LING 691 SEMANTICS I 3
Introduction to linguistic theories of meaning. Survey of the semantic issues in reference, ambiguity, presupposition and implicature. Selected linguistic phenomena (e.g., tense, aspect, predication and thematic roles). Some elements of formal semantics.
PREREQ: LING 101 or equivalent

LING 692 SEMANTICS II 3
A continuation of LING 691. Focuses on such topics as formal semantics, including Montague grammar, the interface between semantics and pragmatics, negation, quantification, conjunction, etc.
PREREQ: LING 691

LING 695 THE STRUCTURE OF JAPANESE 3
PREREQ: LING 101 or equivalent

LING 697 SOCIOLOGICAL STUDIES OF ENGLISH IN THE INNER CITY 3
Application of sociolinguistic principles and research to the teaching of multicultural students in American educational systems. Topics include sociolinguistic, language attitudes, vernacular language education, diglossia, instructional methods for teaching English as a second dialect, and reactions of the educational community to Black English Vernacular.

LING 698 TEACHING ENGLISH AS A SECOND LANGUAGE 3
Investigation of the literature containing the traditional and modern language of teaching the pronunciation, grammar and vocabulary of American English. Developing and presenting lesson plans.
PREREQ: Three credits of English at the 200 level

LING 699 ISSUES IN TEACHING LIMITED ENGLISH PROFICIENT STUDENTS 3
Addresses theoretical and instructional issues related to teaching Limited English Proficient (LEP) students. Topics include issues in bilingual education, theories of L2 acquisition, LEP educational models, integrating language and content instruction, documentation and assessment of LEP skills, and understanding cultural diversity.

MALS 600 NATURE AND HUMAN NATURE 3
Concentrates on salient views of nature and human nature, and the ways in which they have been shaped by the historical circumstances and disciplinary perspectives from which they were developed.
RESTRICTIONS: Open to majors only

MALS 603 THE AMERICAN FRONTIERS: FACT AND FICTION 3
Uses novels, films and more traditional sources of information to examine the role of the frontier in shaping American attitudes and values.
RESTRICTIONS: Open to majors only

MALS 610 FORCE, CONFLICT AND CHANGE 3
From antiquity to the present, the use of force and the resolution of conflict have been among humanity’s enduring preoccupations. Examines ideas about these issues, and associated questions such as the meaning of “heroism” and “just war.”
RESTRICTIONS: Open to majors only

MALS 611 DOCUMENTARY: JOURNALISM AND FILM 3
Explores non-fiction narratives, both in print and on film. It looks at social reporting from the Victorian Era to the present, drawing analogies between the techniques of literature and cinema.
RESTRICTIONS: Open to majors only

MALS 613 LATIN AMERICAN EXPERIENCE 3
Examines recurring issues and problems in Latin America. The conflict between church and state, nationalism and a place in world affairs, tensions between the individual and society and the influence of the United States.
RESTRICTIONS: Open to majors only

MALS 614 THE FRENCH REVOLUTION: IDEAS, INTERPRETATIONS AND DISSENT 3
Examines ways in which the French Revolution of 1789-1815, with all its complex events and movements, has been perceived and conceptualized by contemporaries, commentators and professional scholars. In-depth study of its literature to see how human beings have invented concepts and interpretations to make sense of the French Revolution.
RESTRICTIONS: Open to majors only

MALS 615 REASON, REVOLUTION AND THE RIGHTS OF MAN 3
Examines eighteenth-century French and English movement away from Cartesian rationalism and towards a rejection of reason leading to romanticism and revolution and an application of reason leading to a discussion of civil and human rights.
RESTRICTIONS: Open to majors only

MALS 616 ON THE NATURE OF GOOD AND EVIL: INQUIRIES IN LITERATURE, PSYCHOLOGY AND RELIGION 3
Focuses on novels and plays that explore the definition of good and evil in Judeo-Christian culture. Students will read these literary works in conjunction with essays by psychologists and theologians who discuss the concept of good and evil from a variety of perspectives.
RESTRICTIONS: Open to majors only

MALS 617 AMERICAN ART IN CONTEXT 3
This course is designed to give the non-specialist in art history an understanding of how social, economic, religious, and cultural attitudes in America are reflected in its art, architecture, and decorative arts from the colonial period to the present. Discussion encompasses such subjects as patronage, regionalism, ethnicity, and gender.
RESTRICTIONS: Open to majors only

MALS 618 STUDIES IN THE HISTORY OF ART 3
Selected topics in the history of art. Focuses on art in the context of cultural and social history for an advanced audience of non-specialists.
RESTRICTIONS: Open to majors only

MALS 619 THE SCIENTIST IN SOCIETY 3
Scientific research is directly influenced by the society in which it is conducted. In addition to financial limitations, constraints are imposed by societal norms of what are acceptable topics and procedures for research. Focus on the philosophical basis of science as well as consequences to society of the scientific revolution.
RESTRICTIONS: Open to majors only

MALS 647 PHILOSOPHY OF TECHNOLOGY 3
See PHIL 647 for course description

MALS 648 ENVIROMENTAL ETHICS 3
See PHIL 648 for course description

MATERIALS SCIENCE

MASC 302 MATERIALS SCIENCE FOR ENGINEERS 4
Crystal binding and structure; energetics and structure of lattice defects; elasticity, plasticity, and fracture; phase equilibria and transformations; relations of structure and treatment to properties; structures of inorganic and organic polymers; and electronic and magnetic properties.

MASC 366 INDEPENDENT STUDY 1-6

MASC 406 CORROSION AND PROTECTION 3
PREREQ: Physical chemistry.

MASC 446 SENIOR RESEARCH 1-6
Student will research general areas of Materials Science and/or Engineering under the direction of a member of the Materials Science Faculty or other faculty in science or engineering subject to the approval of the Materials Science Chair.
RESTRICTIONS: Open to seniors only. Science background required

MASC 466 INDEPENDENT STUDY 1-6

MASC 601 STRUCTURE AND PROPERTIES OF POLYMER MATERIALS 3
Measurement and control of the microstructure and properties of solid polymers. Structure generation, structure-property models and effects of processing on properties. May be cross-listed with CHEG 601.
PREREQ: MASC 302.

MASC 602 STRUCTURE OF MATERIALS 3
PREREQ: MASC 302

MASC 603 ANALYTICAL TECHNIQUES IN MATERIALS SCIENCE 3
Laboratory course in optical microscopy, X-ray diffraction, scanning and transmission electron microscopy, electron diffraction, X-ray fluorescence and microanalysis. Auger analysis and other spectroscopic techniques.
PREREQ: MASC 302 and MASC 502.
COREQ: MASC 502

MASC 604 PHASE TRANSFORMATIONS 3
PREREQ: MASC 302
MASC 606 Corrosion and Protection 3
PREREQ: MASC302

MASC 607 Physical Properties of Materials I 3
Basic models of electrical, magnetic optical and thermal properties of solid materials. Introduction to quantum physics to describe electronic structure of atoms, atomic bonds and crystals. Electronic, magnetic and optical effects in metals, semiconductors, ceramics, polymers and amorphous materials. Operation of basic electronic devices and semiconductor devices. PREREQ: MASC302 and PHYS208

MASC 614 Fracture of Materials 3
Fracture mechanics, micromechanisms, nucleation and propagation of cracks, fracture toughness, ductile-brittle transitions, fatigue, stress, corrosion, irradiation effects and nonmetallic materials. May be crosslisted with MEEG614.
PREREQ: MASC302

RESTRICTIONS: Graduate standing acceptable in lieu of prerequisite.

MASC 615 Mechanical Properties of Materials 3

RESTRICTIONS: Requires graduate status.

MASC 616 Chemistry and Physics of Surfaces and Interfaces 3
See CHEG616 for course description.

MASC 623 Electrical Properties of Matter I 3
See ELEG623 for course description.

MARINE STUDIES

MAST 200 Concepts in Oceanography 3
Introduction to the scientific study of oceanography. Exploration of the multi-disciplinary nature of applying fundamental physics, chemistry, biology, geology, meteorology and mathematics to understanding the world ocean. Combined lectures with extensive video presentations illustrate field and laboratory research in oceanography.

MAST 464 Marine Science Summer Internship 1-3
Students design a research project with an advisor and present it to peers, advisors and course instructor.

MAST 466 Independent Study 1-3

MAST 601 Introduction to Oceanography 3
Topics include the geology and history of the ocean floor, oceanic sediments, the physics of the marine environment and the oceanic circulation, chemical processes in the ocean, and biological processes and production in the oceans.

RESTRICTIONS: For non-oceanographers. Requires graduate status.

MAST 602 Physical Oceanography 3
Geographic and hydrodynamic aspects of oceanography. The geography of ocean basins; physical properties of seawater; radiation; and observed distributions of temperature, salinity, oxygen and currents. Scalar and vector fields; hydrostatics; kinematics, momentum dynamics, vorticity dynamics, viscous flow and eddy flux.

RESTRICTIONS: Requires permission of instructor.

MAST 615 Introduction to Marine Biology 3
Involves laboratory, field and lecture study for a broad understanding of marine biology and biochemistry.

RESTRICTIONS: For non-biologically oriented marine studies graduate students.

MAST 620 Energy Policy and Administration 3
See POSC624 for course description.

MAST 621 Coastal Field Biology 2
Hands-on study of estuarine and coastal communities with emphasis on patchiness in time and space. Instruction in field techniques as well as analysis and presentation of data. Experience in scientific writing.

PREREQ: General biology, ecology, genetics, physiology.

MAST 622 Conservation, Efficiency and Renewable Energy Policy 3
See URAF626 for course description.

MAST 623 Physiology of Marine Organisms 3
Processes and mechanisms of adaptation of organisms to marine environments. Examines how environmental factors affect physiological processes in marine organisms. Lectures address physiological processes at cellular, whole organism and habitat levels.

MAST 624 Biological Oceanography 3
Broad, multidisciplinary approach to marine life and biological processes in the oceans and estuaries. Species composition and biogeography discussed in relation to physical, chemical and geological processes. Examine and quantify organisms' physiological responses to the abiotic and biotic environment.

MAST 626 Topics in Halophyte Biology 1
Analysis of current research in the biology of halophytic plants. Emphasis on student seminars and group discussions of the current literature.

RESTRICTIONS: May be repeated for credit when topics vary.

MAST 627 Marine Biology 3
Ecologically oriented study of elementary oceanography, adaptive physiology, aspects of population and community ecology, reproductive and larval biology and marine production systems. Emphasis on coastal and estuarine habitats including soft and hardwood intertidal regions, subtidal regions and coral reefs.

PREREQ: General Biology, Ecology, Genetics, and Physiology.

RESTRICTIONS: Requires permission of instructor.

MAST 628 Comparative Environmental Politics 3
See URAF627 for course description.

MAST 629 Topics in Marine Ecology 1-3
Selected topics in marine ecology and physiology. Topics may vary and will be announced in the registration booklets.

RESTRICTIONS: Requires permission of instructor. May be repeated for credit when topics vary.

MAST 631 Marine Geology 3
See GEOI631 for course description.

MAST 633 Image Processing 3
See ELEG633 for course description.

MAST 634 Marine Biochemistry 3
Addresses biochemical processes and enzyme, metabolic and structural adaptations of marine plants and animals. Discussions on topics such as enzyme kinetics, enzyme structure and metabolic pathways to organisms in the marine environment.

RESTRICTIONS: Requires sufficient background in chemistry and permission of instructor.

MAST 635 Turbulence in the Environment 3
Fundamentals of turbulence including the dynamics of vorticity, the cascade of energy and the theory of Kolmogorov turbulence in density stratified flows. Applications to many engineering disciplines as well as to meteorology and oceanography.

MAST 636 Applied Ocean Science Seminar 1
Invited speakers from university, industry, and government research laboratories will discuss the latest advances in modeling and measurement of physical and biological properties of the oceans and coastal regions. Use of satellite remote sensing data and acoustic data in studies of ocean currents, waves, air-sea interaction turbulence, pollutant dispersion and coastal productivity will be emphasized.

MAST 640 Opto-electronics 3
See ELEG640 for course description.

MAST 645 General Oceanography 3
Introduction to the science of oceanography, emphasizing the physical and natural sciences nature of the subject matter and application to social schemes.

RESTRICTIONS: Offered off-campus, for public school teachers and general public.

MAST 646 Chemical Oceanography 3
Composition of seawater; physical-chemical properties of seawater distributions of gases, nutrients and trace metals; and effects of biological processes on seawater composition.

PREREQ: CHEM103 and CHEM104.

MAST 647 Physical Chemistry of Seawater 3
Introduction to chemical equilibria in seawater. Topics include electrolyte theory, gas solubility, chemical speciation, acid-base equilibria and the carbon dioxide system. Emphasizes use of computer techniques to study oceanic chemical processes.

PREREQ: One year of chemistry.

RESTRICTIONS: Computer experience not required.

MAST 650 Clay Mineralogy 3
Crystallography, chemistry, physical properties, occurrence, origin and alterations of the clay and related minerals; theory and techniques of identification, characterization and quantitative analysis using x-ray diffraction and electron microscopy; and cation exchange and size characteristics of clay minerals. Discussion of related topics, colloidal chemistry, fluid transport behavior, etc. May be crosslisted with GEOI650 and/or PLSC650.

MAST 670 Introduction to Marine Policy 3
Provides an overview of conceptual approaches and analytical tools used in the field as well as an overview of major substantive areas of marine policy. Covers (mainly in a U.S. context) fisheries management, marine minerals exploitation, coastal management, marine transportation and naval power.
MAST 671 COASTAL PROCESSES AND MANAGEMENT 3
Introduction to key processes operating in the coastal zone and to management tech-
niques appropriate to these processes and environments. Emphasis on policy, regulatory
and intergovernmental complications that characterize coastal zone management in the
United States and in other coastal nations.

