ART 3110C. Continued problems in ceramics. May be repeated.

ART 4223C ADVANCED COMPUTER IMAGES (4)

ART 4224C COMPUTER ANIMATION (4)
PR: ARH 3001, ART 2201C, ART 2203C, and ART 3222. A study of computer animation for the creation of art. Includes cel, programmed, and 3-D animation techniques. Available to majors and non-majors.

ART 4320C DRAWING II (4)
PR: ART 3301C. Continued projects in drawing. May be repeated.

ART 4421C LITHOGRAPHY II (4)
PR: ART 3420C. Continued projects in lithography. May be repeated.

ART 4471C INTAGLIO II (4)
PR: ART 3470C. Continued projects in intaglio. May be repeated.

ART 4520C PAINTING II (4)
PR: ART 3510C. Continued projects in painting. May be repeated.

ART 4702C SCULPTURE II (4)
PR: ART 3701C. Continued problems in sculpture. May be repeated.

ART 4900C DIRECTED READING (1-4)
PR: Cl and CC. A course of reading and study in an area of special concern governed by student demand, instructor interest and/or departmental requirements. Registration by contract only. May be repeated for credit for different study areas only.

ART 4905C DIRECTED STUDY (1-4)
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 4930C SELECTED TOPICS IN ART (2-4)
The content of this course will be determined by student demand and instructor interest. May be repeated with different topics. (Open University offerings under this number may not be counted for degree credit for art majors.)

ART 5000A ART SENIOR SEMINAR (2)
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.

Admission to all 5000-level studio courses by Consent of Instructor.

ART 5125C CERAMICS (4)
PR: ART 4111C. Advanced projects in the various ceramic techniques, including throwing and glaze calculation. May be repeated.

ART 5340C DRAWING (4)
PR: ART 4320C. Advanced projects in various drawing techniques. Emphasis on individual creative expression. May be repeated.

ART 5422C LITHOGRAPHY (4)
PR: ART 4421C. Advanced projects in various lithographic techniques. Emphasis on individual creative expression. May be repeated.

ART 5472C INTAGLIO (4)
PR: ART 4471C. Investigations into more complex intaglio processes including photogravuring and color printing procedures. Emphasis on personal conceptual development in graphic media. May be repeated.

ART 5536C PAINTING (4)
PR: ART 4520C. Advanced projects in the various painting techniques. Emphasis on individual creative expression. May be repeated.

ART 5730C SCULPTURE (4)
PR: ART 4702C. Advanced problems in the various techniques of sculpture. Emphasis on individual creative expression. May be repeated.

ART 5910C RESEARCH (1-4)
PR: CC. May be repeated.

ART 5936C STUDIO TECHNIQUES: SELECTED PROJECTS (2)
PR: ARH 3001, ART 2201C, ART 2203C, the topic/technique may be repeated for credits. May be repeated for credit for different topics only.

FIL 3001C FILM: THE LANGUAGE OF VISION - 6A (4)
Open to both majors and non-majors. Exploration of the history of creative filmmaking from its beginnings to the present time. May not be repeated.

PGY 3401C PHOTOGRAPHY I (4)
PR: ARH 3001 and ART 2201C. Intermediate projects in photography with emphasis on the exploration of materials and media and the development of individual concepts.

PGY 3510C CINEMATOGRAPHY I (4)
PR: RH 3001 and ART 2201C. Intermediate projects in cinematography with emphasis on the exploration of materials and media and the development of individual concepts.

PGY 4410C PHOTOGRAPHY II (4)
PR: PGY 3401C. Continued problems in photography. May be repeated.

PGY 4520C CINEMATOGRAPHY II (4)
PR: PGY 3510C. Continued problems in cinematography. May be repeated.

PGY 4550C SOUND TECHNIQUES (4)
PR: PGY 3510C. The recording and editing of sound for film. Collaboration with other departments, particularly Music and Theatre, is encouraged. To be taken concurrently with PGY 4520C or PGY 5420C when possible.

PGY 5425C PHOTOGRAPHY (4)
PR: Cl. Advanced work in photography and related media leading to development of personal/expressive statements. May be repeated.

PGY 5530C CINEMATOGRAPHY (4)
PR: PGY 4520C. Advanced studio work using black and white, color and sound as technical and aesthetic factors in visual, artistic productions. May be repeated.

DANCE

DAA 2000 THEATRE DANCE STYLES (2)
PR: DAA 2100 or DAA 2200 or Cl. Development of technical skills in social and historical dance forms frequently stylized for use by dance choreographers. Forms to be studied will include polka, clogging, waltz, folk, tap dancing, etc. May be repeated up to 4 credit hours.

DAA 2100 FUNDAMENTALS OF MODERN DANCE I (2)
To acquaint beginning modern dancers with fundamentals of dance vocabulary, movement, rhythm and alignment. May be repeated.

DAA 2104 MODERN DANCE II (3)
PR: Consent by audition. Study of principles of modern dance technique. Practical work in exercises and movement phrases, utilizing changing rhythms and dynamics. Concert and performance attendance required. May be repeated.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>DAA 2200</td>
<td>FUNDAMENTALS OF BALLET I</td>
<td>To acquaint beginning ballet students with fundamentals of vocabulary, movement, rhythm and alignment. May be repeated.</td>
</tr>
<tr>
<td>DAA 2204</td>
<td>BALLET I</td>
<td>Admission by placement audition. 2014. Emphasis 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.</td>
</tr>
<tr>
<td>DAA 2500</td>
<td>FUNDAMENTALS OF JAZZ DANCE</td>
<td>A basic movement course in Jazz Dance involving dance vocabulary, alignment, styles and simple rhythmic movement patterns. May be repeated up to 4 credit hours.</td>
</tr>
<tr>
<td>DAA 2704</td>
<td>DANCE IMPROVATION</td>
<td>For majors and non-majors. Exploring various methods of spontaneous creation and dance movement in individual and group situations. Structured and unstructured approaches will be explored. May be repeated up to 4 credit hours.</td>
</tr>
<tr>
<td>DAA 3105</td>
<td>MODERN DANCE III</td>
<td>Admission by placement audition. Continuation of DAA 2204. Further emphasis on style and phrasing. Work on projecting mood and quality by dancing and rehearsing in more advanced choreography, leading to performance. May be repeated.</td>
</tr>
<tr>
<td>DAA 3205</td>
<td>BALLET III</td>
<td>Admission by placement audition. Continuation of DAA 2204. Intensification of barre exercises for the development of strength and form. Application of phrasing and movement. Material covered as practical work in class for concerts and performances. May be repeated.</td>
</tr>
<tr>
<td>DAA 3400</td>
<td>REPERTORY</td>
<td>The development and performance of solo and/or group dances. Open to all University students by audition. May be repeated.</td>
</tr>
<tr>
<td>DAA 3480</td>
<td>PERFORMANCE</td>
<td>Admission by audition or CC. Open to all university students proficient in dance techniques. Rehearsal and performance of works presented by the department. May be repeated up to 10 credit hours.</td>
</tr>
<tr>
<td>DAA 3502</td>
<td>JAZZ DANCE</td>
<td>Admission by placement audition. DAA 2204 or 2014. A technique class for the intermediate level dancer to become acquainted with the dance styles and forms of musical theatre and concert jazz dance. Emphasis is on highly stylized movement on a strong rhythmic base. May be repeated.</td>
</tr>
<tr>
<td>DAA 3503</td>
<td>JAZZ THEATRE DANCE</td>
<td>Admission by placement audition and DAA 3502. Continuation of DAA 3502. Further emphasis on projection, phrasing, rhythmic patterns and dynamics. Solo and ensemble studies leading to performance. May be repeated.</td>
</tr>
<tr>
<td>DAA 3700</td>
<td>CHOREOGRAPHY</td>
<td>Study and execution of basic principles of composition. Preparation of studies in theme and variations, breath phrases and metric phrases. May be repeated.</td>
</tr>
<tr>
<td>DAA 3701</td>
<td>CHOREOGRAPHY II</td>
<td>Admission by placement audition or DAA 3700. Preparation of studies in rhythm, dynamics, form and motivation. May be repeated.</td>
</tr>
<tr>
<td>DAA 3800</td>
<td>SPECIALIZED STUDY IN MOVEMENT THEORY AND BODY ALIGNMENT</td>
<td>Analysis of scientific basis of movement for the dancer through the study of body alignment and movement theories related to dance techniques.</td>
</tr>
<tr>
<td>DAA 4106</td>
<td>MODERN DANCE IV</td>
<td>Admission by placement audition or CI. Intensive work on the growth of personal performance styles. Equal emphasis will be given to training the body in the development of technical excellence. May be repeated.</td>
</tr>
<tr>
<td>DAA 4206</td>
<td>BALLET IV</td>
<td>Admission by placement audition or CI. Perfecting the execution of barre work. Intensification of centre work. More stress on aesthetic quality of movement and phrasing. Students expected to be proficient in role work. Outside projects, concerts, and performances are required. May be repeated.</td>
</tr>
<tr>
<td>DAA 4702</td>
<td>CHOREOGRAPHY III</td>
<td>Admission by CI or DAA 3701 or CI. Work directed toward duets and group dances. The students will submit choreographic ideas for instructor's approval, then proceed with rehearsals. Lab, reading, and rehearsal hours to be arranged. May be repeated.</td>
</tr>
<tr>
<td>DAA 4790</td>
<td>SENIOR PROJECT</td>
<td>Senior Major, CI, CC. The creation of an original group work and solo within the senior's major concentration—ballet or modern. To be performed and presented with the concurrence of a faculty advisor.</td>
</tr>
<tr>
<td>DAA 4920</td>
<td>DANCE STUDIES</td>
<td>CI and Dance Major status. Individual study to extended competency in technique and performance of Dance through participation in special workshops. May be repeated up to 4 credit hours.</td>
</tr>
<tr>
<td>DAE 4300</td>
<td>THE TEACHING OF DANCE: THEORY AND PRACTICE</td>
<td>CI, CC. Designed to provide prospective dance teachers with opportunities to develop concepts of pedagogy based on principles of teaching - learning in dance techniques and choreography. For majors and non-majors. May be repeated up to 9 credit hours.</td>
</tr>
<tr>
<td>DAN 2100</td>
<td>INTRODUCTION TO DANCE-6A</td>
<td>For majors and non-dance majors, a study of the art and language of dance through lectures, discussions, concert attendance, and studio practice. Designed to develop awareness and insight of this art form through discussion, observation, writing (70%), and movement experience (30%).</td>
</tr>
<tr>
<td>DAN 2610</td>
<td>MUSIC FOR DANCE I</td>
<td>Development of practical music skills in relation to dance. Emphasis on rhythm and the relationship of music forms to dance. May be repeated up to 4 credit hours.</td>
</tr>
<tr>
<td>DAN 2611</td>
<td>MUSIC FOR DANCE II</td>
<td>Elements within historical context. Continued problems in rhythmic materials.</td>
</tr>
<tr>
<td>DAN 3590</td>
<td>PRACTICUM IN DANCE PRODUCTION I</td>
<td>A practicum in mounting dance concerts with work and last-minute participation. Intended for students working in costume, set preparation, lighting, and visual aids. Dance majors must have at least 2 credits for graduation accumulated in two different semesters. 40 hour lab required.</td>
</tr>
<tr>
<td>DAN 4111</td>
<td>SURVEY HISTORY OF DANCE-6A</td>
<td>Survey history of dance. Study of development of dance from its inception through 18th Century. Social and theatrical dance forms, Ethnic Dance included. Reading, lecture, and visual aids.</td>
</tr>
<tr>
<td>DAN 4170</td>
<td>DANCE SENIOR SEMINAR</td>
<td>Senior major status. A study of career opportunities in performance, teaching, research, design, and choreography. To aid majors in self-appraisal as artists and develop methods to further their potential in the professional world. Discussion, critical evaluation and projects.</td>
</tr>
<tr>
<td>DAN 4905</td>
<td>DIRECTED READING</td>
<td>CI and CC. Readings in 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.</td>
</tr>
<tr>
<td>DAN 4906</td>
<td>DIRECTED STUDY</td>
<td>CI, CC. Independent studies in the various areas of Dance. Course of study may be used to fulfill Junior Project. Must receive</td>
</tr>
</tbody>
</table>
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approval prior to registration.