MAST 672 APPLIED POLICY ANALYSIS 3
Empirical analysis of environmental and natural resource policy issues. Topics include
valuation of natural resources, decision making under uncertainty, dynamic control and
intertemporal issues in resource use and institutional aspects of policy analysis. May be
cross-listed with ECON670
PREREQ: ECON401

MAST 673 INTERNATIONAL LAW 3
Origins, sources and applications of law to international relations, including the nature
of treaties, the legal powers of states and international organizations, jurisdiction and
immunities, and the role of international courts. Special attention given to the law of
the sea for navigation, fisheries conservation, mineral exploitation and environmental protec-
tion. May be cross-listed with POSC604
RESTRICTIONS: Requires permission of instructor

MAST 674 LEGAL ASPECTS OF THE COASTAL ZONE 3
Examines basic legal doctrines and public policy implications relevant to the develop-
ment and protection of the coastal zone of the United States. Use, ownership and control
of water and land beneath and bordering upon water; relationships between the states and
the federal government in areas of marine affairs; environmental protection and legal
controls of water pollution.
RESTRICTIONS: Requires permission of instructor

MAST 675 ECONOMICS OF NATURAL RESOURCES 3
Study of the allocation of natural resources, especially marine and coastal zone
resources, in modern economics. Application of economic theory to the problems of mis-
allocations and the means of correction, under both free and planned markets. May be
cross-listed with ECON675
RESTRICTIONS: Requires permission of instructor

MAST 676 ENVIRONMENTAL ECONOMICS 3
Study of the choice of policies to protect the environment, including land, air and water
resources. Theory of market failure and externalities, use of economic incentives in policy
design, valuation of environmental resources and examination of inefficiencies in existing
U.S. environmental policies. May be cross-listed with ECON676
PREREQ: ECON500

MAST 677 OCEAN LAW AND POLICY 3
Focuses on understanding the strengths and weaknesses of the legal framework which
governs ocean resources and ocean space beyond the limits of national jurisdiction. Evalu-
ates international conventions which pertain to the ocean as to impact and effectiveness

MAST 678 ADMIRALTY AND MARITIME LAW 3
An introduction to admiralty and maritime law, including jurisdiction and decisions on
 carriage of goods by sea, maritime liens, torts against seamen, collisions, salvage,
 marine pollution, and marine insurance, with study of public policy issues. May be cross-
 listed with POSC678 and/or URAF678

MAST 679 SHIPPING AND PORT MANAGEMENT 3
A seminar to study the structure and management of the shipping industry and ports,
policies for ocean commerce, international trade, and merchant marine. May be cross-
 listed with POSC679

MAST 680 INTRODUCTION TO APPLIED OCEAN SCIENCE 3
Basic quantitative and empirical description of the behavior of solids, fluids, soils and
engineering materials. Corrosion and environmentally induced forces. Development,
design, construction and operation of marine structures, transportation energy and
aquatic production systems. Role of remote sensing.
RESTRICTIONS: Requires permission of instructor. Not open to applied ocean science or
engineering majors

MAST 681 REMOTE SENSING OF ENVIRONMENT 3
Detection and mapping of land and ocean resources with optical, infrared and
microwave sensors. Digital analysis of satellite images using multispectral and spatial anal-
ysis techniques and correlation with ground/ship data. Application to oceanogra-
phy, coastal processes, geology, land use, geography, agriculture, climate and pollution
studies. May be cross-listed with ECE681 and/or GEOG681
RESTRICTIONS: Requires permission of instructor

MAST 682 CURRENT TOPICS IN APPLIED OCEAN SCIENCE 1-3
Advanced treatment of selected areas of the applied ocean sciences, including acoustic
wave propagation, remote sensing of physical biological properties of the oceans,
experimental fluid dynamics; coagulation of suspended materials; and marine corro-
sion/biofouling.
RESTRICTIONS: May be repeated with each change of topic

MAST 683 STRUCTURAL MATERIALS IN SEAWATER 3
Electrochemical, physical and biological interactions of metals, polymers, concrete,
wood and composites with seawater. Emphasis on materials selection and deterioration
prevention measures.
PREREQ: CHEM101
RESTRICTIONS: For students with little or no background in material science. Not for
credit for students that passed MASC302

MAST 684 PARTICLES IN THE AQUEOUS SYSTEM 3
Deals with all aspects of particle flocculation that occur within the bounds of the natural
environment. Brings together from a variety of fields (physics, engineering, chemistry
and biochemistry) the theories, equations and principles that bear on the natural aque-
ous environment.
RESTRICTIONS: Requires permission of instructor

MAST 685 UNDERWATER ACOUSTICS 3
Principles of underwater acoustics, including history and basic concepts; the sound equa-
tions; propagation of sound in the sea; reflection and scattering;sonar background
noise; detection of signals in noise; sonar systems; system requirements and operations;
and signal processing and display

MAST 686 REMOTE SENSING SEMINAR 1
Basic and applied research topics in remote sensing of earth resources, coastal process-
es, ocean productivity, ocean dynamics and climatic effects presented by University
students, faculty and guest speakers. Stresses advanced data acquisition and spectral
and imaging analysis techniques.
RESTRICTIONS: May be repeated for credit when topics vary

MAST 687 COLOidal SCIENCE SEMINAR 1
Basic scientific and applied research topics in colloidal science presented by University
students, faculty and guest speakers. Stresses the processes related to fine particles in
the marine environment.
RESTRICTIONS: May be repeated for credit when topics vary.

MATH 010 INTERMEDIATE ALGEBRA 3 R
Establishes, or reestablishes, the background of those who desire to take College Alge-
bra. Experience indicates that many persons who need college mathematics are not able
to proceed because of a deficient background.

MATH 012 CONCEPTS OF INTERMEDIATE ALGEBRA 1-3 R
Reviews algebra concepts and skills needed for college level mathematics courses. Top-
ics (when three credits are completed) include a review of sets, operations with poly-
nomials and rational expressions, solving various types of equations and inequalities and
an introduction to coordinate plane and functions.
RESTRICTIONS: Requires arithmetic skills

MATH 114 COLLEGE MATHEMATICS AND STATISTICS 3
Basic algebra skills and concepts with a strong emphasis on graphing and applications
in the areas of management, life, and social sciences. Topics include exponential func-
tions, logarithms, statistics, linear programming and arithmetic and geometric sequences.
PREREQ: MATH102 or MATH101
RESTRICTIONS: Only three credits from any combination of MATH114, MATH115,
MATH170, MATH171 and MATH172 can count toward graduation

MATH 115 PRE-CALCULUS 3
Develops concepts required for calculus around the unifying notions of a function and the
graph of a function (polynomial, algebraic, exponential, logarithmic, and trigonometric
functions).
RESTRICTIONS: Familiarity with central concepts of algebra (factoring, solving equa-
tions, simplifying algebraic expression and laws of exponents) recommended. Only
three credits from any combination of MATH114, MATH115, MATH170, MATH171 and MATH172 can count toward graduation

MATH 170 SELF-PACED COLLEGE MATHEMATICS AND STATISTICS 1-3
Stresses algebra concepts and applications, elementary and trigonometric functions and
topics in statistics. Variable credit allows the student to proceed at his/her own pace.
RESTRICTIONS: Content same as MATH114 when all three credits completed. Only
three credits from any combination of MATH114, MATH115, MATH170, MATH171 and MATH172 can count toward graduation

MATH 171 SELF-PACED PRE-CALCULUS 1-3
Develops concepts required for calculus around the concept of a function and its graph.
Polynomial, rational, exponential, logarithmic and trigonometric functions stressed. Vari-
able credit allows the student to proceed at his/her own pace.
PREREQ: Intermediate Algebra
RESTRICTIONS: Content same as MATH115 when all three credits completed. Only
three credits from any combination of MATH114, MATH115, MATH170, MATH171 and MATH172 can count toward graduation
MATH 172 Algebra and Precalculus 2
Mastery-based algebra review followed by concepts required for MATH221 developed around functions and their graphs (polynomial, rational, logarithmic and exponential). RESTRICTIONS: Does not satisfy general skills math requirement. Only three credits from any combination of MATH14, MATH15, MATH170, MATH71 and MATH72 can count toward graduation.

MATH 179 Problem Solving Strategies I 1
Designed to study a multitude of problem solving strategies such as working backwards, look for a pattern, etc. In particular, will emphasize the use of these strategies with the content that secondary mathematics teachers normally teach.
PREREQ: MATH241

MATH 210 Discrete Mathematics I 3
Sets, logic, induction, number systems, counting, finite probability, introduction to graph theory, sequences and formal power series.
PREREQ: MATH115
RESTRICTIONS: Credit cannot be received for both MATH210 and MATH230.

MATH 221 Calculus I 3
Topics include functions, graphing functions, limits, derivatives, sequences, series, exponential and logarithmic functions, and integration.
RESTRICTIONS: Requires two years of high school algebra and one year of geometry. Credit cannot be received for both MATH221 and MATH241.

MATH 222 Calculus II 3
Topics include integration, Taylor polynomials, series, multivariable calculus and trigonometric functions.
PREREQ: MATH221
RESTRICTIONS: For students in the behavioral, management and social sciences. Credit cannot be received for both MATH222 and MATH242.

MATH 230 Finite Mathematics with Applications 3
Set theory, probability, optimization, linear programming and an introduction to matrix methods.
PREREQ: MATH221
RESTRICTIONS: For students in the behavioral, management and social sciences. Credit cannot be received for both MATH230 and MATH210.

MATH 241 Analytic Geometry and Calculus A 4
Functions, limits, continuity, derivatives and definite integrals.
RESTRICTIONS: Requires two years of high school algebra, one year of geometry and trigonometry. Credit cannot be received for both MATH241 and MATH221.

MATH 242 Analytic Geometry and Calculus B 4
Exponential, log and trig functions; integration techniques; polar coordinates; and series.
PREREQ: MATH241
RESTRICTIONS: Credit cannot be received for both MATH242 and MATH222.

MATH 243 Analytic Geometry and Calculus C 4
Vectors, partial derivatives, multiple integrals, line integrals and Green's Theorem.
PREREQ: MATH242

MATH 245 An Introduction to Proof 3
Basic set operations, relations, equivalence relations, functions, inverse functions, cardinality, order properties of real numbers, least upper bound, greatest lower bound, completeness axiom, topology of reals, complex numbers.
PREREQ: MATH243

MATH 251 Mathematics for the Elementary School I 3
Basic number concepts: numeration, whole numbers, integers, rational numbers, real numbers and arithmetic procedures.

MATH 252 Mathematics for the Elementary School II 3
Continuation of MATH251.
PREREQ: MATH251.

MATH 253 Mathematics for Elementary School III 3
Continuation of Math251 and 252. Focuses on topics in geometry.
PREREQ: MATH252.

MATH 280 Insights into Mathematics 3
A basic course. Mathematics presented as a human endeavor. Topics include problem solving, reasoning and modeling.
PREREQ: MATH14 or MATH15
RESTRICTIONS: For liberal arts students not necessarily planning further study in mathematics.

MATH 302 Ordinary Differential Equations 3
Solutions of ordinary differential equations of first and second order; and applications, Laplace transforms, Fourier series and power series solutions.
PREREQ: MATH243.
RESTRICTIONS: Credit not given for both MATH302 and either MATH341 or MATH342.

MATH 303 Differential Equations Computing Lab 1
Provides computing experience in differential equations.
COREQ: MATH302.

MATH 305 Applied Mathematics for Chemical Engineering 3
A special applied mathematics course designed for chemical engineering majors. Emphasis is given on the interaction between mathematical theory and its engineering applications. May be cross-listed with CHEG305.
PREREQ: MATH302
RESTRICTIONS: For chemical engineering majors only.

MATH 315 Discrete Mathematics II 3
Algorithms, graph theory, correctness and complexity of algorithms, recurrence relations, numerical algorithms, algorithms for polynomials (such as Horner's method).
PREREQ: MATH210 and MATH241.

MATH 341 Differential Equations with Linear Algebra I 3
Topics include first and second order differential equations, systems of algebraic equations, determinants, vector spaces, eigenvalues and eigenvectors of matrices and systems of differential equations. Emphasis on the interaction between these topics and appropriate physical systems.
PREREQ: MATH242
RESTRICTIONS: Credit not given for both MATH302 and MATH341, or both MATH349 and MATH341.

MATH 342 Differential Equations with Linear Algebra II 3
A continuation of MATH341. Topics include series solutions, Laplace transform methods, boundary value problems, orthogonality, higher order equations, difference equations and numerical techniques. Continued emphasis on the interaction between these topics and physical systems.
PREREQ: MATH341
RESTRICTIONS: Credit not given for both MATH349 and MATH342, or both MATH302 and MATH342.

MATH 349 Elementary Linear Algebra 3
Systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors.
PREREQ: MATH230 or MATH242
RESTRICTIONS: Credit not given for both MATH349 and either MATH341 or MATH342.

MATH 366 Independent Study 1-6

MATH 379 Problem Solving Strategies I 1
Studies a multitude of problem solving strategies such as looking for a pattern, making a model, working backwards, etc.
COREQ: MATH380
RESTRICTIONS: Requires permission of the Committee on Secondary School Mathematics. Not for major (B.A. or B.S.) or minor credit in Mathematical Sciences.

MATH 380 Approaches to Teaching Math 3
Aims, course planning, instructional strategies, evaluation and selection of materials for teaching mathematics in secondary schools.
COREQ: MATH379
RESTRICTIONS: Requires permission of the Committee on Secondary School Mathematics. Not for major (B.A. or B.S.) or minor credit in Mathematical Sciences.

MATH 381 Practicum in Secondary Mathematics 1 PF
Teaching experience in a clinical setting, the Math Center. Helps develop an inquiring attitude: to be a perceptive observer of the learning behaviors of those taught, one must develop hypotheses about the causes of misconceptions, means of diagnosing them and methods of treatment (including uses of technology).
COREQ: MATH243
RESTRICTIONS: Requires permission of the Committee on Secondary School Mathematics. Not for major (B.A. or B.S.) or minor credit in Mathematical Sciences.

MATH 389 Graph Theory 3
Basic graph theory (paths and circuits, trees and forests, connectivity and coloring theorems) and network flow theory. Applications to areas such as economics, engineering, chemistry and sociology.
PREREQ: MATH210.

MATH 401 Advanced Calculus 3
A rigorous treatment of one variable calculus. Topics will include sequences of real numbers, limit theorems, monotone sequences, Cauchy sequences, Bolzano-Weierstrass Theorem, continuity, uniform continuity, differentiability and Riemann integral.
PREREQ: MATH245.