DAN 4930 SELECTED TOPICS IN DANCE (1-5)
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.

MUSIC

MUC 2221 COMPOSITION (3)

MUC 2301 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.

MUC 3231 COMPOSITION (3)
PR: Necessary competency at MUC 2221 level determined by faculty jury. Private instruction in original composition. Required of composition majors. May be repeated for three semesters.

MUC 3401, 3402 ELECTRONIC MUSIC-ANALOG SYNTHESIS (3,3)
PR: MUC 2301 and CI. Composition for tape medium with analog synthesizers; use of sound recording studio; repertory or industrial music synthesis; technical basis of analog systems design and construction.

MUC 3441, 3442 ELECTRONIC MUSIC-DIGITAL SYNTHESIS (3,3)
PR: MUC 3401 or 3402 and CI. Computer assisted composition for conventional instruments; composition for tape medium with computer controlled analog synthesizers; direct digital synthesis; digital systems design and construction.

MUC 3501, 3502 CONTEMPORARY TECHNIQUES OF COMPOSITION (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.

MUC 4241 COMPOSITION (3)
PR: Necessary competency at MUC 3231 level determined by faculty jury. Private instruction in original composition. Required of composition majors. Must be repeated for credit for a minimum of 6 hours for majors.

MUC 4303, 4404 ELECTRONIC MUSIC-REAL-TIME PERFORMANCE (3,3)
PR: MUC 3402 and MUC 3442 or equivalent. Composition for analog/digital equipment, performance applications; sound synthesis, interfacing electronics with conventional instruments.

MUC 4501 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.

MUG 3101 BASIC CONDUCTING (2)
PR: CI. The study and practical application of basic conducting techniques. Development of skills related to the conducting of vocal ensembles.

MUG 4202 CHORAL CONDUCTING (2)
PR: MUG 3101 or its equivalent and CI. Practical application of conducting techniques to choral works, score study, performance practices, and rehearsal techniques. Class serves as performance group.

MUG 4302 INSTRUMENTAL CONDUCTING (2)
PR: MUG 3101 & CI. A study of those techniques of conducting unique to instrumental music ensembles: baton technique, score reading, terminology, rehearsal management.

MUIU 209 HISTORY OF POPULAR MUSIC (3)
This course surveys the history of popular music in the U.S. from 1820 to 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 Requirements and may be used to satisfy part of the 6 hours In-College Requirement for Fine Arts majors in Art, Dance, Theatre and as a music elective.

MUIU 3016 SURVEY OF JAZZ (2)
This course provides an introduction to the historical study of jazz, including the representational music, literature, and sociological implications.

MUIU 2051 FOLK AND TRADITIONAL MUSIC OF WORLD CULTURES (3)
A comparative survey of the stylistic traits and functions of the folk and traditional music, both sacred and secular, of diverse Western and non-Western cultures. For non-majors; may be taken by majors as an elective with departmental approval.

MUIU 3300 MUSIC HISTORY / MEDIEVAL AND RENAISSANCE (2)
PR: CI. Required of music majors; a study of the historical development of musical styles of the Medieval and Renaissance periods and of the music of those periods.

MUIU 3301 MUSIC HISTORY / BAROQUE AND CLASSIC (3)
PR: CI. Required of music majors; a study of the historical development of musical styles of the Baroque and Classic periods and of the music of those periods.

MUIU 3302 MUSIC HISTORY / ROMANTIC AND 20TH CENTURY (3)
PR: CI. Required of music majors; a study of the historical development of musical styles of the Romantic and 20th Century periods and of the music of those periods.

MUIU 4801 HISTORY OF JAZZ (3)
PR: MUT 1112 or CI. An in-depth study of the historical development of Jazz, including the representative musical literature and sociological implications.

MUL 2001 ISSUES IN MUSIC (2-3)
Open only to non-music majors; lectures and live performances by artist faculty of significant works from the literature for the piano; analysis and presentation in performance of the abstract and aesthetic elements in music which vitally concern the artist-performer. This course is also available on WUSF/TV Channel 16 by the O. U. Program. (S/U only.)

MUL 2011, 3012 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.

MUL 2111 INTRODUCTION TO MUSIC LITERATURE - A (3)
PR: MUC 3211 or CI. A survey of representative music exemplars of the past and present with emphasis on the study of styles and forms. Required for music majors.

MAJOR PERFORMING ENSEMBLES (below)
PR: CI. Open to all university students with the necessary proficiency in their performing media; study and performance of music for large combinations of voices, string, woodwind, brass, or percussion instruments. May be repeated for credit.

MUN 3143 WIND ENSEMBLE
MUN 3213 UNIVERSITY ORCHESTRA
MUN 3313 UNIVERSITY SINGERS
MUN 3383 UNIVERSITY-COMMUNITY CHORUS
MUN 3453 PIANO ENSEMBLE
MUN 3713 JAZZ ENSEMBLE
MUN 3503 OPERA WORKSHOP

CHAMBER MUSIC ENSEMBLES (below)
PR: CI. Open to all university students with the necessary proficiency in their performing media; study and performance of music for small combinations of voices, string, woodwind, brass, or percussion instruments, and piano; may be repeated for credit.

MUN 3343 CHAMBER SINGERS
MUN 3411 STRING QUARTET
MUN 3420 SAXOPHONE ENSEMBLE
MUN 3421 FLUTE CHOR
MUN 3424 WOODWIND QUINTET
MUN 3431 BRASS QUINTET
MUN 3432 HORN QUINTET
MUN 3433 BRASS CHOR
MUN 3443 Percussion Ensemble
MUN 3444 MARIMBA ENSEMBLE
MUN 3473 COLLEGIUM MUSICUM
MUN 3488 CLASICAL GUITAR ENSEMBLE
MUN 3714 JAZZ CHAMBER ENSEMBLE

MUS 2010 RECITAL ATTENDANCE (0)
This course is required whenever a student registers for applied music. The requirement for the successful completion of the course is attendance at ten (10) department-approved recitals/ concerts throughout the semester. (S/U Grading only.)

MUS 3201 LANGUAGE DICTON FOR SINGERS (1)
Specialized study in Language Diction for Singers. Specific language varies, to be arranged at each course offering. May be repeated for a total of three different languages only. Required of voice performance majors.
MUS 4900 DIRECTED READING (1-3)
PR: Cl and CC. Readings in 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.

MUS 4905 DIRECTED STUDY (1-4)
PR: CC. Independent studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUS 4930 SELECTED TOPICS IN MUSIC (1-4)
PR: Cl 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 4931 SELECTED STUDENT TOPICS IN MUSIC (1-4)
PR: Cl. The content of the study will be governed by individual student demand and instructor interest with an emphasis on individual instruction.

MUS 4935 MUSIC SENIOR SEMINAR (1)
PR: Cl. To aid majors to understand, appraise and perfect their own art through critical and aesthetic judgments of their colleagues. (S/U only.)

MUS 5495 DIRECTED STUDY (1-4)
PR: CC. Independent studies in the various areas of music; course of study and credits must be assigned prior to registration; may be repeated.

MUSIC WORKSHOP COURSES (below)
PR: Cl. Intensive study in the specialized areas indicated below; open to music majors, non-majors, and graduate students; credit available to qualified students.

MUS 5927 ORCHESTRA WORKSHOP (1-2)

MUS 5929 STRING WORKSHOP (1-2)

MUT 1001 RUDIMENTS OF MUSIC (3)
Open to non-music majors; development of skills in hearing and performing music and in basic notation. Will not count as degree credit for music majors.

MUT 1111, 1112 MUSIC THEORY (3,3)
PR: Cl. Required of music majors: development of skills in perceiving and writing music through the use of aural and visual analysis and examples from all historical periods of music literature.

MUT 1241, 1242 AURAL THEORY (1,1)
PR: Cl. Course designed to begin training in aural recognition and vocalization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing. To be taken concurrently with MUT 1111, 1112.