MATH 426 Introduction to Numerical Analysis and Algorithmic Computation 3
Direct and iterative methods for solution of algebraic equations and systems of linear equations, matrix inversion, pseudo-inverses, algebraic eigenvalue problems, linear least-square problems and nonlinear equations. Stresses both numerical analysis and algorithmic aspects. May be cross-listed with CISC410.
PREREQ: MATH349 and CISC105.
RESTRICTIONS: Requires familiarity with computing (e.g., programming language).
MATH 428 Algorithmic and Numerical Solution of Differential Equations 3
Algorithms for numerical integration and differentiation. Initial value problems; boundary value problems in ordinary differential equations; finite difference (explicit and implicit) methods; polynomial and spline approximation; finite elements and collocation; and introduction to numerical methods for partial differential equations. May be crosslisted with CISC 411.
PREREQ: MATH 426 or CISC 410

MATH 450 Abstract Algebra 3
Integers, modular arithmetic, Euclidean algorithms and Chinese remainder theorem, polynomial rings, including the fundamental theorem of algebra and Lagrange interpolation. Introduction to field theory, primitive elements and simple extensions.
PREREQ: MATH 349

MATH 451 Abstract Algebra II 3
Basic properties of the integers and the rationals, fields of quotients, polynomial rings, root-riding, introduction to groups and vector spaces.
PREREQ: MATH 349 and MATH 245

MATH 466 Independent Study 1-6
Multivariable calculus, vector calculus, infinite series, uniform convergence and Fourier analysis.
PREREQ: MATH 302

MATH 508 Introduction to Complex Variables and Applications 3
Introduction to analytic functions, contour integration, power series, residues and conformal mapping.
PREREQ: MATH 243

MATH 510 Modeling and Analysis of Environmental Systems 3
An elementary course to introduce basic analytical and numerical methods for studying mathematical problems arising in environmental sciences.
PREREQ: MATH 242 or equivalent
RESTRICTIONS: Open to Environmental Science graduate students or by consent of instructor

MATH 514 Topics in Advanced Mathematics for Engineers 3
Basic methods of analysis: introduction to complex variables; special functions including Bessel functions and Legendre polynomials; Fourier series and integrals; partial differential equations; and emphasis on engineering applications.
PREREQ: MATH 302
RESTRICTIONS: For engineering students

MATH 518 Mathematical Models and Applications 3
Illustration and analysis of mathematical models for problems in the biological, physical and social sciences
PREREQ: Either MATH 303, or MATH 349 and STAT 370

MATH 529 Linear Programming: Methods and Applications 3
Theory of linear programming (linear inequalities, convex polyhedra, duality), related topics (games, integer programming), main algorithms (simplex, dual) and representative applications in agriculture, economics, engineering, operations research and mathematics. Familiarity with computer implementation of LP methods acquired by individual (or small group) projects of applying LP to the students' chosen areas.
PREREQ: MATH 349

MATH 540 Geometry 3
Axiomatic systems; transformations, Euclidean, projective and hyperbolic geometry.
PREREQ: MATH 349
RESTRICTIONS: Graduate credit only for teachers.

MATH 555 Applied Calculus for Business and Economics 3
Accelerated version of the usual two-semester undergraduate preparation in calculus.
RESTRICTIONS: Requires high school algebra. Designed for students enrolling in M.B.A. program

MATH 600 Fundamentals of Real Analysis 3
Rigorous introduction to classical real analysis. Brief review of real numbers and a thorough discussion of the basic topology of metric spaces. Covers in detail the following topics: the analysis of sequences and series, continuity, differentiation and Taylor's theorem, and the analysis of sequences and series of functions
PREREQ: MATH 401

MATH 602 Advanced Calculus - Introduction to Analysis II 3
Continuation of Math 500.
PREREQ: MATH 500

MATH 605 Applied Functional Analysis 3
Introduction to formulation and solution of problems of engineering and science by means of functional analytic methods in Hilbert and Banach spaces. Includes boundary and initial value problems in ordinary and partial differential equations as well as integral equations. Emphasis on constructive techniques: variational methods, approximate solutions, bounds for eigenvalues, etc.
PREREQ: MATH 514, PHYS 5508, MEEG 564 or advanced calculus.

MATH 609 Intermediate Ordinary Differential Equations with Applications 3
Theory and applications of ordinary differential equations; existence theorems of linear and non-linear systems, oscillation theorems, stability theory, and Sturm-Liouville theory.
PREREQ: MATH 302, MATH 349 and one semester of advanced calculus

MATH 610 Introduction to Partial Differential Equations with Applications 3
Introduction to partial differential equations; equations of mathematical physics and their classical theories emphasizing boundary and initial value problems and their interpretations.
PREREQ: One semester of advanced calculus

MATH 611 Introduction to Numerical Analysis and Scientific Computing I 3
Introduction to numerical computing, analysis and solution of systems of linear equations, linear least-squares, eigenvalue problems, methods for unconstrained optimization, solution of systems of nonlinear equations. Experience with standard computer packages, code development and simulations of applied problems.
PREREQ: MATH 303 or MEEG 563 or PHYS 5207

MATH 612 Introduction to Numerical Analysis and Scientific Computing II 3
Approximation, interpolation, data fitting and smoothing, numerical methods for ordinary differential equations. Additional topics selected at discretion of instructor. Experience with standard computer packages, code development and simulations of applied problems.
PREREQ: MATH 303 or MEEG 563 or PHYS 5207

MATH 613 Applied Symbolic Computation 3
See CISC 267 for course description

MATH 614 Introduction to Applied Mathematics I 3
Introduction to formulation of mathematical problems for systems of interest outside mathematics, particularly those from engineering and physics; systems studied vary; emphasis on interplay between system and mathematical model.
PREREQ: One semester of advanced calculus and PHYS 5208

MATH 615 Introduction to Applied Mathematics II 3
Methods of attack on mathematical problems for systems of interest outside mathematics: calculus of variations techniques; and interpretation of solutions to problems in terms of systems.
PREREQ: MATH 306
RESTRICTIONS: Familiarity with systems treated acceptable in lieu of Prereq

MATH 630 Probability Theory and Applications 3
Introduction to probability theory as background for further work in statistics or stochastic processes. Sample spaces and axioms of probability; discrete sample spaces having equally likely events; conditional probability and independence; random variables, classical discrete and continuous random variables; mathematical expectation and moments of a distribution; Chebyshev's inequality; and law of large numbers and central limit theorem. May be crosslisted with STAT 360.

MATH 631 Introduction to Stochastic Processes 3
Classical stochastic processes with emphasis on their properties which do not involve measure theory. Course contents: Markov chains in discrete and in continuous time with examples from random walk, birth and death processes, branching processes, queueing theory. Renewal and Markov renewal processes. Basic notions of Brownian motion and second-order processes.
PREREQ: MATH 630

MATH 632 Topics in Applied Probability 3
The application of probability theory to stochastic processes in a specific area of science. May include treatment of probabilistic methods not ordinarily covered in other courses. Possible topics are the theory of queues, dams and inventories, replacement and reliability, probability models in population growth and biometrics, Monte Carlo simulation, algorithmic methods in probability and operational methods.

MATH 650 Abstract Algebra 3
Modular arithmetic, Chinese remainder theorem, rings (including polynomial rings), ideals and quotient rings, groups and homomorphism theorems, unique factorization and principal ideal domains, field extensions.
PREREQ: MATH 349

MATH 672 Vector Spaces 3
Vector spaces, linear transformations, decomposition theorems and bilinear forms.
PREREQ: MATH 349

MATH 688 Combinatorics and Graph Theory with Applications I 3
Permutations and combinations, generating functions and other enumeration techniques, recurrence relations, basic graph theory, partially ordered sets, combinatorial optimization and tree complexity.
PREREQ: An undergraduate course in linear algebra.

MATH 694 Methods of Optimization 3
Review of linear programming, unconstrained and constrained nonlinear programs, numerical methods, Kuhn-Tucker theory, duality and Lagrange multipliers.
MEDICAL TECHNOLOGY

MATH 698 THREATIC SEMINAR 2 PF
Problems oriented class, topics vary from year to year. Aim is to give students research experience in mathematics and to show how mathematics is used to solve problems.

MECHANICS

MECH 305 FLUID MECHANICS 3
Incompressible fluid mechanics: Fluid statics, control volume analysis of fluid flows, differential analysis of inviscid and viscous fluid flows and dimensional analysis.
PREREQ: CIEG212 or MECE213 and MATH302.
COREQ: MECH306.

MECH 306 FLUID MECHANICS LABORATORY 1
Experiments in fluid mechanics.
COREQ: MECH305.

MEDICAL TECHNOLOGY

MEDT 100 INTRODUCTION TO MEDICAL TECHNOLOGY 1 PF
Orientation to profession of Medical Technology.

MEDT 360 THEORETIC SEMINAR 1-6

MEDT 365 PHLEBOTOMY PRACTICUM 1
Introduction to the theory and performance of phlebotomy. Supervised clinical experience in the application of laboratory theory and techniques in phlebotomy.
RESTRICTIONS: Open to Medical Technology majors only.

MEDT 374 INTRODUCTION TO CLINICAL CHEMISTRY 1
Introduction to laboratory principles and mathematics, laboratory safety, quality control, quality assurance and spectrophotometry.
RESTRICTIONS: Open to Medical Technology majors only.

MEDT 376 CLINICAL VIROLOGY AND IMMUNOLOGY 2
Fundamentals of diagnostic virology, virology and serology, including theory, disease correlation, laboratory techniques and safety.
RESTRICTIONS: Open to Medical Technology majors only.

MEDT 377 CLINICAL LABORATORY COMPUTER APPLICATIONS 2
Introduction to the use and application of computers in the clinical laboratory.
RESTRICTIONS: Open to Medical Technology majors only.

MEDT 380 URINALYSIS AND BODY FLUIDS 2
The study of routine urinalysis examination, renal function and body fluid testing procedures.
RESTRICTIONS: Open to Medical Technology majors only.

MEDT 385 CLINICAL PHYSIOLOGICAL CHEMISTRY I 3
RESTRICTIONS: Open to Medical Technology majors only.

MEDT 390 CLINICAL PHYSIOLOGICAL CHEMISTRY II 4
Application and theory of methodologies in enzymology, endocrinology and toxicology. Relationship of normal and abnormal laboratory findings in organ functional tests.
PREREQ: MEDT401.

MEDT 404 HEMATOLOGY I 2
Quantitative and qualitative study of the formed elements of the blood with emphasis on the normal state, as well as the study of normal and abnormal coagulation and hemostasis.
RESTRICTIONS: Open to Medical Technology majors only.

MEDT 409 IMMUNOHEMATOLOGY I 1
Study of antigen and antibody systems of human red cells and compatibility testing of blood for transfusion.
RESTRICTIONS: Open to Medical Technology majors only.

MEDT 410 PRINCIPLES OF MEDICAL TECHNOLOGY EDUCATION 1 PF
Educational principles and procedures applicable to teaching clinical laboratory sciences. Topics include preparation of educational objectives, testing and measurement, and use of audiovisual materials.

MEDT 420 CLINICAL PHYSIOLOGICAL CHEMISTRY LABORATORY I 2
Laboratory exercises that complement the topics covered in MEDT401.
COREQ: MEDT401.

MEDT 421 CLINICAL PHYSIOLOGICAL CHEMISTRY LABORATORY II 2
Laboratory exercises that complement the topics covered in MEDT403.
COREQ: MEDT403.

MEDT 430 CLINICAL URINALYSIS AND SEROLOGY PRACTICUM 1 PF
Clinical experience in the application of laboratory theory and techniques in urinalysis and serology.
PREREQ: MEDT376 and MEDT400.

MEDT 441 IMMUNOHEMATOLOGY I LABORATORY 1
Laboratory procedures that correlate with the material taught in MEDT409.
COREQ: MEDT409.

MEDT 442 IMMUNOHEMATOLOGY II LABORATORY 1
Laboratory procedures consistent with MEDT420.
COREQ: MEDT420.

MEDT 443 IMMUNOHEMATOLOGY II LABORATORY 2
Laboratory procedures consistent with MEDT430.
COREQ: MEDT430.

MEDT 445 IMMUNOHEMATOLOGY II LABORATORY 3
Laboratory procedures consistent with MEDT440.
COREQ: MEDT440.

MEDT 446 INDEPENDENT STUDY 1-6

MEDT 473 HEMATOLOGY II LABORATORY 2
Study and implementation of laboratory procedures that correlate with the material taught in MEDT430.
COREQ: MEDT430.

MEDT 477 CLINICAL URINALYSIS AND SEROLOGY PRACTICUM 1 PF
Clinical experience in the application of laboratory theory and techniques in urinalysis and serology.
PREREQ: MEDT376 and MEDT400.

MEDT 478 CLINICAL CHEMISTRY PRACTICUM 3 PF
Supervised experience in the application of laboratory theory and techniques in clinical chemistry.
PREREQ: MEDT403 and MEDT413.

MEDT 479 CLINICAL HEMATOLOGY PRACTICUM 3 PF
Supervised experience in the application of laboratory procedures in hematology.
PREREQ: MEDT405 and MEDT415.

UNIVERSITY OF DELAWARE 1996-97 CATALOG / PAGE 287
### MECHanical Engineering

#### MEEG 125 Introduction to Mechanical Engineering 0 PF
Introduces the excitement of the Mechanical Engineering Profession. Objectives include understanding engineering, how fundamental sciences relate to elements of ME, how ME relates to other engineering fields, and what career paths are enabled by an ME education. Emphasizes teamwork with oral, written, and electronic communications.