MUT 2116, 2117 MUSIC THEORY (3,3)
PR: MUT 1112. Required of music majors, continuation of MUT 1111 and 1112.

MUT 2246, 2247 ADVANCED AURAL THEORY (1,1)
PR: MUT 1242. Course designed to continue training in aural recognition and vocalization of materials used in music composition. Includes rhythmic, melodic and harmonic dictation, and sight singing. To be taken concurrently with MUT 2116, 2117.

MUT 3353 JAZZ COMPOSITION AND ARRANGING I (3)
PR: MUT 1112 and Cl. Course designed to develop arranging and compositional skills in the jazz idiom through the study of jazz orchestration, harmonic, and melodic practices.

MUT 3354 JAZZ COMPOSITION AND ARRANGING II (3)
PR: MUT 1112 and Cl. Course designed to develop arranging and compositional skills in the jazz idiom through the study of jazz orchestration, harmonic and melodic practices.

MUT 3361 JAZZ THEORY AND IMPROVISATION I (2)
PR: MUT 1112 and/or Cl. A study of jazz improvisational techniques and related jazz theory.

MUT 3362 JAZZ THEORY AND IMPROVISATION II (2)
PR: MUT 3641 or Cl. A study of jazz improvisational techniques and related jazz theory.

MUT 3363 JAZZ STYLES AND ANALYSIS I (2)
PR: MUT 3642 or Cl. A studio course study of the improvised solos of the major innovators in jazz. Oriented toward the continuing development of students’ soloing ability. Students are required to enroll in Jazz Chamber Ensemble as a lab. Open to majors and non-majors.

MUT 3364 JAZZ STYLES AND ANALYSIS II (2)
PR: Jazz Styles and Analysis I or Cl. A continuation of Jazz Styles and Analysis I with the emphasis on contemporary jazz artists. Students are required to enroll in Jazz Chamber Ensemble as a lab. Open to majors and non-majors.

MUT 4311, 4312 ORCHESTRATION (2,2)
PR: Cl. Intensive study and practice in scoring music for various ensembles and combinations of instruments, including symphony orchestra, band, and smaller ensembles of string, woodwind, brass, and percussion instruments.

MUT 4411 SIXTEENTH CENTURY PRACTICE (3)
PR: MUT 2117. 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.

MUT 4421 EIGHTEENTH CENTURY PRACTICE (3)
PR: MUT 2117. An intensive study of the contrapuntal practice of the 18th century; development of skills in perceiving and writing music in the style of the period through the use of aural and visual analysis.

MUT 4571 TWENTIETH CENTURY PRACTICE (3)
PR: MUT 2117. 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.

MUT 5051 GRADUATE REVIEW OF MUSIC THEORY (2)
A graduate level review of basic theoretical concepts with emphasis on the common practice period. The course serves to satisfy deficiencies in music theory and does not count toward the graduate degree requirements.

SECONDARY APPLIED MUSIC COURSES (below)
PR: Cl. One half-hour private lesson or one hour class per week for non-music students desiring 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.

MV 1211 APPLIED TRUMPET (1)
MV 1212 APPLIED VIOLA (1)
MV 1213 APPLIED TROMBONE (1)
MV 1214 APPLIED BARITONE (1)
MV 1215 APPLIED TUBA (1)
MV 1216 APPLIED JAZZ GUITAR (1)
MV 1217 APPLIED JAZZ BASS (1)
MV 1218 APPLIED PIANO (1)
MV 1219 APPLIED COUNTER TUBA (1)
MV 1220 APPLIED VIOLIN (1)
MV 1221 APPLIED VIOLONCELLO (1)
MV 1222 APPLIED DOUBLE BASS (1)
MV 1223 APPLIED HARP (1)
MV 1224 APPLIED CLARINET (1)
MV 1225 APPLIED CLASSICAL GUITAR (1)
MV 1226 APPLIED BASSOON (1)
MV 1227 APPLIED INDIAN SITAR (1)
MV 1228 APPLIED SAXOPHONE (1)

CLASS PIANO COURSES (below)
PR: Cl. 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.

MV 1161 BEGINNING PIANO I (2)
MV 1162 BEGINNING PIANO II (2)
MV 1163 BEGINNING PIANO III (2)
MV 1164 BEGINNING PIANO IV (2)
MV 1165 INTERMEDIATE PIANO (2)
MV 1261 INTERMEDIATE BASSOON (1)

APPLIED MUSIC COURSES PRINCIPAL (below)
PR: Cl. Required of all music education and composition 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. Applied music courses are NOT available on S/U basis.

MV 1311 TRUMPET PRINCIPAL (2)
MV 1312 FRENCH HORN PRINCIPAL (2)
MV 1313 TROMBONE PRINCIPAL (2)
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. Applied music courses are NOT available on S/U basis.

PR: Required of all music education and composition 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. Applied music courses are NOT available on S/U basis.

APPLIED MUSIC COURSES PRINCIPAL

PR: Required of all of 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.
<table>
<thead>
<tr>
<th>APPLIED MUSIC COURSES</th>
<th>(below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVW 2432 BASSOON MAJOR</td>
<td>(4)</td>
</tr>
<tr>
<td>MVW 2425 SAXOPHONE MAJOR</td>
<td>(4)</td>
</tr>
</tbody>
</table>

**APPLIED MUSIC COURSES**

**PR:** Necessary competency at junior 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 three semesters only.

| MVB 3431 TRUMPET MAJOR | (4) |
| MVB 3432 FRENCH HORN MAJOR | (4) |
| MVB 3433 TROMBONE MAJOR | (4) |
| MVB 3434 EUPHONIUM MAJOR | (4) |
| MVB 3435 TUBA MAJOR | (4) |
| MVJ 3433 JAZZ GUITAR MAJOR | (4) |
| MVJ 3434 JAZZ BASS MAJOR | (4) |
| MVK 3431 PIANO MAJOR | (4) |
| MVK 3433 ORGAN MAJOR | (4) |
| MVP 3431 PERCUSSION MAJOR | (4) |
| MVS 3431 VIOLIN MAJOR | (4) |
| MVS 3432 VIOLA MAJOR | (4) |
| MVS 3433 CELLO MAJOR | (4) |
| MVS 3434 DOUBLE BASS MAJOR | (4) |
| MVS 3435 HARP MAJOR | (4) |
| MVS 3436 CLASSICAL GUITAR MAJOR | (4) |
| MVV 3431 VOICE MAJOR | (4) |
| MVW 3431 FLUTE MAJOR | (4) |
| MVW 3432 OBOE MAJOR | (4) |
| MVW 3433 CLARINET MAJOR | (4) |
| MVW 3434 BASSOON MAJOR | (4) |
| MVW 3435 SAXOPHONE MAJOR | (4) |

**APPLIED MUSIC COURSES**

**PR:** Necessary competency at senior 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 for a total of 2 credit hours.

| MVB 4441 TRUMPET MAJOR | (4) |
| MVB 4442 FRENCH HORN MAJOR | (4) |
| MVB 4443 TROMBONE MAJOR | (4) |
| MVB 4444 EUPHONIUM MAJOR | (4) |
| MVB 4445 TUBA MAJOR | (4) |
| MVJ 4443 JAZZ GUITAR MAJOR | (4) |
| MVJ 4444 JAZZ BASS MAJOR | (4) |
| MVK 4441 PIANO MAJOR | (4) |
| MVK 4443 ORGAN MAJOR | (4) |
| MVP 4441 PERCUSSION MAJOR | (4) |
| MVS 4441 VIOLIN MAJOR | (4) |
| MVS 4442 VIOLA MAJOR | (4) |
| MVS 4443 CELLO MAJOR | (4) |
| MVS 4444 DOUBLE BASS MAJOR | (4) |
| MVS 4445 HARP MAJOR | (4) |
| MVS 4446 CLASSICAL GUITAR MAJOR | (4) |
| MVW 4441 VOICE MAJOR | (4) |
| MVW 4441 FLUTE MAJOR | (4) |
| MVW 4442 OBOE MAJOR | (4) |
| MVW 4443 CLARINET MAJOR | (4) |
| MVW 4444 BASSOON MAJOR | (4) |
| MVW 4445 SAXOPHONE MAJOR | (4) |

**MUSIC STUDIO PEDAGOGY COURSES**

**PR:** Cl. May be elected by undergraduate music majors; emphasis is on the business management of the music studio, and the musical responsibilities of the studio teacher, the techniques of private instruction.

| MVK 4640 PIANO PEDAGOGY I | (4) |
| MVK 4641 PIANO PEDAGOGY II | (4) |

**MASTER CLASS COURSES**

**PR:** Cl. 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.

| MVW 5750 STRINGS, MASTER CLASS | (2) |

**MUSIC EDUCATION**

**PR:** APPLIED HARP 2-4

**MUE 2090 THEORETICAL BASSES OF MUSIC EDUCATION**

**PR:** Cl. May be elected by undergraduate music majors; emphasis is on the business management of the music studio, and the musical responsibilities of the studio teacher, the techniques of private instruction.

| MVU 3421 CHORAL MATERIALS PRACTICUM | (1) |
| MVU 3422 BAND MATERIALS PRACTICUM | (1) |
| MVU 3423 ORCHESTRA MATERIALS PRACTICUM | (1) |

**MUSIC FOR THE CHILD**

**PR:** Admission to the College of Education. Music fundamentals, the development of music skills and knowledge of music materials and teaching strategies for presenting music to children in the elementary school.

| MVU 4311 MUSIC IN THE ELEMENTARY SCHOOL | (3) |
| MVU 4312 FOUNDATIONS OF CHORAL MUSIC | (2) |
COLLEGE OF FINE ARTS

MUE 4330 CLASSROOM MUSIC IN THE SECONDARY SCHOOL (3)
PR: CI. Development and implementation of methods and techniques for teaching music to the student not participating in secondary school music performing groups.

MUE 4340 SPECIAL TOPICS IN THE SECONDARY SCHOOL (3)

MUE 4332 INSTRUMENTAL MUSIC IN THE SECONDARY SCHOOL (3)

MUE 4352 FOUNDATIONS OF INSTRUMENTAL MUSIC (2)
PR: CI. MUE 3450, MUE 3460, MVP 1211. Junior standing. Introduction to the foundation of instrumental music instruction in the elementary and middle school.