#### MEEG 213 Principles of Mechanics I 3
- Vector and scalar methods applied to the statics of rigid bodies, structures, and machines. Introduction to theory of stress and to work-energy principles. Emphasis on three-dimensional problems and on the role of statics in the design process.
- Prerequisite: PHYS207
- Corequisite: MATH243

#### MEEG 214 Principles of Mechanics II 3
- Intermediate-level development of the kinematics and dynamics of particle systems and rigid bodies. Solution of engineering problems by force, momentum, and energy methods with applications to mechanisms, machines, and vehicles. Computer problems.
- Prerequisite: PHYS207 and MEEG213
- Corequisite: MATH302

#### MEEG 302 Heat Transfer 3
- Prerequisite: MEEG307

#### MEEG 307 Thermodynamics I 3
- Basic concepts of thermodynamics including properties of substances, first and second law analysis of systems and control volumes, entropy and availability. Power and refrigeration cycles.
- Prerequisite: MATH302

#### MEEG 308 Thermodynamics II 3
- Properties of non-ideal gases. Properties of mixtures as applied to humidity and chemical equilibrium. Analysis and computer-aided optimization of air conditioning and combustion systems.
- Prerequisite: MEEG307

#### MEEG 313 Strength of Materials 4
- Analytical study of stresses and deformations and their application to the design of machine and structural elements under axial, torsional, bending and lateral loads. Buckling and energy methods will also be discussed.
- Prerequisite: MEEG213

#### MEEG 316 Materials Engineering 3
- Mechanical properties and materials behavior under static and dynamic loading; fatigue, creep, wear and corrosion. Properties and applications of metals, ceramics, polymers, and composites. Forming and joining of materials. Practical examples of material selection in design and the use of materials data bases.
- Prerequisite: MASC302

#### MEEG 336 Fluid Mechanics II 3
- Prerequisite: MECH305

#### MEEG 347 Mechanical Design I 3
- Kinematic analysis of machines and mechanisms; kinematic synthesis; cam design; gear train analysis; balancing and machine dynamics.
- Prerequisite: MEEG125 and MEEG214

#### MEEG 348 Mechanical Design II 3
- Statistical methods in design; theories of failure and design for strength; and design of machine elements.
- Prerequisite: MEEG347 and MEEG313

#### MEEG 361 Applied Engineering Analysis 3
- Linear algebra; vector field theory; Fourier series and partial differential equations. Engineering applications.
- Prerequisite: MATH302

#### MEEG 366 Independent Study 1-6

#### MEEG 391 Engineering Science Laboratory 4
- An introduction to engineering experimentation with experiments drawn from subjects without scheduled laboratories such as heat transfer, thermodynamics, vibrations, gas dynamics, etc. Lectures cover topics in treatment of experimental data, error analysis and analytic techniques useful to the experimentalist.
- Prerequisite: MECH305, MEEG214, MEEG307 and MEEG361

#### MEEG 408 Power Generation System Design 3
- Design and optimization of fossil fuel and nuclear power plants, cogeneration and peak-shaving systems. Numerical solution combustion problems and thermal balance. Renewable energy, economics, and environmental impacts.
- Prerequisite: MEEG307

#### MEEG 410 Experimental Mechanics for Composite Materials 3
- Study of the micromechanical and thermomechanical response of composite materials. Execution and assessment of experiments conducted to investigate the strength and stiffness characteristics of composite material and structural elements.
- Prerequisite: MEEG313

#### MEEG 411 Structural Mechanics for Mechanical and Aerospace Engineering 3
- Introduction to theory of plates and shells, including analysis of stresses and deformations, vibrations, stability and thermal response of structures typical of modern aerospace and underwater vehicles, pressure vessels and other continuous structures.
- Prerequisite: MEEG214 and MEEG313

#### MEEG 413 Advanced Mechanics of Materials 3
- Intermediate topics in the mechanics of deformable media with applications to the analysis and design of machine elements and structures. Inelastic material response and failure analysis will also be discussed.
- Prerequisite: MEEG313 and MATH302

#### MEEG 415 Finite Element Analysis 3
- Introduction to finite element method with applications to structural engineering problems. Direct and variational approaches to element formulation; interpolation functions and isoparametric elements.
- Prerequisite: MEEG313

#### MEEG 423 Vibrations 3
- Introduction to mechanical vibrations and structural dynamics. Analysis and synthesis by matrix and energy methods. Applications to machine design, vehicle dynamics and shock and vibration isolation.
- Prerequisite: MEEG213 and MEEG214

#### MEEG 425 Vehicle Dynamics 3

#### MEEG 427 System Dynamics 3
- Introduction to modeling, analysis and control of dynamic systems of mechanical, electrical, electromechanical, thermal and hydraulic nature. Introduction to mechanical vibration analysis, analytical and computer methods for linear systems, transfer functions, feedback controls, stability analysis, and design methods.
- Prerequisite: MEEG214, MATH302, and MEEG361

#### MEEG 432 Aerodynamics 3
- Prerequisite: MECH305

#### MEEG 434 Air Pollution Processes 3
- Physical, chemical, and meteorological processes that govern the photochemistry and transport of gas-phase and aerosol-phase air pollutants in the atmosphere. Topics to be covered include air quality, pollutant emissions, gas-phase and liquid-phase chemistry, aerosol dynamics, plumes, turbulent transport in geophysical flows, meteorology, and deposition.
- Restrictions: Requires upper division status in Engineering.

#### MEEG 438 Air Pollution Control 3
- Sources, characteristics and effects of air pollutants. Emphasis on gas cleaning operations for removal of particulate matter, gases and vapors. Design of control processes such as scrubbers, electrostatic precipitators, vapor incinerators, adsorption, absorption and others.
- Prerequisite: CIEG233, MECH305, CHEG325

#### MEEG 445 Senior Research I 3
- Investigation of an experimental nature to be carried out and reported upon by each student.
- Restrictions: Open to Seniors only.

#### MEEG 446 Senior Research II 3
- Investigation of an experimental nature to be carried out and reported upon by each student.
- Restrictions: Open to Seniors only.
MILITARY SCIENCE

MLSC 105 INTRODUCTION TO LEADERSHIP 1
Introduction to leadership principles using case studies, historical perspectives, and hands-on leadership opportunities. Learn to rattle, use a map and compass, understand the basics of physical fitness and familiarize with Army traditions and ceremonies. No military obligation is associated with this course.

MLSC 106 INTRODUCTION TO LEADERSHIP II 1
Continues to build on the basics of MLSC105. Provides additional leadership opportunities and expands upon leadership theory. Learn basic rifle marksmanship, develop public presentation abilities, and continue physical fitness development. No military obligation is associated with this course.

MLSC 205 BASIC LEADERSHIP I 1
Enhance student understanding of human behavior, leadership techniques, and management and planning structures. Builds leadership competencies through leadership opportunities with structured evaluations and feedback. Learn about various branches and job opportunities in the Army. No military obligation is associated with this course.

MLSC 206 BASIC LEADERSHIP II 1
Continues to build on the basics of MLSC205. Learn basic unit tactics, how to handle up to ten people in stressful situations with feedback on performance. Further develops skills with map and compass, weapons safety, and learn emergency first aid techniques for basic training. No military obligation is associated with this course.

MLSC 215 LEADER DEVELOPMENT 4
An introductory six-week off campus, hands on leadership education and assessment course. Real life individual and collective leadership challenges and opportunities. All expenses paid. Multiple scholarship opportunities. RESTRICTIONS: Permission of instructor required.

MLSC 305 APPLIED LEADERSHIP I 2
Advanced training in military leadership. One of two courses designed to prepare cadets for the ROTC Advanced CAMP Nurse Summer Training Program. Focuses on leadership development through multiple, small unit leadership opportunities and counseling. Fine tunes skills learned in the previous two years of Military Science, ROTC Basic Camp or prior military service, especially marksmanship, land navigation, drill and ceremonies, and physical fitness. Commitment to military service is required. RESTRICTIONS: Requires permission of instructor.

MLSC 306 APPLIED LEADERSHIP II 2
Continues to build on the basics of MLSC305. This course completes student preparation for Advanced Camp/Nurse Summer Training Program, and focuses on leadership at the platoon and company level. Small unit tactics and training are emphasized, and information is provided to help the student make wise decisions about a military service option. Commitment to military service is required. RESTRICTIONS: Requires permission of instructor.

MLSC 308 LEADER EVALUATION 4
An advanced six week off campus, hands on leadership education and assessment course. Real life individual and collective leadership challenges and opportunities. All expenses paid. RESTRICTIONS: Requires permission of instructor.

MLSC 316 NURSING LEADERSHIP 4
An advanced seven week off campus, hands on leadership training and assessment course, specializing in Nursing skills. Two weeks are spent in an Army education scenario then five weeks are spent as a Junior Nurse in an Army hospital/medical center. All expenses paid. RESTRICTIONS: Requires permission of instructor.

MLSC 365 MILITARY STUDIES 3
Selected topics in American Military History, current military trends and future military requirements.

MLSC 366 INDEPENDENT STUDY 1-3
MLSC 405 ADVANCED LEADERSHIP I 2
Designed to prepare cadets for commissioning by refining professional skills and leadership ability. Students will be assigned leadership positions and learn how to function as commanders and staff officers in planning and executing cadre battalion activities. Instruction will focus on technical skills needed to accomplish assigned missions and other topics which expand cadet knowledge of Army systems and procedures. Commitment to military service is required. RESTRICTIONS: Requires permission of instructor.

MLSC 406 ADVANCED LEADERSHIP II 2
Builds on leadership lessons learned in MLSC405 and helps students complete the transition from Cadet to Lieutenant. Cadets will be assigned new leadership positions to broaden their leadership experience. Instruction will focus on officer professional development subjects needed to manage a military career and personal affairs. Commitment to military service is required. RESTRICTIONS: Requires permission of instructor.

MLSC 466 INDEPENDENT STUDY 1-3
MUSEUM STUDIES

MSST 403 HISTORY, PHILOSOPHY, FUNCTIONS AND FUTURE OF MUSEUMS 3
Introduction to philosophy, purposes, structure, historical development and future of museums, and historical and zoological gardens. Examination of functions, collection, conservation, research, exhibition/interpretation, and social/cultural services; museum field growth. May be cross-listed with ARTH403 and/or HIST403.

MSST 605 HISTORY OF THEORIES IN MATERIAL CULTURE 3
See EAMC605 for course description.

MSST 606 ISSUES IN AMERICAN MATERIAL CULTURE 3
See EAMC605 for course description.

MSST 607 READINGS IN AMERICAN MATERIAL LIFE 3
See HIST607 for course description.

MSST 629 SEMINAR IN HISTORIC PRESERVATION 3
See URAF629 for course description.

MUSIC EDUCATION

MUED 279 PRACTICUM IN MUSIC EDUCATION 3
Observation of differing elementary and secondary school music program structures; studies and observations of children's growth and development patterns in terms of music learning; and experience in music instructional methods.

MUED 336 CHORAL CONDUCTING 2
Specific problems in conducting choral literature. Comparative analysis of works to be conducted.

MUED 337 INSTRUMENTAL CONDUCTING 2
Specific problems in conducting instrumental literature. Practical application of conducting techniques through supervised conducting of instrumental ensembles.

MUED 366 INDEPENDENT STUDY 1-3
Introduction to music materials and approaches through clinical experiences.

MUED 379 MUSIC IN THE ELEMENTARY AND JUNIOR HIGH (OR MIDDLE) SCHOOL 3
Introduction to music materials and approaches through clinical experiences.

MUED 381 MUSIC IN EARLY CHILDHOOD 3
Methods and materials for developing musical skills and understanding of children ages three to eight. Includes clinical experience.

MUED 383 MUSIC FOR THE SPECIAL LEARNER 3
Analysis of types of exceptional learners and analysis of music materials and methods appropriate for special learners.

MUED 390 MUSIC IN THE ELEMENTARY SCHOOL 3
Introduction to music materials and approaches through clinical experiences.

MUED 479 SECONDARY MUSIC MATERIALS AND APPROACHES 3
Procedures and materials used for teaching music in the secondary school.

MUED 559 FIELD WORKSHOP 1-4

MUED 574 MUSIC CONCEPTS IN THE ELEMENTARY SCHOOL 3
Methods and materials for developing children's understanding of music concepts by involvement in listening to, performing and describing musical sound events.

MUED 575 MUSIC IN EARLY CHILDHOOD 3
Advanced study of musical content and techniques of teaching.

MUED 576 GENERAL MUSIC: MIDDLE SCHOOL AND HIGH SCHOOL 3
Methods and materials for involving students in musical experiences.

RESTRICTIONS: For experienced teachers.

MUSIC

MUSC 061 PRIVATE STUDY 1-8 R
RESTRICTIONS: Requires audition and departmental placement tests. Credits do not apply toward bachelor's degree.

MUSC 062 PRIVATE STUDY 1-8 R
RESTRICTIONS: Requires permission of instructor.

MUSC 095 BASIC HARMONY AND EAR-TRAINING 3 R
Designed to establish or reestablish basic harmony and ear-training skills.

MUSC 100 RECITAL ATTENDANCE 0 PF
A recital experience; see Department of Music Student Handbook for details.

MUSC 101 APpreciATION OF MUSIC 3
Introduction to Western music literature through a nontechnical presentation of various musical styles and forms.

MUSC 102 APpreciATION OF MUSIC 3
Music literature through a nontechnical presentation of various musical styles and forms.

MUSC 103 INTRODUCTION TO OPERA 3
Explores the world of opera including categories of singers; types of operas, e.g., opera seria, opera buffa, singspiel; and the roles of the chorus. Includes experience seeing an opera performed live.

MUSC 104 INTRODUCTION TO OPERA II 3
Introduction to opera, concentrating on opera comique, singspiel, operaette, baroque opera, seria, and Wagnerian music drama. Explores philosophies associated with music in the context of opera. Time span covered is 1507 to present.

MUSC 105 FUNDAMENTALS OF MUSIC I 3
Introduction into the elements of music theory including ear training, music reading and harmony with keyboard application.

MUSC 106 FUNDAMENTALS OF MUSIC II 3
Continuation of MUSC105. Survey and analytical approach to music styles. Composing original works for voice and instruments.

MUSC 107 HISTORY OF ROCK 3
The study of various styles of Rock music. Introduction to folk, country, blues, and jazz as predecessors to Rock. Intended for the non-music major. No music reading skills required.

MUSC 108 UNIVERSITY SINGERS 1
Members enter by audition. University Singers is a chorus of sopranos and altos that performs its own concerts and may also perform with other choirs.

MUSC 109 CHORAL UNION 1
Members enter by audition. Choral Union is a chorus of 100+ voices that rehearse on Monday nights. The Union performs large-scale choral works. Smaller sections perform independently as well.

MUSC 110 CHORALE 1
Members enter by audition. Chorale is the university’s most select chorus of mixed voices.

MUSC 115 BAND 1
Marching band, Wind Ensemble and Symphonic Band. Representative original and transcribed works performed.

MUSC 116 JAZZ ENSEMBLE 1
Study and performance of the diverse styles characteristic of the medium.