MUE 4480 MARCHING BAND TECHNIQUES (2)
PR: Junior standing. This course is required of instrumental music education majors. It will provide the student with the needed skills in creating and teaching the public school marching band.

MUE 4905 INDEPENDENT STUDY: MUSIC EDUCATION (1-4)
PR: CI. Specialized independent study determined by the student's needs and interests. May be repeated when subjects vary. (S/U only).

MUE 4909 DIRECTED STUDY: MUSIC EDUCATION (1-3)
PR: Senior standing. To extend competency in teaching field. Offered only as a scheduled class.

MUE 4936 SENIOR SEMINAR IN MUSIC (2)

MUE 4940 INTERNSHIP: MUSIC EDUCATION (1-12)
CR: MUE 4936. One full semester of internship in a public or private school. In special programs where the intern experience is distributed over two or more semesters, students will be registered for credit which accumulates from 9-12 semester hours. (S/U only.)

MUE 4941 INTERNSHIP (1-4)
Part-time internship in an accredited public or private school. To be taken concurrently with departmental requirements and will include beginning of the year experiences when taken in Fall Semester. (S/U only.)

MUE 4942 INTERNSHIP (1-2)
PR: Admission to the College of Education and/or departmental approval. Internship in an accredited public or private school which will include the end of the academic year or program closing. (S/U only.)

THEATRE
THE 2020 THEATRE FUNDAMENTALS (2)
An introduction to the art of theatre as part of the larger context of the nature of art itself. The approach will be both chronological and multi-cultural. This course open to non-majors and theatre majors should take this course concurrently with their first registration in the group of courses TPA 2200, TPA 2223, TPA 2252, TPP 2110. Required of all theatre majors.

THE 3090C MODERN THEATRE PRACTICE -6A
Initial readings and exercises in theatre; play analysis, performance, and technical theatre for non-theatre majors.

THE 3100 THEATRE HISTORY (4)
PR: THE 2020. The study of theatrical production in its cultural context, including theatre architecture, scenography, acting and directing. Normally fifteen plays will be read. Required of all theatre majors. Open to non-majors.

THE 3925 PRODUCTION INVOLVEMENT (1)
The rehearsal, construction, and performance of major theatrical works. Assignments are made by a faculty committee following the student's completion of a PI request form, available in the Theatre office, and enrollment in this course. May be repeated. Open to non-majors with CI.

THE 4180 THEATRE ORIGINS (4)
THE 4905 DIRECTED STUDIES (1-4)
Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.

THE 4927 ADVANCED PRODUCTION INVOLVEMENT (1)
PR: THE 3925 or CI. The rehearsal, construction, and performance of major theatrical works. Assignments are made by a faculty committee following the student's completion of a Pi request form, available in the Theatre Office, and enrollment in this course. May be repeated. Open to non-majors with CI.

THE 4930 SELECTED TOPICS IN THEATRE (1-8)
PR: CI. The content of the course will be governed by student demand and instructor interest. May be lecture or class discussion or studio format. May be repeated for credit for different topics only.

THE 5909 DIRECTED STUDIES (1-6)
PR: CI and CC. Independent studies in the various areas of Theatre. Course of study and credits must be assigned prior to registration.

THE 5931 SELECTED TOPICS IN THEATRE (1-8)
PR: CI. The content of the course will be governed by the student demand and instructor interest. May be lecture or class discussion or studio format. May be repeated for credit for different topics only.

TPA 2200 THEATRE CRAFTS: STAGECRAFT (3)
Required of all theatre majors. The basic materials, equipment, and skills used in scenic construction and painting for theatrical productions. An introductory course with lab. Open to non-majors.

TPA 2223 THEATRE CRAFTS: LIGHTING (3)
Required of all design majors. This course or TPA 2232 is required of all theatre majors. The basic equipment and skills used in lighting stage productions. An introductory course with lab. Open to non-majors.

TPA 2232 THEATRE CRAFTS: COSTUME (3)
Required of all design majors. This course or TPA 2223 is required of all theatre majors. The basic equipment, skills, and materials used in costume construction for the stage. An introductory course with lab.

TPA 3004 MEANS OF VISUAL EXPRESSION (3)
PR: Completion of the four required 2000 level courses. The study of presentational techniques for visual design and technology as applied to the development of visual dynamics. Required of all theatre majors. Open to non-majors with TPA 2220 and CI.

TPA 3221 LIGHTING: THEORY AND PRACTICE (3)
PR: TPA 2223 and TPA 3004. Intermediate lighting design course concerned with graphic presentations, color theory, design concepts, and practical experience with computer lighting systems. A requirement to design a complete lighting design. Open to upper level non-majors with TPA 2223 and CI.

TPA 3280 WORKSHOP IN STAGE MAKEUP (1)
Beginning theory and practice in make-up for the stage. Open to non-majors. Theatre majors given preference. A studio course.

TPA 3280 SOUND FOR THE STAGE (3)
PR: TPA 2223. Basic study of audio components, fundamental properties of sound, multiple channel recording, editing, reproduction and reinforcement. Methods and techniques used in theatre to create sound effects. Open to non-majors with CI.

TPA 3501 STAGE MANAGEMENT (2)
PR: TPA 2200, TPA 2223, or TPA 2232. A practical course in the working organizational function of the stage manager in the theatre, dance, opera, and other live performance situations. Open to non-majors with CI.

TPA 3810 INTRODUCTION TO PUPPETRY (3)
PR: Completion of the four required 2000 level courses. Principles and methods of puppetry with a historical survey of major forms, and practical problems with laboratory production. Open to non-majors with CI.

TPA 3840 PUPPETRY PERFORMANCE AND PRODUCTION (4)
PR: TPA 3810. The creation, building, rehearsal, and performance of plays for puppet theatre. May be repeated one time for additional elective credit, with CI, to total of 8 hours. Open to non-majors with CI.

TPA 4020 LIGHT DESIGN (4)
PR: ART 3301C, TPA 3221, TPA 4208 and portfolio review. The aesthetic and practical application of the elements of design in lighting for theatre presentation. A requirement in the design track/lighting.

TPA 4040 COSTUME DESIGN (4)
PR: ART 3301C, TPA 3684, TPA 4232 and portfolio review. The aesthetic and practical application of the elements of design in costume for theatre presentation. A requirement in the design track/costume.

TPA 4060 SCENE DESIGN (4)
PR: TPA 4208, TPA 4266, ART 3301C and portfolio review. The aesthetic and practical application of the elements of design in scenery for theatre presentation. A requirement in the design track/scenic.

TPA 4140 STYLES OF ACTING (2)
PR: TPA 3004. A practical course in the painting of stage scenery, media and application. Open to upper level non-majors with CI.

TPA 4208 STAGECRAFT AND DRAFTING (3)
PR: TPA 3004. A practical course in drafting for the stage, scenic construction and application. A requirement in the design/ scenic and lighting. Open to upper level non-majors with CI.

TPA 4231 COSTUME CONSTRUCTION (3)
PR: TPA 2232 and TPA 3004. A practical course in the drafting of patterns for costuming the actor. Materials, skills, and techniques for construction of costumes and costume accessories will be treated. Included topics are millinery, footwear, jewelry, makeup, armor, costume for period and modern. Open to upper level non-majors with CI.

TPA 4273 STAGE PROPERTIES: TECHNIQUES AND MATERIALS STUDIO (2)
PR: TPA 3004. Demonstration of and experience with materials used in construction of stage properties. Modeling of prototypes and basic casting techniques. Organization of shop. Open to upper level non-majors with CI.

TPP 2110 VOICE-BODY-IMPROVISATION (1-8)
Exploring the elements basic to acting skills, a participation course. Required of all theatre majors. Open to non-majors.

TPP 3111 WORKSHOP FOR TEXT ANALYSIS (3)
PR: Completion of the four required 2000 level theatre courses. An introduction to the analysis of distinct styles of plays; normally to include at least one contemporary realistic and a classical play. Focus will be on the actor's or director's close reading of a script as a preparation for performance. Required of all theatre majors. Open to non-majors with TPP 2110 and CI.

TPP 3121 IMPROVISATION (1)
PR: Completion of the four required 2000 level courses. An intensive study in improvisation as an enhancement of the actor's skills. Exercises and theatre games as flexible forms which accommodate improvisation and physical invention are examined and used to develop group creativity. Open to non-majors with CI.

TPP 3335 STUDIO FOR SPECIAL AUDIENCES (3)
PR: Completion of the four required 2000 level courses and/or CI. The preparation and performance of a production for a special audience (ethnic, children, aged, institutionalized, etc.) With CI, may be repeated one time as additional elective credit (total of 6 hours). Open to non-majors with CI.

TPP 3500 BODY DISCIPLINES (2)
PR: Completion of four required 2000 level theatre courses. A laboratory course in various disciplines or systems in controlling and understanding the body's motive powers, with focus on their use for the stage performer. Required of all theatre majors with a performance concentration. May be repeated for credit. Open to upper level non-majors with CI.

TPP 3580 SPECIAL SKILLS IN MOVEMENT (2)
PR: TPP 3500. Stage combat, circus and acrobatic techniques, and other special techniques of movement. May be repeated for credit. Open to upper level non-majors with CI.

TPP 3585 VOICE PREPARATION FOR THE ACTOR (2)
PR: Completion of the four required 2000 level theatre courses. A laboratory in voice production and corrective speech for the actor. Required of all theatre majors with a performance concentration. May be repeated for credit. Open to upper level non-majors with CI.

TPP 4075 STYLES OF ACTING (3)
PR: TPP 4150 or TPP 4230, and audition. Methodology and styles. Examination of the actor's craft and skills needed to fulfill
the demands of various theatre forms. Special attention will be paid to the history of acting styles. Required of all theatre majors with a performance concentration.

**TPP 4150 SCENE STUDY I** (3)  
PR: TPP 3111 and audition. Basic scene study. Special problems in movement and speech to be integrated with character development, rehearsal techniques, and performance composition. Required of all theatre majors with a performance concentration.

**TPP 4152 SCENE STUDY II** (3)  
PR: TPP 4150 Intermediate scene study. Required of all theatre majors with a performance concentration.

**TPP 4180 ADVANCED SCENE STUDY** (3)  
PR: TPP 4140 and audition. The aesthetics of acting. The various theories of art. A studio course. Required of all theatre majors with a performance concentration.

**TPP 4220 AUDITION WORKSHOP FOR THE ACTOR** (2)  
PR: TPP 4150 or TPP 4230. Preparation for professional audition; discussion of professional objectives. Open to upper level non-majors with CI.

**TPP 4230 LABORATORY WORKSHOP IN PERFORMANCE** (3)  
PR: TPP 3111 and audition. Special workshop in advanced techniques based upon individual problems and needs. May be repeated twice (for a total of 9 hours credit). Open to upper level non-majors with CI.

**TPP 4250 MUSIC THEATRE WORKSHOP** (3)  
PR: TPP 3111. Special problems in acting as applied to the musical theatre with emphasis on singing and dance. Open to upper level non-majors with CI.

**TPP 4310, 4311 DIRECTING I, II** (3,3)  
PR: TPP 4150 or TPP 4230. An elective sequence in directing. A workshop course in which the student first encounters the basic tasks of the director by preparing and directing one or two scenes and then progresses to more complex scene work in a variety of styles and finally proceeds to the short play or theatre pieces.

**TPP 4600 WRITING FOR THE THEATRE I** (3)  
PR: THE 3100, TPA 3004, and TPP 3111. An elective sequence in writing, in which the student first encounters the problems unique to dramatic language and situation, then progresses to complexities of character, plot, and stage dynamics. Normally the aim would be to complete several performance-worthy self-contained scenes. May be repeated for credit. Open to upper level non-majors with CI.

**TPP 4920 SENIOR WORKSHOP FOR ACTORS** (3)  
PR: TPP 4152, TPP 3500, TPP 3790. A workshop in advanced vocal and movement techniques. Required for all theatre majors with a performance concentration.
HUN 2201 NUTRITION
PR: Course work in chemistry and biology or permission of faculty. Open to majors and non-majors. The study of fundamental principles of nutrition as they relate to human life and growth from conception through senescence, interpretation of current nutrition information, and application of nutrition knowledge in the establishment of good eating habits.

NUR 3007 NURSING PROCESS
PR: RN student. PR or COR: NUR 3065C. This course focuses on the nursing process and explores in depth the five phases, assessment, analysis, planning, implementation, and evaluation, as they apply to the care of clients.

NUR 3065C CLIENT ASSESSMENT I
PR: Permission of faculty. Focus is on application of history taking and physical appraisal skills basic to biopsychosocial assessment across the life span. Emphasizes assessment phase of the nursing process and the use of skills and findings in the provision of nursing care.

NUR 3066C INTRODUCTION TO COMMUNITY HEALTH NURSING
PR: Admission to Nursing major or permission of faculty. Focuses on theories, concepts and principles essential to the nursing care of families across the life span in primary care settings. Emphasis is on prevention, health promotion and health maintenance.

NUR 3105 INTRODUCTION TO PROFESSIONAL NURSING
PR: Admission to nursing major or permission of faculty. Introduction to historical, philosophical, conceptual and theoretical bases of professional nursing; roles and responsibilities of nurses; socio-economic-political-legal ethical aspects; the health care system; issues and trends in health care and nursing.

NUR 3456 NURSING PROCESS II
PR: NUR 3105, 3065C, 3066C, 3151, 3615L. Focuses on theories, concepts and principles essential to nursing of the childbearing family; uses the nursing process in providing family centered maternal/newborn care during normal intrapartal and postpartal parentaling experiences, and selected high risk childbearing situations.

NUR 3456L NURSING INTERVENTION II

NUR 3535 NURSING PROCESS III
PR: NUR 3105, 3065C, 3066C, 3151, 3615L. Focuses on the nursing process as it relates to the psychiatric-mental health needs of clients across the life span. Psychopharmacology, nutrition, community mental health, growth and development, and other pertinent theories and concepts are integrated.

NUR 3535L NURSING INTERVENTION III
PR: NUR 3105, 3065C, 3066C, 3151, 3615L. Clinical intervention based on the nurse-client relationship. Provides opportunities to apply knowledge from growth and development, biopsychopharmacology and to explore use of self for therapeutic communication and interpersonal relationships with clients in psychiatric/mental health nursing.

NUR 3615 NURSING PROCESS I
PR: Admission to the Nursing major or permission of faculty. Introduction to the nursing process and its application with clients in primary, secondary and tertiary care settings. Focuses on the nursing process and concepts basic to nursing practice. Concepts from physical, natural and social sciences are integrated.

NUR 3615L NURSING INTERVENTION I
PR: NUR 3065C or concurrent. Introduction to clinical nursing practice in primary and secondary care settings. Focus is on the beginning application of the nursing process with clients across the life span, and the practice of psychomotor and psychosocial skills.

NUR 3706L NURSING PRACTICUM I
PR: RN student; CI. The focus of this course is on the concepts, theory, and principles underlying the clinical nursing management of clients/patients of all ages with health/illness problems.

NUR 3826 ETHICAL-LEGAL ASPECTS IN NURSING AND HEALTH CARE
PR: Permission of faculty. Introduction to contemporary biocultural and legal issues confronting health care providers in a variety of settings. Focuses on identification of legal and ethical principles underlying the decision-making process in nursing and health care.

NUR 3827 LEADERSHIP MANAGEMENT ASPECTS IN COMMUNITY HEALTH NURSING
PR: NUR 3066C and 4256L. Focuses on nursing concepts and theories underlying community/public health. Explores the evolving, autonomous and leadership roles of the community health nurse and the socio-political-economic environments that impact upon nursing practice in the community health care system.

NUR 4040 TRANSCULTURAL NURSING
Open to both students and care givers in health-related fields. Designed to assist students to become aware of own values as related to various cultural groups and to identify health practices and beliefs of these groups, health resources available and adaptive measures by care givers to meet their needs.

NUR 4050C SPECIALIZED TECHNIQUES IN CHILD HEALTH ASSESSMENT
Designed to teach the reliable administration and interpretation of the NCAST II and the HOME instruments. Inter-observer reliability will be achieved through observation of parent-child interaction.

NUR 4165 INTRODUCTION TO RESEARCH
PR: Permission of faculty. Introduction to nursing research with focus on the steps of the research process and the identification of researchable problems in nursing practice.

NUR 4285C NURSING PROCESS IV
PR: NUR 3456, 3456L, 3535, and 3535L. Nursing of the well elderly in primary care settings. Includes aging theories; biopsychosocial assessment; therapeutic relationships; nutritional, psychosocial, and socio-economic factors related to the health of the elderly.

NUR 4256 NURSING PROCESS V
PR: NUR 3456, 3456L, 3535, and 3535L. Concurrent with NUR 4256L. Focus on nursing care of clients across the life span in secondary and tertiary care settings. Emphasis is on interferences in cell growth and proliferation, alterations in metabolic, regulatory mechanisms and elimination. Concepts from physical, natural and social sciences and community health are integrated.

NUR 4256L NURSING INTERVENTION V
PR: NUR 3456, 3456L, 3535, and 3535L. Concurrent with NUR 4256. Clinical nursing practice in secondary, tertiary and community health care settings with clients of all age groups. Includes care of clients with problems in cell growth and proliferation and with interferences in metabolic, regulatory mechanisms and elimination. Includes essential psychomotor skills.

NUR 4256L NURSING PROCESS VI
PR: NUR 4256L and 4256. Concurrent with NUR 4256L, 4266. Focuses on nursing care of clients (across the life span) in secondary and tertiary care settings. Emphasizes selected altera-
tions in metabolic, regulatory mechanisms, elimination, and reproductive functions. Concepts from physical, natural and social sciences and community health are integrated.

**NUR 4257L NURSING INTERVENTION V**

(6)
PR: NUR 4256 and 4256L. Concurrent with NUR 4257, 4257L, and 4165. Focus on nursing care of clients (across the life span) in secondary and tertiary care settings with interferences in oxygenation. Concepts from physical, natural and social sciences and community health are integrated.

**NUR 4258 NURSING PROCESS VII**

(2)
PR: NUR 4256 and 4256L. Concurrent with NUR 4257, 4257L, and 4165. Focus on nursing care of clients (across the life span) in secondary and tertiary care settings with interferences in oxygenation. Concepts from physical, natural and social sciences and community health are integrated.

**NUR 4265 NURSING PROCESS VIII**

(2)
PR: NUR 4256, 4256L. Concurrent with NUR 4257, 4257L, and 4258. Focus on nursing care of clients (across the life span) in secondary and tertiary care settings with selected interferences in mobility and sensory perception. Concepts from physical, natural and social sciences and community health are integrated.

**NUR 4607 NURSING CONCEPTS IN PRIMARY CARE**

(4)
PR: RN student; CI. Focuses on concepts and principles essential to nursing across the life span in the community setting.

**NUR 4607L NURSING PRACTICUM II**

(3)
PR: RN; CI. Integrates the concepts and content from NUR 4707 with clients across the life span into clinical settings which include public health agencies, VNA, and home health agencies.

**NUR 4792 SEXUALLY TRANSMITTED DISEASES AND HIV INFECTION**

(2)
Open to students and caregivers in health related fields. Examines prevalent sexually transmitted diseases and HIV infection from a nursing perspective. Emphasis is on epidemiologic principles, immunology, treatment, prevention, and ethical/legal considerations.

**NUR 4827C LEADERSHIP/MANAGEMENT CONCEPTS FOR NURSING PRACTICE**

(4)
PR: RN; CI. Provides a basis for developing leadership skills and management techniques with individuals and groups in selected health care setting.

**NUR 4837 LEADERSHIP/MANAGEMENT AND ROLE TRANSITION**

(3)
PR: NUR 4257L. Provides opportunities to apply principles of leadership and management to current practice as experienced in the preceptorship, to explore roles of the various health team members, to analyze legal/ethical parameters of current practice and to examine one's philosophy of nursing and its implications for practice.