RESTRICTIONS: Requires audition. May be repeated for credit.
MUSC 117 UNIVERSITY ORCHESTRA 1
Rehearsal and performance of representative works for orchestra
RESTRICTIONS: Requires audition. May be repeated for credit

MUSC 118 PERCUSSION ENSEMBLE 1
Study and performance of works for percussion instruments
RESTRICTIONS: Requires audition. May be repeated for credit

MUSC 119 GAMELAN TRADITIONS OF INDONESIA 3
A performance-oriented introductory course in the “knobbed gong” musical traditions of Java and Bali. Includes traditional as well as contemporary literature study; theoretical analysis and historical overview, with performance experience

MUSC 120 GAMelan Ensemble 1
Gamelan is the largest instrumental ensemble from Southeast Asia, and is considered the “orchestra of the Eastern world.” This is a performing ensemble, dealing with traditional and contemporary Japanese and Balinese literature
RESTRICTIONS: Open to anyone without prior musical experience. May be repeated for credit

MUSC 125 COLLEGIUM MUSICUM 1
Ensemble for the performance of instrumental and vocal music of the Medieval, Renaissance and Early Baroque periods. Size, instrumentation and repertoire for the group varies from semester to semester depending upon resources at hand, players’ skills and other factors
PREREQ: Audition

MUSC 161 PRIVATE STUDY 1-8
The student adds to the course title the branch of study elected: piano, organ, voice or an orchestral instrument. Includes a one-contact-hour studio class
RESTRICTIONS: Contact department to register for correct number of credit hours. Requires audition

MUSC 162 PRIVATE STUDY 1-8
The student adds to the course title the branch of study elected: piano, organ, voice or an orchestral instrument. Includes a one-contact-hour studio class
PREREQ: MUSC161
RESTRICTIONS: Contact department to register for correct number of credit hours

MUSC 171 DICTION: ENGLISH AND ITALIAN 1
Study of pronunciation rules for singing in English and Italian. Includes practical COREQ: Enrollment in applied study

MUSC 173 CLASS VOICE 1
Fundamentals and techniques of singing
RESTRICTIONS: For nonmajors

MUSC 174 CLASS VOICE: BEGINNING 1
Fundamentals of singing for the nonvocal music major. Study of basic technique, repertoire and the orchestral vocal major.
RESTRICTIONS: Requires permission of instructor for nonmajors. Requires one semester of University vocal experience

MUSC 175 CLASS PIANO: ELEMENTARY I 1
Beginning piano primarily for the vocal or instrumental music major. Basic techniques, reading, transposition and playing by ear
PREREQ: MUSC105 or Co-requisite of MUSC195 Preference for enrollment will be given to music majors
RESTRICTIONS: None

MUSC 176 CLASS PIANO: ELEMENTARY II 1
A continuation of MUSC175. Scale and arpeggio playing, keyboard harmony, repertoire of pieces appropriate to technical ability
PREREQ: MUSC175 and MUSC195

MUSC 177 CLASS GUITAR I 1
Introduction to the fundamentals of guitar technique and note reading for non-music majors. Topics include guitar history, repertoire, scales and exercises with an emphasis on classical as well as folk music. Music Education majors may also find this course particularly useful for classroom teaching

MUSC 178 CLASS GUITAR II 1
A continuation of Class Guitar I with a stronger emphasis on ensemble playing and development of a repertoire
PREREQ: MUSC177

MUSC 181 APPLIED JAZZ STYLES/TECHNIQUES I 2
Private studio instruction covering techniques and interpretation used in jazz performance. Examines a cross-section of styles and repertoire
RESTRICTIONS: Requires audition

MUSC 185 EAR TRAINING AND SIGHT SINGING I 2
Techniques of sight singing and music reading skills. Development of ability in the aural recognition of melody, harmony and rhythm
COREQ: MUSC195
RESTRICTIONS: Requires permission of instructor

MUSC 186 EAR TRAINING AND SIGHT SINGING II 2
Techniques of sight singing and music reading skills. Development of ability in the aural recognition of melody, harmony and rhythm
PREREQ: MUSC185 and MUSC195
COREQ: MUSC195

MUSC 189 PIANO FOR THE CLASSROOM 1
Functional piano skills.
RESTRICTIONS: For teachers of elementary school children

MUSC 190 JAZZ IMPROVISATION 3
Techniques of harmonic, rhythmic and melodic embellishment and improvisation in jazz
RESTRICTIONS: Requires intermediate level of performance

MUSC 193 SIGHT READING AT THE KEYBOARD I 1
Techniques for improving coordination and musical comprehension when playing from sight at the keyboard
RESTRICTIONS: For keyboard majors:

MUSC 194 SIGHT READING AT THE KEYBOARD II 1
Continuation of MUSC193
PREREQ: MUSC193

MUSC 195 HARMONY I 3
Review of music fundamentals. Diatonic harmony including part-writing with keyboard application. Chord structures and functional relationships. Basic melodic and contrapuntal compositional techniques. Writing, playing and analysis
COREQ: MUSC185
RESTRICTIONS: Requires permission of instructor

MUSC 196 HARMONY II 3
Continuation of harmony: diatonic through chromatic harmony with keyboard application. Chord structures and functional relationships. Basic melodic and contrapuntal compositional techniques. Writing, playing and analysis
PREREQ: MUSC185 and MUSC195
COREQ: MUSC186

MUSC 197 JAZZ HARMONY 3
Study of elementary aspects of melody, harmony, texture, dynamics, rhythm and form in selected jazz and American popular literature; development of elementary aural-perceptual and compositional skills related to jazz and American popular music
PREREQ: MUSC105

MUSC 205 MUSIC OF THE NON-WESTERN WORLD 3
Survey of non-Western world musical cultures utilizing textbook, reprinted reserve articles, films and in-class performance/demonstrations. Goal is the understanding and appreciation of various world music.
PREREQ: MUSC105

MUSC 206 MUSIC OF CHINA, KOREA AND JAPAN 3
Systematically examines the origin and historical development of the musical cultures of the Far East. Studies how the musical and cultural influence of Chinese musical culture has had an enormous impact on the development of such cultures in Korea and Japan.

MUSC 207 HISTORY OF JAZZ 3
Chronological study of the style changes in jazz from the late 19th century to the present. Emphasis on the sociological, economic and technological influences of the period and on the principal personalities who have been primarily responsible for change.
PREREQ: MUSC105

MUSC 208 HISTORY OF THE AMERICAN MUSICAL THEATRE 3
The musical-dramatic forms of the 18th, 19th and 20th centuries in the United States and their impact on the modern musical theatre. Complete works read in class and compared to a series of criteria found in successful modern shows. Comparison of older and current works. May be cross-listed with THEA208

MUSC 209 HISTORY OF SPANISH MUSIC 3
Covers the most outstanding traditions of Spanish music, including Arab-influenced Andalusian music, 13th-century music, schools of the "Renacimiento," 17th-century court music, the "Zarzuela," 19th-century nationalism, and the many modern tendencies of the 20th-century RESTRICTIONS: Taught abroad only

MUSC 211 INTRODUCTION TO MUSIC HISTORY 3
Survey of selected works in music history with emphasis on selected basic terminology, forms and style changes, through score reading and listening
PREREQ: MUSC195

MUSC 214 STRINGED INSTRUMENTS CLASS: VIOLIN, VIOLA, CELLO, BASS 1
Development of performing and teaching skills.

MUSC 215 HIGH BRASS INSTRUMENTS CLASS 1
Development of performing and teaching skills.

RESTRICTIONS: MUSC215 and MUSC216 to be taken consecutively in one academic year
MUSC 216  LOW BRASS INSTRUMENTS  Class 1
Development of performing and teaching skills
RESTRICTIONS: MUSC215 and MUSC216 to be taken consecutively in one academic year

MUSC 217  WOODWIND INSTRUMENTS  Class I 1
Development of performing and teaching skills
RESTRICTIONS: MUSC217 and MUSC218 to be taken consecutively in one academic year

MUSC 218  WOODWIND INSTRUMENTS  Class II 1
Development of performing and teaching skills
RESTRICTIONS: MUSC217 and MUSC218 to be taken consecutively in one academic year

MUSC 219  PERCUSSION INSTRUMENTS  1
Development of performing and teaching skills

MUSC 241  ACCOMPANYING CHAMBER MUSIC: PIANO 1
Accompanying vocalists and instrumentalists in the performance of chamber music with keyboard
PREREQ: Sight-Reading Placement Test
RESTRICTIONS: First course of a six-semester sequence

MUSC 242  ACCOMPANYING CHAMBER MUSIC: PIANO 1
Accompanying vocalists and instrumentalists in the performance of chamber music with keyboard
PREREQ: MUSC241

MUSC 261  PRIVATE STUDY  1-8
The student adds to the course title the branch of study elected: piano, organ, voice or an orchestral instrument. Includes a one-contact-hour studio class
PREREQ: MUSC162
RESTRICTIONS: Contact department to register for correct number of credit hours.

MUSC 262  PRIVATE STUDY  1-8
The student adds to the course title the branch of study elected: piano, organ, voice or an orchestral instrument. Includes a one-contact-hour studio class
PREREQ: MUSC261
RESTRICTIONS: Contact department to register for correct number of credit hours.

MUSC 271  DICTION: GERMAN 1
A study of pronunciation rules for singing in German. Includes practical
COREQ: Enrollment in applied study

MUSC 272  DICTION: FRENCH 1
A study of pronunciation rules for singing in French. Includes practical
COREQ: Enrollment in applied study

MUSC 273  CLASS VOICE: INTERMEDIATE 1
Basic voice study. Repertoire technique and vocal problems isolated through performance, research and discussion
PREREQ: MUSC173 and MUSC174
RESTRICTIONS: One year of university-level vocal experience acceptable in lieu of prerequisites. For music majors and students with exceptional vocal ability

MUSC 275  CLASS PIANO: INTERMEDIATE I 1
Piano techniques applicable to the levels and needs of the students; a continuation of reading and transposition; improvisation and repertoire of grade two pieces
PREREQ: MUSC176 and MUSC196
RESTRICTIONS: For vocal or instrumental music majors with some background in piano playing

MUSC 276  CLASS PIANO: INTERMEDIATE II 1
A continuation of MUSC275
PREREQ: MUSC275

MUSC 281  APPLIED JAZZ STYLES/TECHNIQUES II 2
Private studio instruction covering techniques and interpretation used in jazz performance. Examines a cross-section of styles and repertoire
PREREQ: MUSC181
RESTRICTIONS: Requires audition

MUSC 285  ADVANCED EAR TRAINING AND SIGHT SINGING I 2
Continuation of MUSC185 and MUSC186
PREREQ: MUSC186 and MUSC196
COREQ: MUSC295

MUSC 286  ADVANCED EAR TRAINING AND SIGHT SINGING II 2
Continuation of MUSC185, MUSC186 and MUSC285
PREREQ: MUSC285 and MUSC295
COREQ: MUSC296

MUSC 287  MUSIC TECHNOLOGY I 3
Overview and experience with commercially-available music-related hardware and software. Hardware includes IBM and Macintosh microcomputers, electronic keyboards and tone generators incorporating Musical Instrument Digital Interface (MIDI), digital recording systems, CD-ROM and videodisc. Software includes sequencers, notation packages, interactive composers, educational programs and hypermedia applications
PREREQ: MUSC105 or MUSC193

MUSC 293  JAZZ IMPROVISATION I 3
A comprehensive study of jazz improvisation vocabulary and techniques which will result in the student being able to improvise in a stylistically acceptable manner over a given set of chord progressions
PREREQ: MUSC197

MUSC 294  JAZZ IMPROVISATION II 3
An advanced study of jazz improvisation vocabulary and techniques which will result in the student being able to improvise in a stylistically acceptable manner
PREREQ: MUSC293

MUSC 295  ADVANCED HARMONY I 3
PREREQ: MUSC186 and MUSC196
COREQ: MUSC286

MUSC 296  ADVANCED HARMONY II 3
Continuation of MUSC295. Study of late 19th- and 20th-century harmony, techniques and styles. Continuation of instrumentation. Original compositions
PREREQ: MUSC285 and MUSC295
COREQ: MUSC286

MUSC 301  JUNIOR RECITAL 0 PF
A 30-minute public recital
RESTRICTIONS: Requires junior status and permission of instructor

MUSC 303  CHAMBER MUSIC LITERATURE 3
Chamber music written for various combinations from the Baroque period to the present
PREREQ: MUSC211, or MUSC101 and MUSC102

MUSC 305  THE SYMPHONY 3
The development of the symphony from the early 18th century to the present
PREREQ: MUSC211 or MUSC101

MUSC 307  MUSIC IN AMERICAN CULTURE 3
Music in the United States from 1620 to 1875. Folk music in an expanding nation. The evolution of jazz

MUSC 308  MUSIC IN AMERICAN CULTURE 3
The development of the United States as an international leader in musical composition, performance and technology 1865 to the present. Also, the history of the Broadway musical

MUSC 311  MUSIC HISTORY: 400 THROUGH 1600 3
The history of musical style and theory in the Middle Ages (5th through 14th centuries) and the Renaissance (15th and 16th centuries)
PREREQ: MUSC211 or MUSC101

MUSC 312  MUSIC HISTORY: 1600 THROUGH 1827 3
The history of musical style and theory during the Baroque period (1600-1750), and the Classic period through the death of Beethoven (1827)
PREREQ: MUSC211 or MUSC101

MUSC 313  MUSIC HISTORY: 1825 TO THE PRESENT 3
The Romantic era, Impressionism and the 20th century. Musical thought and style from 1825 to the present
PREREQ: MUSC211 or MUSC101

MUSC 321  ENSEMBLE: INSTRUMENTAL, PIANO, OR VOCAL 1
Performance of chamber literature for instrument, piano or voice
RESTRICTIONS: May be repeated for credit

MUSC 327  GERMAN LIEDER 2
Surveys the standard vocal repertoire of the German tradition. Includes examples of the works of such composers as Schubert, Brahms, Schumann, Wolf and Strauss
RESTRICTIONS: Open to Juniors and Seniors

MUSC 328  CHORAL LITERATURE 3
Study of style, structure and interpretations of representative choral works, including large and small forms composed since 1500
PREREQ: MUSC211
MUSC 331 ORCHESTRATION 2
Orchestral and band arranging; review of instrumental ranges and colors; scoring for small ensembles; special problems in scoring accompaniments. Final arrangement performed by a University ensemble.
PREREQ: MUSC296

MUSC 335 BASIC CONDUCTING 2
The principles of conducting and score reading.
PREREQ: MUSC286 and MUSC296

MUSC 339 VIENNESE COMPOSERS 3
Selected Viennese composers including Mozart, Beethoven, Schubert, and the Strausses. Emphasis of the course will be on Viennese music. A combination of Music History and Music Appreciation. This course is offered in the Semester in Vienna Program only.
RESTRICTIONS: Taught in Semester in Vienna program only

MUSC 341 ACCOMPANYING CHAMBER MUSIC: PIANO 1
Accompanying vocalists and instrumentalists and in the performance of chamber music with keyboard.
PREREQ: MUSC242.

MUSC 342 ACCOMPANYING CHAMBER MUSIC: PIANO 1
Accompanying vocalists and instrumentalists and in the performance of chamber music with keyboard.
PREREQ: MUSC341.

MUSC 345 HISTORY OF THEATRE: AMERICAN MUSICAL THEATRE 3
See THEA345 for course description

MUSC 361 PRIVATE STUDY 1-8
The student adds to course title the branch of study elected: piano, organ, voice or an orchestral instrument includes a one contact-hour studio class.
PREREQ: MUSC262
RESTRICTIONS: Contact department to register for correct number of credit hours

MUSC 362 PRIVATE STUDY 1-8
The student adds to course title the branch of study elected: piano, organ, voice or an orchestral instrument includes a one contact-hour studio class.
PREREQ: MUSC361
RESTRICTIONS: Contact department to register for correct number of credit hours

MUSC 363 KEYBOARD LITERATURE I 3
Style, structure and technical performance of keyboard music from the 17th century to the present.
PREREQ: MUSC262

MUSC 364 KEYBOARD LITERATURE II 3
Intensive study of one composer or style period from the keyboard repertory. Content varies from year to year.
PREREQ: MUSC363

MUSC 366 INDEPENDENT STUDY 1-3
See ARSC360 for course description

MUSC 387 MUSIC TECHNOLOGY II 3
Explores intermediate to advanced applications of music technology including professional-level implementation of MIDI hardware and software. Topics include multipoint interfaces, synchronization, MIDI sequencing and notation techniques, multimedia, and music related Internet services. Additional topics may be examined depending on student experience.
PREREQ: MUSC287

MUSC 390 HONORS COLLOQUIUM 3
See ARSC390 for course description

MUSC 392 CONTRAPUNTAL WRITING 2
Contrapuntal techniques with emphasis on 16th- and 18th-century styles and forms.
PREREQ: MUSC295

MUSC 393 KEYBOARD HARMONY 2
A practical course for the development of facility in applying knowledge of harmony to the keyboard. Emphasis on melody harmonization and improvisation.
PREREQ: MUSC296
RESTRICTIONS: Requires two years of class or private piano

MUSC 394 KEYBOARD HARMONY II 2
An advanced practical course for the development of facility in applying knowledge of harmony to the keyboard.
PREREQ: MUSC393

MUSC 395 FORM ANALYSIS 3
Structure of homophonic and polyphonic music representing different periods of musical history.
PREREQ: MUSC296

MUSC 397 CONTEMPORARY HARMONY 3
Styles, harmonic principles and techniques in 20th-century music.
PREREQ: MUSC296

MUSC 401 SENIOR RECITAL 0 PF
A 60-minute public recital.
RESTRICTIONS: Requires Senior status

MUSC 407 CONTEMPORARY MUSIC LITERATURE 3
Analysis of styles and techniques of contemporary composers beginning with compositions of the late 1950s.
PREREQ: MUSC313 or permission of instructor

MUSC 420 ADVANCED COMPOSITION 3
Creative writing in the vocal and instrumental media with individual and group criticism.
PREREQ: MUSC397
RESTRICTIONS: May be repeated for up to nine credit hours

MUSC 421 SPECIAL PROJECTS IN MUSIC THEORY 3
Theory majors do research and study under guidance of a faculty advisor on an approved topic for a formal paper to be presented at a public lecture.
PREREQ: MUSC485

MUSC 427 FRENCH ART SONG 2
A literature survey of the standard vocal repertoire of the French tradition. Includes examples of the works of such composers as Fauré, Debussy, Duparc and Poulenc.
RESTRICTIONS: Requires Junior or Senior status

MUSC 428 TWENTIETH-CENTURY ART SONG 2
A literature survey of the standard vocal repertoire of the 20th Century. Includes examples of the works of such composers as Barber, Britten, Schönberg, Ives, Vaughan Williams and Rorem.
RESTRICTIONS: Requires Junior or Senior status

MUSC 441 ACCOMPANYING CHAMBER MUSIC: PIANO 1
Accompanying vocalists and instrumentalists and in the performance of chamber music with keyboard.
PREREQ: MUSC342

MUSC 442 ACCOMPANYING CHAMBER MUSIC: PIANO 1
Accompanying vocalists and instrumentalists and in the performance of chamber music with keyboard.
PREREQ: MUSC341

MUSC 461 PRIVATE STUDY 1-8
The student adds to course title the branch of study elected: piano, organ, voice or an orchestral instrument includes a one-contact-hour studio class.
PREREQ: MUSC362
RESTRICTIONS: Contact department to register for correct number of credit hours

MUSC 462 PRIVATE STUDY 1-8
The student adds to course title the branch of study elected: piano, organ, voice or an orchestral instrument includes a one-contact-hour studio class.
PREREQ: MUSC361
RESTRICTIONS: Contact department to register for correct number of credit hours

MUSC 466 INDEPENDENT STUDY 1-3
See ARSC360 for course description

MUSC 480 VOCAL PEDAGOGY 3
Designed for those who plan to work with the singing voice. Includes vocal research, comparative pedagogy, observation of teaching and practical teaching experience.

MUSC 485 PEDAGOGY OF THEORY 3
Materials, organization, techniques and problems of teaching high school and basic college theory courses. Attention to sight singing, ear training, keyboard and form and analysis materials. Observation and teaching of theory courses at the Freshman and Sophomore levels.
PREREQ: MUSC286 and MUSC296

MUSC 489 OPERA WORKSHOP 1
Dramatic and musical preparation of operatic roles through the production of a complete opera/operetta.
PREREQ: MUSC286 and MUSC296
RESTRICTIONS: Admission by audition, with permission of private instructor, and preference given to vocal performance majors

MUSC 495 ANALYSIS FOR PERFORMANCE 3
Examination of structural, melodic, rhythmic, harmonic and textural aspects of selected music literature and their significance in artistic performance.
PREREQ: MUSC296

MUSC 561 ADVANCED PRIVATE STUDY 1-4
Advanced instruction in voice or instrument. The student adds to course title the branch of study elected: piano, organ, voice, or an orchestral instrument, e.g., Private Study (Piano)
PREREQ: MUSC462

UNIVERSITY OF DELAWARE 1996-97 CATALOG / PAGE 293
MUSIC

MUSC 601 Master's Recital 2 PF
A one-hour public recital
PREREQ: MUSC602
COREQ: MUSC602

MUSC 603 Chamber Music Literature 3
Survey of chamber music literature from the 17th century to the present
RESTRICTIONS: Requires permission of instructor

MUSC 605 Symphonic Literature 3
Historical and structural analysis of major symphonic works from the 18th century to the present
RESTRICTIONS: Requires permission of instructor.

MUSC 606 Wind Literature 3
History of the wind band and its music from the Renaissance to the present. Emphasis on the wind music from the 19th and 20th centuries for wind ensemble and concert band. Examine wind literature suitable for secondary school and college-level performing groups.
RESTRICTIONS: Requires permission of instructor.

MUSC 611 Studies in Music History 3
A survey of representative compositions from various periods of music history. Includes a study of the relationship of music to sociocultural background of each epoch and discussions of performance practice problems. Topics of study may change with each time of offering.
RESTRICTIONS: Requires satisfactory score on music history graduate placement exam

MUSC 620 Large Ensemble 1 Participation as a performer in a large ensemble
RESTRICTIONS: Entry audition required

MUSC 621 Chamber Ensemble 1 Participation as a performer in a chamber ensemble
RESTRICTIONS: Entry audition required

MUSC 622 Materials and Methods of Research 3
Examines the major materials used in the areas of music history, theory, performance, and education, as well as methods of conducting research in these fields.
RESTRICTIONS: Requires permission of instructor.

MUSC 636 Advanced Choral Conducting 3
A study of conducting vocal ensemble literature of the historical periods from the Renaissance to the 20th century.
RESTRICTIONS: Requires permission of instructor.

MUSC 637 Advanced Instrumental Conducting 3
Advanced conducting techniques for directors of instrumental performing groups.
RESTRICTIONS: Requires permission of instructor.

MUSC 638 Large Ensemble Practicum 1 Participation in a large ensemble and seminar with ensemble director
RESTRICTIONS: Requires permission of instructor.

MUSC 640 History and Philosophy of Music Education 3
Topics include philosophical issues concerning the role of arts in education, intrinsic and extrinsic rationales for music in the schools, and arts advocacy at the local, state, and national levels. Also includes the history and philosophy of music education in the United States from the colonial period to the present.
RESTRICTIONS: Requires permission of instructor.

MUSC 661 Advanced Private Study 1-4
Advanced instruction in voice or instrument. The student adds to course title the branch of study elected: piano, organ, voice or on an orchestral instrument, e.g., Private Study (Piano).
RESTRICTIONS: Requires audition.

MUSC 662 Advanced Private Study 1-4
Advanced instruction in voice or instrument. The student adds to course title the branch of study elected: piano, organ, voice or on an orchestral instrument, e.g., Private Study (Piano).
PREREQ: MUSC661

MUSC 663 Advanced Keyboard Literature 3
Style, structure and technical performance of keyboard music from the 17th century to the present
RESTRICTIONS: Requires permission of instructor

MUSC 675 General Music K-12 3
Learning strategies to develop listening, performing, creating, and literacy skills in a general music curriculum. Recommended for directors of performing ensembles.
RESTRICTIONS: Requires permission of instructor

MUSC 676 Seminar in Music Education 3
Advanced topics in music education
RESTRICTIONS: Requires permission of instructor.

MUSC 679 Professional Improvement Project I 3
Development of a portfolio to include unit plans based on synthesis of content from prior courses
RESTRICTIONS: Requires permission of instructor Taken in sequence with MUSC680 as an alternative to thesis option

MUSC 680 Professional Improvement Project II 3
Implementation of the portfolio developed in MUSC679
PREREQ: MUSC679
RESTRICTIONS: Taken in sequence with MUSC679 as an alternative to thesis option

MUSC 681 Pedagogy and Literature 3
The study of teaching methods and literature (music scores, books and other media) for selected music literature and their significance in artistic performance.
RESTRICTIONS: Requires satisfactory score on music theory graduate placement exam

NUTRITION AND DIETETICS

NTDT 103 Introduction to Nutrition Professions 1 PF
Career opportunities in dietetics and nutrition. Provides information about undergraduate programs and the competencies required of dietitians and nutritional scientists. Introduces opportunities for undergraduate research. Introduction to concepts of a profession and relevant professional organizations.
RESTRICTIONS: Open to majors with Freshman or Sophomore status

NTDT 200 Nutrition Concepts 3
Functions and sources of nutrients, dietary adequacy and dietary guidelines. Energy balance, weight control and evaluation of popular diets and ideas. Includes nutrition concerns such as world food problems, food safety, alcohol and nutrition.
RESTRICTIONS: Credit for graduation limited to one of the following: NTDT200 or NTDT303

NTDT 222 Nutrition Controversies 1
Explores topical issues in nutrition via discussion format.
COREQ: NTDT200

NTDT 240 Introduction to Clinical Dietetics 3
Orientation to clinical dietetics; basic skills required for nutritional care; nutritional assessment, dietary counseling, clinical simulations, nutritional care plans and composition of basic therapeutic diets.
PREREQ: NTDT200

NTDT 255 Multicultural Food Habits 3
Food habits of diverse cultural groups. Determinants of traditional and current food habits, historical and cultural context. Emphasis on food production and food consumption patterns and historical and cultural factors influencing food habits. Impact of migration to different cultural settings.

NTDT 256 Multicultural Foods Laboratory 1
Sampling of foods of diverse cultural groups utilizing demonstrations by restauranteurs and individuals as well as class preparation. Field trips to markets and ethnic food stores.
COREQ: NTDT255

NTDT 305 Nutrition in the Lifespan 3
Nutrition and health during the different stages of life: pregnancy, lactation, infancy, preschool years, middle childhood, adolescence, adulthood and later maturity.
PREREQ: NTDT200 and a course in biology

NTDT 310 Nutrition and Activity 3
Energy and nutrient needs for activity with emphasis on particular physical and athletic activities; common myths and fallacies concerning diet and athletic performance; and appropriate dietary approaches for specific activities and active people.
PREREQ: NTDT200 and a physiology course.

NTDT 321 Quantity Food Production and Service 3
Principles of quantity food production and delivery systems; menu planning and purchasing design. Safety, sanitation and technical operations in a food service system. Applied computer-assisted management.
PREREQ: NTDT200 and FOSC201

NTDT 322 Food Service Systems Management 4
Organization and administration of food service systems. Function and responsibilities specific to this management. Personnel, food cost accounting, production and service facility planning, and environmental design.
PREREQ: NTDT21, NTDT25 or NTDT31.