**NUR 4905C INDEPENDENT STUDY**

(1-5)
PR: Permission of faculty. Open to majors and non-majors. Individual or group investigation of problems relevant to the health of individuals or groups. Project requirements individually planned with faculty preceptor. May be repeated to maximum of 5 credits.

**NUR 4935 SELECTED TOPIC IN NURSING**

(2-8)
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.

**NUR 4938 HONORS SEMINAR**

(4)
PR: Acceptance into the honors program in nursing and CI. The Honors Seminar is designed to provide selected students with an opportunity to explore major works of nursing in-depth and to present, discuss, and defend a proposal for a research project.

**NUR 4943L NURSING PRACTICUM III**

(4)
PR: All preceding courses in prescribed curriculum plan or permission of Dean. Individually planned experience in a clinical and/or functional area of professional nursing which is related to students' professional goals. Associated seminars and/or institutes.

**NUR 4946L PRECEPTORSHIP**

(6)
PR: NUR 4257, 4257L, 4258, 4266. Concentrated clinical nursing practice (preceptorship) under faculty guidance. The nature and goals of the experience will be determined collaboratively by students, faculty and personnel from cooperating agencies where students elect experience.

**NUR 4975 HONORS THESIS**

(2)
PR: Honors Seminar and CI. The student under the supervision of a faculty advisor will formalize, conduct, analyze and report in writing and orally a research project in nursing. May be repeated up to 2 credit hours.
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<tbody>
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<td>Assistant to the President</td>
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Associate Dean of Computing Services: J. ANTHONY LLEWELLYN
Associate Dean for Research: ROBERT P. CARNAHAN
Assistant Dean: ANDREW BARRETT
Chairpersons:
Chemical Engineering: RICHARD GILBERT
Civil Engineering and Mechanics: WAYNE F. ECHERLBERGER, JR.
Computer Science and Engineering: ABRAHAM KANDEL
Electrical Engineering: ELIAS K. STEFANAKOS
Industrial and Management Systems Engineering: PAUL E. GIVENS
Mechanical Engineering: RONALD H. HOWELL

College of Fine Arts
Dean: JOHN L. SMITH
Associate Dean: VIRGINIA BRIGGS
Associate Dean: JOHN W. COKER
Chairpersons:
Art: JANET MARQUARDT-CHEERY
Dance: TIMOTHY WILSON
Music: JACK HELLER
Theatre: DENIS CALANDRA
USF Contemporary Art Museum: MARGARET MILLER

Florida Mental Health Institute
Dean: MAX C. DERTKE
Director: CATHERINE BATSCH
Assistant Dean: CYNTHIA J. STARK
Director, Administration: FRANCIS M. PARIS

Chairpersons:
Department of Aging & Mental Health: DONNA COHEN
Department of Child & Family Studies: ROBERT M. FRIEDMAN
Department of Community Mental Health: MICHAEL KNOX
Department of Law & Mental Health: JOHN PETRILA

Directors:
Health Services: JOE GONZALEZ
State Liaison: PATRICIA ROBINSON
Florida Autism Program: GLEN DUNLAP
Research & Training Center for Children's Mental Health: ROBERT FRIEDMAN
The USF Center for Child Health: MICHAEL KNOX

John Mullins
### ORGANIZATION AND PERSONNEL

**UNIVERSITY OF SOUTH FLORIDA - 1993/94 UNDERGRADUATE CATALOG**

#### School of Continuing Education

**Dean (Interim)**

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Director, Institutional and Executive</td>
<td>Richard Taylor</td>
</tr>
<tr>
<td>Program Director, Professional</td>
<td>SUSANNE LEE</td>
</tr>
<tr>
<td>Program Director, Student Support Services</td>
<td>ALAN WILKES</td>
</tr>
<tr>
<td>Coordinator, Academic Advising</td>
<td>DAVID MILLER</td>
</tr>
<tr>
<td>Coordinator, Athletics Advising</td>
<td>DONALD BLACK</td>
</tr>
<tr>
<td>Coordinator, Academic Services</td>
<td>PATRICIA MCINTOSH</td>
</tr>
<tr>
<td>Coordinator, Off-Campus Program</td>
<td>ROBERT ARMSTRONG</td>
</tr>
<tr>
<td>Coordinator, Personal Excellence Program</td>
<td>JOAN HOMES</td>
</tr>
<tr>
<td>Coordinator, University Support Services</td>
<td>DONALD BLACK</td>
</tr>
<tr>
<td>Air Force ROTC</td>
<td>LT COL ANDREW JOHNSON</td>
</tr>
<tr>
<td>Army ROTC</td>
<td>LT COL JAMES PENN</td>
</tr>
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</table>

#### Undergraduate Studies

**Dean**

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
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<tbody>
<tr>
<td>Associate Dean</td>
<td>WILLIAM H. SCHUEERLE</td>
</tr>
<tr>
<td>Assistant Dean for Special Programs</td>
<td>THELMA D. BENTON</td>
</tr>
<tr>
<td>Director, Career Resource Center (Acting)</td>
<td>B. RAY EASTERLIN</td>
</tr>
<tr>
<td>Director, Community College Relations</td>
<td>WILLIAM J. CROCKER</td>
</tr>
<tr>
<td>Director, Evaluation and Testing</td>
<td>TERESA FLATEBY</td>
</tr>
<tr>
<td>Program Director, Project Thrust</td>
<td>CYNTHIA A. SWARTZER</td>
</tr>
<tr>
<td>Program Director, McNair Achievement Program</td>
<td>JOAN HOMES</td>
</tr>
<tr>
<td>Program Director, Student Academic Support Services</td>
<td>JUDITH MILLS</td>
</tr>
<tr>
<td>Coordinator, Academic Advising</td>
<td>SYLVIA SALTER</td>
</tr>
<tr>
<td>Coordinator, Athletics Advising</td>
<td>KATHERINE MILLER</td>
</tr>
<tr>
<td>Coordinator, Academic Services</td>
<td>ROBERTA ARMSTRONG</td>
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<tr>
<td>Coordinator, Off-Campus Program</td>
<td>D. KEITH LUPTON</td>
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<tr>
<td>Coordinator, Personal Excellence Program</td>
<td>JOAN HOMES</td>
</tr>
<tr>
<td>Coordinator, Student Support Services</td>
<td>ROBERTA ARMSTRONG</td>
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<tr>
<td>Air Force ROTC</td>
<td>RICHARD ZELLER</td>
</tr>
<tr>
<td>Army ROTC</td>
<td>LT COL BILL JOHNSON</td>
</tr>
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**USF at Fort Myers**

**Campus Dean and Executive Officer**

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
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<tbody>
<tr>
<td>Associate Dean for Academic Affairs</td>
<td>DAVID C. McFARLAND</td>
</tr>
<tr>
<td>Director, Administration and Finance</td>
<td>ROY A. BOGGS</td>
</tr>
<tr>
<td>Director, Student Affairs (Acting)</td>
<td>GLENN E. NITSCHKE</td>
</tr>
<tr>
<td>Director, Enrollment Services (Acting)</td>
<td>LINDA SUMMERS</td>
</tr>
<tr>
<td>Director, ECC/USF Learning Resources</td>
<td>DONNA FECKEN</td>
</tr>
<tr>
<td>Director, University Relations and Development</td>
<td>CHARLES RITCHIE</td>
</tr>
</tbody>
</table>

**USF at Sarasota**

**Dean and Executive Officer of USF - Sarasota**

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
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<tbody>
<tr>
<td>Associate Dean</td>
<td>DAVID P. SCHENCK</td>
</tr>
<tr>
<td>Campus Librarian</td>
<td>JANNA C. MERRICK</td>
</tr>
<tr>
<td>Director, Administrative Affairs</td>
<td>JOAN PELAND</td>
</tr>
<tr>
<td>Director, Development (Acting)</td>
<td>LYDIA BLOCK HILL</td>
</tr>
<tr>
<td>Director, Media Center</td>
<td>SANDRA KRAWETZ</td>
</tr>
<tr>
<td>Director, Physical Plant</td>
<td>THOMAS J. PENN</td>
</tr>
<tr>
<td>Director, Police Services for Regional Campuses</td>
<td>WILLIAM F. KELLY</td>
</tr>
<tr>
<td>Director, Public Affairs</td>
<td>SANDRA KRAWETZ</td>
</tr>
<tr>
<td>Director, Records and Registration</td>
<td>NANCY E. FERRARO</td>
</tr>
<tr>
<td>Director, Student Affairs (Acting)</td>
<td>MARK JOHNSON</td>
</tr>
<tr>
<td>New College of USF</td>
<td></td>
</tr>
<tr>
<td>Dean and Warden</td>
<td>Gordon E. Michaelson, Jr</td>
</tr>
<tr>
<td>Director, Special Project Development</td>
<td>JAMES W. FEENEY</td>
</tr>
<tr>
<td>Director, New College Admissions</td>
<td>DAVID L. ANDERSON</td>
</tr>
<tr>
<td>Chairpersons:</td>
<td>MAGDALENA CARRASCO</td>
</tr>
<tr>
<td>Humanities</td>
<td>SOO BONG CHAE</td>
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<tr>
<td>Natural Sciences</td>
<td>ANTHONY ANDREWS</td>
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<tr>
<td>Social Sciences</td>
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<td>USF at St. Petersburg</td>
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<tr>
<td>Center Director and Executive Officer</td>
<td>YVONNE R. RALSTON</td>
</tr>
<tr>
<td>Director, Academic Support Services</td>
<td>PATRICIA MARTINI</td>
</tr>
<tr>
<td>Director, Business, Finance, and Auxiliary Services</td>
<td>ANNE FLAHIVE</td>
</tr>
<tr>
<td>OFFICE OF THE EXECUTIVE VICE PRESIDENT</td>
<td></td>
</tr>
<tr>
<td>Executive Vice President, Assistant Vice President, Government Relations</td>
<td>ALBERT C. HARTLEY</td>
</tr>
<tr>
<td>Director, Government Relations</td>
<td>JEFFREY A. MUIR</td>
</tr>
<tr>
<td>ADMINISTRATIVE AFFAIRS</td>
<td></td>
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<tr>
<td>Vice President</td>
<td>RICKARD C. FENDER</td>
</tr>
<tr>
<td>Associate Vice President</td>
<td>PAULA N. KNAUS</td>
</tr>
<tr>
<td>Executive Assistant to the Vice President</td>
<td>CLAIRE S. ROBINSON</td>
</tr>
<tr>
<td>Executive Assistant to the Vice President</td>
<td>FREDERICK W. VINCENT</td>
</tr>
<tr>
<td>Executive Assistant to the Vice President</td>
<td>LINDA G. LYDIC</td>
</tr>
<tr>
<td>Director, Central Florida Regional Data Center</td>
<td>A. KEITH SIMMONS</td>
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<tr>
<td>Director, Environmental Health and Safety</td>
<td>JOHN JACKSON</td>
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<td>Director, Equal Opportunity Affairs</td>
<td>ERMAL W. SMITH</td>
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<tr>
<td>Director, Facilities Planning</td>
<td>ANNA M. MACARI</td>
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<tr>
<td>Director, Finance &amp; Accounting</td>
<td>ERIC L. WALDEN</td>
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<tr>
<td>Director, Human Resource Development</td>
<td>SANDRA M. COOPER</td>
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<tr>
<td>Director, Resource Analysis &amp; Planning</td>
<td>JON BLADES</td>
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<td>Director, Physical Plant</td>
<td>ADRIAN QUARTA</td>
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<tr>
<td>Director, Purchasing (Acting)</td>
<td>ANITA MOUNTAIN</td>
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<tr>
<td>Director, Public Safety</td>
<td>PAUL A. NAVICH</td>
</tr>
<tr>
<td>Director, University Budgets</td>
<td>JAY KARP</td>
</tr>
<tr>
<td>Director, Information Systems Services</td>
<td>CHARLES E. FISHER</td>
</tr>
<tr>
<td>Director, University Personnel Relations</td>
<td>TRUDIE E. FRECKER</td>
</tr>
<tr>
<td>Director, Telecommunications</td>
<td>GEORGE W. ELLIS</td>
</tr>
<tr>
<td>DEVELOPMENT AND ALUMNI</td>
<td></td>
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<tr>
<td>Vice President</td>
<td>THOMAS L. TOBIN</td>
</tr>
<tr>
<td>Associate Vice President</td>
<td>RANDALL S. CAIN</td>
</tr>
<tr>
<td>Associate Vice President</td>
<td>HARRY MILLER</td>
</tr>
<tr>
<td>Associate Vice President</td>
<td>TBA</td>
</tr>
<tr>
<td>Business Manager, USF Foundation, Inc.</td>
<td>JOHN O. SCOTT</td>
</tr>
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**USF at Lakeland**