PAGE 294 / UNIVERSITY OF DELAWARE 1996-97 CATALOG
NTDT 325 Laboratory in Quantity Food Production and Service 1
Laboratory experience in quantity food production and delivery systems. Application of principles of sanitary practice, technical reporting and management.
COREQ: NTDT321

NTDT 336 Computer-Assisted Foodservice Systems Management 2
Investigation of microcomputers and computer software programs that could be used in the management of foodservice systems. Understanding of basic computer concepts, appropriate applications, maintenance of data bases and data integrity and use of management information reports.
PREREQ: NTDT200 and NTDT321

NTDT 330 Nutrition Counseling 3
Theories, skills and techniques of nutrition interviewing and counseling.
PREREQ: NTDT400 or BISC106 or BISC406

NTDT 333 Quantity Foods Practice 6
Supervised practice in quantity food production and delivery systems with emphasis on sanitation, employee training, quality standards and controls, and menu planning.
COREQ: NTDT331
RESTRICTIONS: Open to CUD majors only

NTDT 332 Foodservice Management Practice 6
Supervised practice in foodservice systems management, emphasizes organization and administration, marketing, management of personnel and financial resources and facility design.
PREREQ: NTDT311 and NTDT322
COREQ: NTDT322
RESTRICTIONS: Open to CUD majors only

NTDT 350 Nutrition and Older Adults 3
Discussion of the physiology of aging on fundamental nutrition processes, food and nutrient requirements and intakes, assessment of nutritional status, and nutrition related problems of older adults.
PREREQ: NTDT200 and BISC106 or BISC276

NTDT 366 Independent Study 1-6

NTDT 400 Macronutrients 3
Metabolism of carbohydrates, proteins and fats in human nutrition, interdependence and relation to energy metabolism/balance, scientific bases of macronutrient requirement during the life cycle.
PREREQ: NTDT200, CHEM214 and CHEM216

NTDT 401 Micronutrients 3
Mechanisms and interactions of vitamins and minerals in cellular metabolism, scientific bases of nutrient requirements during the life cycle.
PREREQ: NTDT200, NTDT400, CHEM214 AND CHEM216

NTDT 403 Dietscopic Seminar 1 PF
Explores registration, specialty certification and licensure for dietitians. Discusses the roles and activities of the national professional organization, The American Dietetic Association. Clarifies professional values and ethical behavior.
RESTRICTIONS: Open only to Senior dietetics majors

NTDT 404 Nutrition Seminar 1 PF
Clarifies professional and ethical behavior of nutrition professionals. Roles and activities of relevant professional organizations. Career development, position application and interview.
RESTRICTIONS: Open to majors in Applied Nutrition and Nutritional Science

NTDT 420 Maternal and Infant Nutrition 3
Maternal physiological adjustments in pregnancy and their relationship to nutritional needs; effect of maternal nutrition on fetal growth and development; physiology of lactation and maternal nutrient needs; and neonatal nutritional needs and current infant feeding practices.
PREREQ: NTDT400 and BISC276

NTDT 421 Nutrition Research Methods 2
Discussion of and experience with selected methods and techniques in nutrition research.
PREREQ: NTDT400 and a course in statistics

NTDT 430 Nutrition Clinic Practicum 1-3
Experience in ongoing activities of the University of Delaware Nutrition Clinic including client counseling, group presentations, nutrition education materials development and research activities.
PREREQ: NTDT330
RESTRICTIONS: Requires permission of instructor

NTDT 440 Nutrition and Disease 3
Examination of the metabolic and physiological aberrations in selected conditions and implications for medical nutrition therapy.
PREREQ: NTDT400 and BISC106 or BISC406

NTDT 445 Nutrition Education 3
Identification of objectives for nutrition education; selection and use of methods, materials and resources for different age levels; integration of nutrition into the total health and consumer aspects of school, non-school and adult programs.
PREREQ: NTDT200

NTDT 450 Clinical Dietetics Practice 8
Supervised practice in clinical nutrition, nutritional assessment and case management of patients undergoing various medical treatments, nutritional counseling and education of hospitalized patients.
PREREQ: NTDT332
COREQ: NTDT440
RESTRICTIONS: Open to CUD majors only.

NTDT 452 Topics in Nutrition and Dietetics 1-3
In-depth analysis of a specific topic in an area of nutrition and dietetics.
RESTRICTIONS: Junior level NTDT course(s) relating to the specific topic required.

NTDT 460 Community Nutrition 3
Nutritional care as a part of health maintenance and health care delivery; the relationship of community resources, structure and dynamics to an individual's ability to be well fed. Nutritional needs and programs. Means of affecting change in nutrition knowledge and practice.
PREREQ: NTDT400 and NTDT321

NTDT 464 Community Nutrition Field Experience 2
Direct client contact through delivery of nutritional services in community health maintenance and health care delivery facilities. First-hand experience with the nutritional management of clients in a community nutrition program.
PREREQ: NTDT322 and NTDT440
COREQ: NTDT460.

NTDT 466 Independent Study 1-6

NTDT 470 Community Dietetics Practice 6
Supervised practice in nutritional components of community programs in health promotion, health maintenance and community health care delivery settings.
PREREQ: NTDT450
COREQ: NTDT460
RESTRICTIONS: Open to CUD majors only

NTDT 475 Transcultural Food Habits 5
Travel study of transcultural food habits: attitudes, beliefs, customs and taboos. Visits to major food industries and health organizations, and interaction with indigenous population.
PREREQ: NTDT200.

NTDT 550 Dietetics Practicum I 4 PF
Introduces supervised practice experiences for incorporation and application of skills, knowledge, and attitudes with special emphasis on current dietetic issues facing the health professional in public health nutrition.
COREQ: NTDT650
RESTRICTIONS: Open to Dietetic Internship students only

NTDT 551 Dietetics Practicum II 4 PF
Continued supervised practice experiences for incorporation and application of skills, knowledge, and attitudes, focusing on entry-level competence with special emphasis on current dietetic issues facing the health professional.
PREREQ: NTDT550
COREQ: NTDT651
RESTRICTIONS: Open to Dietetic Internship students only

NTDT 610 Fundamentals of Nutrition and Metabolism 3
Review of metabolic processes related to nutrition and current research related to macronutrient and micronutrient functions.
RESTRICTIONS: Undergraduate preparation in biochemistry, physiology and basic nutrition

NTDT 611 Advanced Nutrition 3
Metabolism and its relation to human nutrition; current literature; methods and techniques of nutrition research.
PREREQ: NTDT400 or NTDT610

NTDT 615 Advanced Nutrition and Physical Activity 3
Critical analysis of current research on effects of nutrition, food and diet on physical activity and optimal athletic performance. Develops specific topics and interests through independent projects.
PREREQ: Undergraduate nutrition and physiology courses.

NTDT 620 Maternal and Infant Nutrition 3
Maternal physiological adjustments in pregnancy and their relationship to nutritional needs; effect of maternal nutrition on fetal growth and development; physiology of lactation and maternal nutrient needs; neonatal nutritional needs and current infant feeding practices.
PREREQ: NTDT400 and BISC106 or BISC406.
NUTRITION AND DIETETICS

NTDT 621 Nutrition Research Methods 2
Discussion and experience with selected methods and techniques in nutrition research.
PREREQ: Upper-division course work in nutrition, biochemistry and physiology

NTDT 624 Monogastric Nutrition 3
See ANSC624 for course description

NTDT 630 Trace Minerals and Vitamins 3
Recent advances in knowledge of the nutritional significance of trace minerals and vitamins; their physiological function(s); factors affecting needs and utilization; assessment of requirements; occurrence in food supply; and current issues and concerns. Primary focus on human nutrition with comparative aspects in other living systems utilized to illustrate significant similarities and/or differences. May be cross-listed with ANSC650.
PREREQ: Junior-level course work in human or animal nutrition, biochemistry or biological sciences

NTDT 640 Nutrition and Aging 3
Addresses topics related to the effects of aging on fundamental nutrition processes, food and nutrient requirements, nutrition screening and assessment of nutritional status, nutrition intervention and food assistance programs and nutrition-related disorders of older adults.
PREREQ: NTDT310 or NTDT400 or NTDT401

NTDT 645 Nutrition Education 3
Identification of objectives for nutrition education; selection and use of methods, materials and resources for different age levels; and integration of nutrition into the total health and consumer aspects of school, non-school and adult programs.
PREREQ: NTDT200

NTDT 650 Current Perspectives in Dietetics I 2
Introduces exploration of roles and responsibilities of today's dietitian in foodservice management, clinical, and community dietetics. Emphasis on concepts relevant to evolving therapies and technologies in the profession and issues that influence ethical, legal, and professional responsibilities of dietitians.

NTDT 651 Current Perspectives in Dietetics II 2
Continued exploration of roles and responsibilities of today's dietitian in clinical, community and foodservice management dietetics. Emphasis on concepts relevant to evolving therapies and technologies in the profession and issues that influence ethical, legal, and professional responsibilities of dietitians.

NTDT 652 Topics in Nutrition and Dietetics 1-3
Analysis of a specific topic in an area of nutrition and dietetics.
RESTRICTIONS: Requires permission of instructor.

NTDT 654 Ruminant Nutrition and Metabolism 3
See ANSC654 for course description.

NTDT 660 Community Nutrition 3
Nutritional care as a part of health maintenance and health care delivery; the relationship of community resources, structure and dynamics to an individual's ability to be well fed. Nutritional needs and programs. Nutrition program planning and evaluation; community assessment techniques.
RESTRICTIONS: Advanced Nutrition course required.

NTDT 665 Seminar 1-3 PF

NTDT 668 Research 1-6

NTDT 669 Field Project or Theoretical Paper 1-6
Development, preparation and defense of written report of field project observations or theoretical analysis.
RESTRICTIONS: Requires permission of instructor.

NTDT 675 Transcultural Food Habits 5
Travel study of transcultural food habits: attitudes, beliefs, customs and taboos. Visits to major food industries and health organizations, and interaction with indigenous populations.
PREREQ: NTDT200 or NTDT303
RESTRICTIONS: Only three credit hours may count toward graduation for majors.

NURSING

NURS 205 Societal Context of Nursing 3
Introduces conceptual frameworks for nursing practice within a pluralistic society. Utilizes historical perspective to examine the current status of nursing within the health care system. Discusses importance of professionalism, including ethical and legal responsibilities.
PREREQ: BISC207, BISC208, CHEM105, CHEM106, ENGL110, STAT201 and SOC200 level or above.
COREQ: NURS215
RESTRICTIONS: Open to nursing majors only

NURS 212 Pathophysiological Concepts 3
Application of sciences to maintenance of and alterations in homeostasis. Pathophysiological concepts relate to stress, inflammation, immunity, neoplasia, pain and alterations in fluid/electrolytes balance, blood flow and respiration. Exploration of disorders common throughout an individual's life span.
PREREQ: BISC207, BISC208, BISC276, CHEM105, CHEM106, ENGL110, STAT201, and SOC200 level or above.
COREQ: BISC371
RESTRICTIONS: Open to nursing majors only

NURS 215 Basic Nursing Practice Skills 1
Introduces basic client care skills. Emphasis on the intellectual, interpersonal and psychomotor skills foundational to nursing practice.
PREREQ: BISC207, BISC208, CHEM105, CHEM106, ENGL110, STAT201 and SOC200 level or above.
COREQ: NURS205
RESTRICTIONS: Open to nursing majors only

NURS 306 Determinants of Wellness 5
Selected concepts/theories pertinent to promotion of optimal health of well clients of all ages from diverse sociocultural backgrounds within the context of family, community and health care system.
PREREQ: BISC276, BISC371, IFST201, NTDT200, NURS205, NURS215, NURS212, PSYC201 and STAT201.
COREQ: NURS312, NURS314 and NURS315
RESTRICTIONS: Open to nursing majors only. Offered in Fall

NURS 308 Restorative Nursing Practice I 4
Concepts/theories pertinent to promotion of optimal health of clients experiencing common and/or recurring health problems.
PREREQ: NURS206, NURS312, NURS314 and NURS315.
COREQ: NURS317; NURS318 or NURS319; and NURS332.
RESTRICTIONS: Open to nursing majors only. Offered in Spring

NURS 312 Pathophysiology 3-4
Focuses on biological processes leading to alterations of body structure and function. Emphasis on identification of etiology and pathogenesis of selected diseases.
PREREQ: BISC276, BISC371, IFST201, NTDT200, NURS205, NURS215, NURS212, PSYC201 and STAT201.
COREQ: NURS306, NURS314 and NURS315
RESTRICTIONS: Open to nursing majors only. Nursing major must take 3 credits. BRN majors must take 4 credits.

NURS 314 Psychopathology 2-3
Delineates psychopathological processes across the life span. Emphasis on the etiology, manifestations, and treatment options of selected psychopathological processes. Addresses current trends and issues in the mental health field.
PREREQ: BISC276, BISC371, IFST201, NTDT200, NURS205, NURS215, NURS212, PSYC201 and STAT201.
COREQ: NURS306, NURS312 and NURS315
RESTRICTIONS: BRN major - Admission to BRN Program. Open to nursing majors only.
Nursing major must take 2 credit hours. BRN major must take 3 credit hours.

NURS 315 Practicum I 4
Experiences for incorporation and application of selected concepts/theories underlying nursing care for well clients of all ages from diverse sociocultural backgrounds, within the context of family, community and health care systems. Comprises 112 clinical hours.
PREREQ: BISC276, BISC371, IFST201, NTDT200, NURS205, NURS215, NURS212, PSYC201 and STAT201.
COREQ: NURS306, NURS314, and NURS306.
RESTRICTIONS: Open to nursing majors only. Offered in Fall

NURS 317 Practicum II 3
Experiences for incorporation and application of selected concepts/theories underlying nursing care that promotes optimal health of adult clients with common and/or recurring health problems. Emphasizes assessment and planning of nursing process. Comprises 84 clinical hours.
PREREQ: NURS306, NURS312, NURS314 and NURS315.
COREQ: NURS306; NURS318 or NURS319; and NURS332.
RESTRICTIONS: Open to nursing majors only. Offered in Spring

NURS 318 Practicum III 3
Experiences for incorporation and application of selected concepts/theories underlying nursing care that promotes optimal health of children with common and/or recurring health problems. Emphasizes assessment and planning of nursing process. Comprises 84 clinical hours.
PREREQ: NURS306, NURS312, NURS314 and NURS315.
COREQ: NURS308, NURS317 and NURS332.
RESTRICTIONS: Open to nursing majors only. Offered in Spring
NURS 319 PRAXICUM IV 3
Experiences for incorporation and application of selected concepts/theories underlying nursing care that promotes optimal health of adults with mental illness. Emphasizes assessment and planning steps of nursing process. Comprises 84 clinical hours.
PREREQ: NURS306, NURS312, NURS314 and NURS315
COREQ: NURS308, NURS317 and NURS332
RESTRICTIONS: Open to nursing majors only. Offered in Spring.

NURS 332 PHARMACOLOGICAL NURSING RESPONSIBILITY 3
Uses the conceptual framework of human needs to focus on the therapeutic and adverse biological, psychological and social reactions to pharmacological agents; drug use and medication abuses; client teaching; pertinent laboratory tests; current research findings. Nursing responsibilities emphasized with the nursing process.
PREREQ: NURS306, NURS312, NURS314, and NURS315
COREQ: NURS308, NURS317, NURS318 or NURS319
RESTRICTIONS: Open to nursing majors only.

NURS 340 CURRENT PERSPECTIVES IN NURSING 2
Introduces nursing theory and conceptual foundations for practice within a pluralistic society. Provides overview of principles of nursing education and practice at the baccalaureate level. Focuses on healthcare needs within diverse practice settings, emphasizing emerging legal and ethical responsibilities, economic and sociocultural influences.
RESTRICTIONS: Admission to BN Program.

NURS 342 NURSING INFORMATICS 2
Addresses the current utilization of evolving technologies in nursing/client education, practice, administration and research.
RESTRICTIONS: Admission to BN Program.

NURS 343 TRANSITION TO BACCALAUREATE NURSING 1-6
Addresses issues related to the socialization and transition to baccalaureate nursing education and practice. Complements content of NURS340 and NURS342. Incorporates the practical application of evolving technologies with emphasis on nursing/client education. Introduces University and BN Program resources.
PREREQ: NURS340 and NURS342.