<table>
<thead>
<tr>
<th>Position</th>
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<tbody>
<tr>
<td>Academic Dean</td>
<td>JIM WILLIAMS</td>
</tr>
<tr>
<td>Director, Academic Affairs</td>
<td>JAMES H. TAYLOR</td>
</tr>
<tr>
<td>Director, Administration and Finance</td>
<td>GLENNA R. LEE</td>
</tr>
<tr>
<td>Director, Student Affairs (Acting)</td>
<td>JANICE MCINTYRE</td>
</tr>
<tr>
<td>Director, ECC/USF Learning Resources</td>
<td>PATRICIA L. MARTIN</td>
</tr>
<tr>
<td>Director, University Relations and Development</td>
<td>JAMES E. HOF</td>
</tr>
</tbody>
</table>

**ORGANIZATION AND PERSONNEL**

**209**
OFFICE OF THE GENERAL COUNSEL

General Counsel
Senior Counsel
Senior Counsel
Assistant General Counsel

BRYAN S. BURGESS
DEBRA A. KING
JOLINE MICELI-MULLEN
WENDY J. THOMPSON
TERRY WIMBISH

Raymond C. King
Troy Collier
Wanda Lewis-Campbell
Vanessa E. Diaz

OFFICE OF RESEARCH

Vice President
Director, Sponsored Research
Director, Technology Transfer
Director, Graphicstudio

GEORGE R. NEWKOME
RICHARD B. STREEETER
KENNETH G. PRESTON
ALAN EAKER

William Anton
Maria Anderson
Andrew Honker
Gwyn Francis
Richard Wilber
Phyllis Marshall
Mercedes Nickles

STUDENT AFFAIRS

Vice President (Interim)
Associate Vice President and Dean of Students

BARBARA R. SHERMAN
CHARLES F. HEWITT

J. Mark Lono
Ann Ross
Daniel Casseday
James B. Heck

PUBLIC AFFAIRS

Vice President
Director, Community Relations
Director, Media Relations & Publications
General Manager, Public Broadcasting

Richard Wilber
Phyllis Marshall
Meredith Nickles

WILLIAM ANTON
MARIA ANDERSON
ANDREW HONKER
GWYN FRANCIS
RICHARD WILBER
PHYLLIS MARSHALL
MEREDITH NICKLES
All members of the University of South Florida faculty 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. (A semicolon between degrees indicates different institutions.) [*Chair faculty]

AANGEENBURG, ROBERT, Chairperson-Professor (Geography), 1989
B.S.; M.S., Ph.D., University of Wisconsin, 1965

ACHEE-DUNCAN, MILDRED E.C., Visiting Assistant Professor (Neurology), 1991
B.A.; M.A.; Ph.D., University of California, 1983

ACHENBACK, KARLE., Visiting Associate Professor (Law and Mental Health), 1979
B.A.; Ph.D., University of Florida, 1966

ACKERMANN, JOHN R., Professor (Surgery), 1983
B.S.; M.B., M.D., University of Cape Town, South Africa, 1965

ADAIR, W. LEE, JR., Professor (Biochemistry), 1975

ALEXANDER, MARY B., Assistant Professor

ALBRIGHT, PATRICIA B., Instructor

ALBRECHT, TERRANCE L., Chairperson-Professor (Communication), 1988
B.A.; M.D., Bologna University, 1969

AGOSTI, STEVEN J., Assistant Professor (Pathology), 1990
B.A.; M.D., Medical College of Virginia, 1985

AL-ARIAN, SAMI A., Associate Professor (Computer Science & Engineering), 1986
B.S.; M.S., Ph.D., North Carolina State University, 1985

ALBERS, MICHIELLE M., Visiting Assistant Professor (Nursing), 1987
B.A., M.S., Ph.D., Ohio State University, 1987

ALBERTO, LOUIS, Associate Professor (Psychology), 1986
B.S., M.A., M.P.A.; J.D., Seton Hall University Law School, 1972

ALBERTS, W. MICHAEL, Associate Professor (Internal Medicine), 1983
B.A.; M.D., University of Illinois, 1977

ALBECHT, TERRANCE L., Chairperson-Professor (Communication), 1991
B.A., M.A., M.L.I.R., Ph.D., Michigan State University, 1978

ALBRIGHT, PATRICIA B., Instructor (Nursing), 1992
B.S.N., M.P.H., University of North Carolina at Chapel Hill, 1985

ALBRINK, MICHAEL H., Assistant Professor (Surgery), 1989
B.S.; M.D. Ohio State University, 1978

ALESSANDRINI, JOAN G., Director (Engineering), 1985
B.A., Notre Dame, 1981

ALBA, LILIA, Assistant In Research (Suncoast Gerontology Center), 1987

ALEXANDER, MARY B., Assistant Professor (Information Systems & Decision Sciences), 1989
B.A., M.A., M.B.A., Ph.D., Indiana University, 1989

ALLEN, HAROLD C., Associate Professor (Information Systems & Decision Sciences), 1967
B.A.; M.B.A.; Ph.D., University of Florida, 1969

ALLEN, NANCY J., Instructor/Bryan (Sarasota Library), 1992
B.A.; M.S., Atlanta University, 1978

ALLYN, JANET F., Director (Child Development), 1977
B.A., M.A., University of South Florida, 1974

ALULUS, PHILIP, Professor (Internal Medicine), 1976
B.S., M.D., University of South Florida, 1978

AMBAR, LILIA, Assistant In Research (Suncoast Gerontology Center), 1987

ALVAREZ, MARVIN R., Professor (Biology), 1966
B.S., M.D., Ph.D., University of Florida, 1964

AMEN, MICHAEL J., Associate Professor (Government & International Affairs), 1982

AMMONS, J. MICHAEL, Assistant Professor (Electrical Engineering), 1980
B.S., Ph.D., University of South Florida, 1980

ANDERSON, DONNA J., Assistant Professor (Psychological and Social Foundations), 1987
B.A.; M.A., Ed.S., Ph.D., University of South Florida, 1984

ANDERSON, E. CHRISTIAN, Professor (Psychological and Social Foundations), 1964
B.S., M.A., Ph.D., University of Michigan, 1964

ANDERSON, MELVIN W., Associate Dean (Engineering) - Professor (Civil Engineering and Mechanics), 1969
B.S., M.S., M.D., Carnegie Mellon University, 1967, P.E.

ANDERSON, NANCY A., Associate Professor (Childhood Education), 1985
B.S.; M.Ed., Ed.D., University of Southern Mississippi, 1982

ANDERSON ROBERT L., Associate Dean (Business Administration) - Professor (Marketing), 1991
B.S., M.S., Ph.D., North Texas State University, 1971

ANDERSON, WILLIAM M., Visiting Associate Professor (Health Science), 1992
B.A.; M.D.; S.D., Eastern Virginia Medical School, 1978

ANDREWS, ANTHONY F., Chairperson-Professor (Social Sciences), New College of USF, 1981
B.A.; M.A., Ph.D., University of Arizona, 1980

ANGROSO, MICHAEL V., J., Professor (Anthropology), 1972
B.A.; Ph.D., University of North Carolina, 1972

ANKER, JAMES M., Professor (Psychology), 1974
A.B.; M.A., Ph.D., Catholic University of America, 1957

ANTON, JOHN P., Professor (Psychology), 1982
B.S., M.A., Ph.D., Columbia University, 1954

APPECE, NORMA A., (College of Administration), 1989
B.S.; M.A., University of California, San Francisco, 1978

APRACH, KEVIN, Assistant Professor (Geography), 1991
B.A.; M.A.; Ph.D., Johns University, 1990

ARANDASH, GARY W., Associate Professor (Biology), 1981
B.S.; Ph.D., University of South Florida, 1987

ARCHAMBAULT, BARBARA E., Associate Professor (American Studies), 1979
B.A.; M.L.I.R.; J.D.; Ph.D., Michigan State University, 1977

ARGON, JOHN A., Visiting Professor (Pediatrics), 1991
B.S., M.D., University of South Florida, 1983

ARSENAL, RAYMOND O., Professor (History), 1983
B.A.; M.A., Ph.D., Brandeis University, 1980

ARZAN, STEPHAN, Associate Professor (Anthropology), 1989
B.S.E.E., University of South Florida, 1980

AUBEL, J. JOSEPH L., Associate Professor (Physics), 1964
B.S., Ph.D., Michigan State University, 1964

AUSBON, WILLIAM W., Visiting Professor (Pediatrics), 1982
B.A.; M.D., Medical College of Alabama, 1956

AUSTIN, RICHARD A., Associate Professor (Computer Science), 1990
B.S.; M.E.D., Ph.D., University of Florida, 1963

BABIN, LOIS, Assistant In Research (Pediatrics), 1980
B.S., M.S., Florida State University, 1975

BAKEY, PAUL, Assistant Professor (Pathology & Laboratory Medicine), 1988
B.S., M.S., M.D., University of Florida, 1983

BAER, ROBERTA D., Associate Professor (Anthropology), 1984
B.A.; M.A., Ph.D., University of Arizona, 1984

BAKER, DANIEL S., III, Associate Professor (Mass Communications), 1979
B.S.; M.B.A.; Ph.D., University of Tennessee, 1977

BAHNA, SAMI L., Visiting Professor (Pediatrics), 1992
M.D.; Ph.D., Alexandria University, 1970

BAILE, WALTER F., JR., Associate Professor (Psychiatry), 1986
B.S., M.D., University of Florida, 1983

BAKER, CARLETON H., Professor (Physiology), 1971
B.A.; M.A., Ph.D., Princeton University, 1955

BAKER, CAROL L., Visiting Instructor (Psychiatry & Behavioral Medicine), 1984
B.S.; M.S.W., Florida State University, 1973

BAKER, GREGORY R., Research Assistant Professor (Chemistry), 1989
B.S., Ph.D., Louisiana State University, 1989

BALFOUR, ALAN, Associate Professor (Management), St. Petersburg Campus, 1980
B.A.; M.L.I.R.; J.D.; Ph.D., Michigan State University, 1975

BALIS, JOHN U., Chairperson - Professor (Pathology and Laboratory Medicine), 1978
M.D., National University of Athens, Medical School, Greece, 1957

BALL, WILLIAM L., Assistant in Research (CUTR), 1988
B.S.; M.A., University of South Florida, 1988

BALLER, OSCAR F., Assistant Professor (Internal Medicine), 1989
M.D., University of Cordoba, Argentina, 1979

BALSERCLA, ALICIA F., Associate In Engineering), 1986
B.S. Ch.; M.S. Ch., University of South Florida, 1986

BALSON, PETER S., Visiting Associate Professor (Geology), 1991
B.S.; Ph.D., Polytechnic of London, 1979

BALSCHMIE, RICHARD G., Visiting Assistant in (CUTR), 1992
B.A.; M.P.A., University of South Florida, 1992

BANDYK, DENNIS, Professor (Psychology), 1982
B.A.; M.S., Ph.D., University of California, San Francisco, 1978

BANOO, SABIN, Professor (Public Health), 1983
M.D., D.M., D.P.H., Alexandria University, Egypt, 1979

BARBER, MICHAEL J., Professor (Biochemistry), 1983
BELSOLE, ROBERT J., Professor (Surgery), 1991
B.S.; M.D., New York Medical College, 1969
BELT, JACK W., Associate Professor (Theater), 1966
B.A.; M.F.A.; J.D., University of Florida, 1967
BENADUSI, GIOVANNA, Assistant Professor (History), 1988
Ph.D., Syracuse University, 1988
BENENSON, JAMES S., Associate Professor in Research Geography, 1991
B.A., M.A., University of South Florida, 1991
BENJAMIN, WILLIAM F., Professor (Educational Leadership and Higher Education), 1968
B.A., M.A., Ph.D., George Peabody College, 1961
BENNEDOTT, CAROL K., Visiting Assistant Professor (Social Work), 1991
B.A.; M.S.W., University of South Florida, 1985
BENSON, KAARON, Assistant Professor (Pathology), 1989
B.S.; M.D., Medical College of Pennsylvania, 1983
BENSON, ROBERT F., Visiting Assistant Professor (Chemistry), 1990
B.S.; M.S.; Ph.D., University of Arkansas, 1978
BENTLEY, MARY ANN M., Lecturer (Theatre), 1976
B.A., University of South Florida, 1962
BENTON, J. EDWIN, Associate Professor (Government and International Affairs), 1979
B.A., M.A., Ph.D., Florida State University, 1978
BENTON, THELMA D., Academic Administrator (Undergraduate Studies), 1969
B.S.; M.S.; Ph.D., Florida State University, 1981
BERCUR, BARRY B., Professor (Pediatrics), 1984
B.S.; M.D., University of Maryland, 1969
BERGUAU, WILLIAM A., Counselor/Advisor (Academic Support), Fort Myers Campus, 1989
B.A.; M.A., University of South Florida, 1991
BERGER, LAWRENCE D., Professor (Dance), 1981
Professional Graduate Diploma, The Juilliard School, 1963
BERGER, NEAL H., Program Director/Assistant Professor (Education), 1985
B.A.; M.A.; Ph.D., Florida State University, 1984
BERGGREN, DOUGLAS C., Professor (Humanities), New College of USF, 1975
B.A.; M.A.; Ph.D., University of California, 1982
BESLEY, SCOTT, Assistant Professor (Finance), 1982
B.S.; M.B.A., Florida State University, 1974
BESOZZI, MICHAEL J., Visiting Assistant Professor (Radiology), 1988
B.A., Visiting Assistant Professor, 1969
B.S.; M.S.; Ph.D., University of California, 1982
B.S.; M.E., Pennsylvania State University, 1987
B.S.; M.S.; Ph.D., University of Wisconsin, 1954
BERGER, PATRICIA J., Professor (Information Systems), 1987
B.S., M.S.; Ph.D., Pennsylvania State University, 1987
BIERSDORF, WILLIAM R., Professor (Ophthalmology), 1978
B.S.; M.S.; Ph.D., University of Wisconsin, 1954
BIFORD, JESSE S., Jr., Professor (Chemistry), 1961
B.A., M.A.; Ph.D., University of Utah, 1955
BINGHAM, ROB E., Assistant In Education, 1991
B.S., University of South Florida, 1988
BIRKIN, STANLEY J., Professor (Information Systems & Decision Sciences), 1969
B.S., M.S.C.; Ph.D., University of Alabama, 1969
BLACKMAN, JOSEPH K., Coordinator-Professor (Education), 1988
B.A.; M.A.; Ed. D., University of Massachusetts, 1975
BLAIR, R. CLIFFORD, Associate Professor (Pediatrics), 1976
B.A.; M.A.; Ph.D., University of South Florida, 1989
BLAKE, NORMAN J., Professor (Marine Science), St. Petersburg Campus, 1972
B.S.; M.S.; Ph.D., University of Hawaii, 1974
B.S.; M.S.; Ph.D., University of Washington, 1975
B.S.; M.S.E.; Ph.D., University of California, 1976
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Greenbaum, Susan D., Chairperson-Associate Professor (Anthropology), 1989
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Greenberg, Harvey M., Visiting Associate Professor (Cancer Education), 1986
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Greene, John N., Visiting Assistant Professor (Internal Medicine), 1991
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Greenman, Nancy P., Assistant Professor (Education), 1989
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Gregory, S. Joan, Associate Professor (Nursing), 1977
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Grewal, Gurlene, Assistant Professor (Women's Studies), 1992
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Griffith, Priscilla L., Assistant Professor (Childhood Education), 1988
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B.Com., B.A.; M.A., Ph.D., Massachusetts Institute of Technology, 1954
Griggs, Sara T., Research in (Anthropology), 1978
B.S., Medical College of Georgia, 1969
Grigsby, Mary E., Department Head and University Librarian (Library - St. Petersburg Campus), 1992
Grissom, Richard E., Program Director (Public Health), 1988
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Groes, Steven A., Assistant Professor (Ophthalmology), 1992
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WALLACH, PAUL M., Associate Professor (Internal Medicine), 1987
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WALLEN, ROBERT T., Visiting Instructor (Nursing), 1992
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WALSH, JOHN J., Graduate Research Professor (Marine Science), St. Petersburg Campus, 1984
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WARD, JOHN C., Associate Professor-Associate Chairperson (Community Mental Health), 1982
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WARFIELD, NANCY R., Associate Professor (Music), 1980
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WARNER, ELIZABETH A., Assistant Professor (Medicine), 1989
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WARREN, GRETCHEN W., Professor (Dance), 1983

WASALA, CAROL F., Lecturer (Information Systems and Decision Sciences), 1985

B.A.; M.B.A., University of South Florida, 1986

WASHINGTON, ROLANDA T., Counselor/Advisor (Academic Services), 1991
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WATERMAN, PATRICIA P., Associate Professor (Anthropology), 1969
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WEATHERFORD, ROY C., Professor (Philosophy), 1972
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WEEVER, LEE A., Professor (Industrial and Management Systems Engineering), 1967

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WEI, SHENG Associate in (Medical Microbiology), 1990
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WEBLEY, RICHARD E., Associate Professor (Pediatrics), 1982
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WEBEL, DENNIS Associate in (Ophthalmology), 1985

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WEISS, DAVID S., Assistant Professor (Physiology/Biophysics), 1991
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WELLS, DANIEL A., Professor (English), St. Petersburg Campus, 1970
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WELLS, KAREN E., Associate Professor (Medicine), 1989
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