NURS 344 WELLNESS AND HEALTH ASSESSMENT 2
Explores selected concepts, theories and skills utilized in health promotion and disease prevention of individuals from socioculturally diverse populations within the context of family, community and healthcare systems. Includes key elements of a biopsychosocial-cultural health history and health assessment of individuals across the life course.
PREREQ: NURS343.

NURS 366 INDEPENDENT STUDY 1-6

NURS 405 INTRODUCTION TO NURSING RESEARCH 2-3
Introduction to nursing research methods basic to identification of researchable nursing problems and to evaluation of existing nursing research for consumers.
PREREQ: Nursing major - NURS306, NURS317, NURS318 or NURS319, and NURS332. BRN major - NURS441.
COREQ: Nursing major - NURS408, NURS417, NURS418 or NURS419.
RESTRICTIONS: Nursing major must take 3 credit hours. BRN major must take 2 credit hours. Open to nursing majors only.

NURS 408 RESTORATIVE NURSING PRACTICE II 4
Concepts and theories for promotion of optimal health of clients with selected and less common health problems.
PREREQ: NURS308, NURS317, NURS318 or NURS319 and NURS332.
COREQ: NURS417, NURS418 or NURS419; and NURS405.
RESTRICTIONS: Open to nursing majors only. Offered in Fall.

NURS 409 PROFESSIONALISM IN NURSING PRACTICE 2
Concepts, theories and issues that influence nurses' legal, ethical and professional responsibilities to nursing and to the public.
PREREQ: NURS405; NURS406; NURS417; NURS418 or NURS419.
COREQ: NURS420.
RESTRICTIONS: Open to nursing majors only. Offered in Spring.

NURS 411 TOPICS IN HEALTH CARE DELIVERY 1-6
A consideration of selected issues and problems of nursing practice within the health care delivery system. Exploration of some topics may include a laboratory or clinical component. Variable topics.
PREREQ: NURS306; NURS317; NURS318 or NURS319; and NURS332. No prerequisites for BRN major.
COREQ: NURS405; NURS417; NURS418 or NURS419.
RESTRICTIONS: Open to nursing majors only. May be repeated for up to six credit hours.

NURS 417 PRACTICUM V 3
Experiences for incorporation and application of selected concepts and theories underlying nursing care that promotes optimal health for adult clients with less common health problems. Emphasizes implementation and evaluation steps of nursing process. Comprises 84 clinical hours.
PREREQ: NURS306, NURS317, NURS318 or NURS319, and NURS332.
COREQ: NURS408, NURS417, NURS418 or NURS419; and NURS405.
RESTRICTIONS: Open to nursing majors only. Offered in Fall.

NURS 418 PRACTICUM VI 3
Experiences for incorporation and application of selected concepts/theories underlying nursing care that promotes optimal health of children with common and/or recurring health problems. Emphasizes implementation and evaluation steps of nursing process. Comprises 84 clinical hours.
PREREQ: NURS306; NURS317; NURS318 or NURS319; and NURS332.
COREQ: NURS408, NURS417 and NURS405.
RESTRICTIONS: Open to nursing majors only. Offered in Fall.

NURS 419 PRACTICUM VII 3
Experiences for incorporation and application of selected concepts and theories underlying nursing care that promotes optimal health of adults with mental illness. Emphasizes implementation and evaluation steps of nursing process. Comprises 84 clinical hours.
PREREQ: NURS308, NURS317, NURS318 or NURS319, and NURS332.
COREQ: NURS408, NURS417 and NURS405.
RESTRICTIONS: Open to nursing majors only. Offered in Fall.

NURS 420 PRACTICUM VIII 6
Selected experiences for the exploration and application of the basic concepts and theories of nursing leadership and management that facilitate transition to the professional role of the nurse. Comprises 168 clinical hours.
PREREQ: NURS305, NURS408, NURS417, and NURS418 or NURS419.
COREQ: NURS409.
RESTRICTIONS: Open to nursing majors only. Offered in Spring.

NURS 441 LEARNING LABORATORY: HEALTH ASSESSMENT 1
Demonstrates and integrates physical and psychological assessment skills on selected clients in the laboratory setting. Incorporates the practical application of evolving technologies in nursing practice and administration. Includes orientation to BN Role Practicum.
PREREQ: NURS344.

NURS 442 COMMUNITY HEALTH NURSING 3
Focuses on conceptual foundations for community health nursing practice with the community, family and individual as clients. Diversity in nursing roles and practice is related to community health promotion and community health problems.

NURS 443 BRN ROLE PRACTICUM 3
A preceptorship clinical experience focused upon the integration of concepts learned in baccalaureate nursing education.
PREREQ: NURS441 and NURS442.
COREQ: NURS445.
RESTRICTIONS: NURS446 is either a prerequisite or corequisite.

NURS 445 NURSING RESEARCH APPLICATIONS 1
Demonstrates the practical application of technology in selected steps of the research process. Explores the process of research utilization as a mechanism to develop a research-based nursing practice.
PREREQ: NURS441, NURS405 and NURS442.
COREQ: NURS443.
RESTRICTIONS: NURS446 is either a prerequisite or a corequisite.

NURS 446 LEADERSHIP AND ORGANIZATIONAL BEHAVIOR 2
Introduces organizational theory and structure, nursing care delivery systems and components of leadership. Focuses on the role of the nurse-leader in organizing, teaching, decision making, evaluating, planning change and managing conflict.
PREREQ: NURS441.

NURS 466 INDEPENDENT STUDY 1-6

OPERATIONS RESEARCH

ORES 601 SURVEY OPERATIONS RESEARCH I 3
Covers various deterministic mathematical programming methods (LP, integer dynamic), network models and basic inventory models.
PREREQ: Linear algebra.

ORES 602 SURVEY OPERATIONS RESEARCH II 3
Covers various stochastic operations research models including decision theory, game theory, project planning, inventory models, simulation, markov decision processes and queuing models.
PREREQ: Linear algebra and MATH1650.

ORES 603 OPERATIONS RESEARCH PRACTICE 3
Instructors from hard sciences and social sciences introduce real-world Operations Research case studies based on their expertise. Students implement proposed solution methodologies using a variety of available computer software packages.
PREREQ: ORES601.
COREQ: ORES602.

ORES 650 URBAN TRANSPORTATION SYSTEMS 3
See CIE650 for course description.
PHIL 100  **Philosophies of Life**  3  
Survey of selected past and present moral philosophies that people strive to live by, typically including individualistic, group-oriented, religious and nonreligious positions. May be cross-listed with WOMS 100.

PHIL 101  **Great Western Philosophers**  3  
Survey of the key ideas of great Western philosophers concerning the nature of reality and how it is known. Focus on individual philosophers such as Plato, Aristotle, Descartes, Kant, Hegel, James and Wittgenstein.

PHIL 102  **Introduction to Philosophy**  3  
An examination of such central philosophical problems as ethics, theories of knowledge, the nature of reality, philosophy of religion and political philosophy.

PHIL 105  **Critical Thinking**  3  
Emphasis on developing skill at logical criticism of arguments. Topics include informal fallacies, deceiving with statistics, the role of definitions in reasoning, the importance of evidence and confirmation.

PHIL 109  **Modern Religious Issues**  3  
The biblical world view and modern science, controversies over the nature of Scripture, doctrines of religious authority, the nature of theological language and existentialist interpretations and myth.

PHIL 125  **Topics: Philosophy in Popular Culture**  1-4  
Philosophical ideas expressed in popular media such as science fiction or fantasy literature, film and music. Topics are variable.

RESTRICTIONS: May be repeated for up to four credit hours.

PHIL 200  **Business Ethics**  3  
Ethical theory applied to moral problems in business. Corporate social responsibility, and ethical issues in advertising, personnel and investment.

PHIL 201  **Social and Political Philosophy**  3  
Classical and contemporary views on such problems as the proper scope and functions of government, on what a just distribution of wealth is, and on the extent of an individual's rights, liberties and obligation to obey the law.

PHIL 202  **Contemporary Moral Problems**  3  
The application of philosophical techniques to contemporary moral problems such as abortion, punishment, biomedical ethics, reverse discrimination and sexual morality. May be cross-listed with WOMS 203.

PHIL 203  **Ethics**  3  
Study of moral value, moral obligation and moral virtue through comparison of notable schools of ethical theory, including utilitarianism, existentialism, Kantianism, classical Greek eudaimonism, pragmatism and Thomism.

PHIL 204  **World Religions**  3  
Varieties of religious belief and practice from diverse cultures, including representative Asian and Western traditions, studied mainly in terms of their historical development and importance.

PHIL 205  **Logic**  3  
Concepts and techniques of elementary symbolic logic: truth and consistency of sentences, validity and soundness of arguments; translation of English sentences into a formal language, construction of truth tables and the use of a system of natural deduction to prove the validity of deductive arguments.

PHIL 207  **Scientific Reasoning**  3  
Critical survey of basic concepts and forms of inductive reasoning. Applications to the physical, social and biomedical sciences. Topics include: interpretations of probability, probabilistic fallacies, methods of statistical induction, logic of hypothesis testing, judging correlations, criteria of causation, experimental design and definitions of confirmation.

PHIL 208  **Introduction to Jewish Philosophy**  3  
Fundamental issues in philosophy of religion reflecting both general theological approaches to resolving the tension between philosophy and religion and the uniquely Jewish attempt to do so. Topics include: God, miracles, good and evil, divine commandments and free will. May be cross-listed with JWS 208.

PHIL 209  **Philosophy of Religion**  3  
Religious experience, proofs for God's existence, religious language and critiques of religion. Selected special topics such as mysticism, evil, atheism, miracles, immortality and myth.

PHIL 210  **Women and Religion**  3  
See WOMS 210 for course description.

PHIL 211  **Basic Decision Theory**  3  

PHIL 216  **Introduction to Feminist Theory**  3  
The concepts of love, marriage, sexuality, family, work, power and equality of women. Theories of women and their position in society, including classical Marxism, the status politics of the suffragettes, radical feminism and socialist feminism. May be cross-listed with WOMS 216.

PHIL 225  **Science or Pseudoscience**  3  
Examination of claims and theories like astrology, biocybernetics, parapsychology, ancient astronauts and the Bermuda triangle. Emphasis on methodology, patterns of reasoning and assumptions used to support such claims and theories and how they compare with those used in natural and social sciences. Topics include confirmation, explanation, causation, testing, scientific method, rationality and scope of science.

PHIL 226  **Mind, ESP and Survival**  3  
An exploration of major philosophical conceptions of the relation of mind (soul) and brain, implications for the nature of mind from the literature of psychic research and immortality.

PHIL 229  **The Nature of Science**  3  
See CSCC 229 for course description.

PHIL 241  **Ethical Issues in Health Care**  3  
See CSCC 241 for course description.

PHIL 242  **Topics: Philosophy of Education**  3  
Themes and individuals in philosophy of education such as moral and character education. Variable topics. May be repeated for degree credit. May be cross-listed with EDST 242.

PREREQ: One philosophy course or permission of instructor.

PHIL 244  **Philosophy of Art**  3  
An introduction to main philosophical problems concerning art: the nature, evaluation and value of art.

PHIL 246  **Philosophical Perspectives of Medicine**  3  
See CSCC 246 for course description.

PHIL 250  **Engineering Ethics**  3  
Concrete ethical problems in engineering practice, both professional/entrepreneurial and in industrial research settings. Other topics include the social responsibilities of engineers. May be cross-listed with CSCC 250.

PHIL 301  **Ancient Philosophy**  3  
Beginnings of Western science and philosophy. The pre-Socratic, Sophists, Socrates, post-Socratic ethics, Plato, Aristotle, the Epicureans, Stoics, Skeptics and Neoplatonists.

PHIL 302  **Medieval Philosophy**  3  
Christian European philosophy from the 4th to the 14th century Augustine and early medieval thought, Aquinas and the 13th century; Ockham and the rise of nominalism. Problems such as the relation between faith and reason, the possibility of demonstrating God's existence and the status of universals.

PHIL 303  **Modern Philosophy**  3  
Main trends: Francis Bacon and scientific empiricism; Thomas Hobbes and materialism, Descartes, Spinoza and Leibniz; Locke, Berkeley, Hume and Kant; and the Age of Enlightenment and its impact on theories of art and history.

PHIL 304  **Nineteenth-Century Philosophy**  3  
Major philosophies of the 19th century with special emphasis on Hegel and Nietzsche.

PHIL 305  **Twentieth-Century Philosophy**  3  
Major philosophical movements from the 20th century to the present. Includes logical empiricism and the recent criticism of this movement.

PHIL 307  **Black Thought and Philosophy**  3  
See BAMS 307 for course description.

PHIL 308  **Justice and Equality**  3  
Theories of justice and rights. Constraints on liberty, the enforcement of morals, legal vs moral responsibility, authority, disobedience and loyalty.

PHIL 309  **Indian Religion and Philosophy**  3  
The Vedas, Upanishads, and Bhagavad-Gita; Sankhya, Yoga, Nyaya, Vaisheshika and Mimamsa; Jainism and Indian Hinayana and Mahayana Buddhism; Vedanta and modern developments such as Aurobindo.

PHIL 310  **Chinese Religion and Philosophy**  3  
PHIL 313  **Major Theological Traditions**  3
Selected major theologies of decisive importance for the historical development of
Christian thought and the relation of theology to philosophy and culture

PHIL 317  **American Philosophy**  3
Classical American philosophers, including Emerson, Thoreau, Peirce, James and
Dewey: includes ethics, epistemology and social and political theory

PHIL 320  **Theory of Knowledge**  3
An examination of some central issues in epistemology and metaphysics. The nature of
minds and the world, and the nature and possible extent of our knowledge of both

PHIL 322  **Existentialism**  3
Study of the origins and development of existential philosophy. Emphasis on the funda-
mental insight into the nature of man that separates the existentialists from the rest of
the Western philosophical tradition. Sources include Pascal, Kierkegaard, Nietzsche and
Sartre

PHIL 324  **The Philosophy of Love**  3
Eros, agape, caritas, "passion love," romantic love, fraternal love, friendship, Tristanism,
Don Juanism, the forms serving to identify discrete lifestyle styles, ages and cultures. Readings
include O'Henry, Gasser, Sartre, Sartrean, Sartrean, Kierkegaard, Schopenhauer, Schindel,
Augustine, Plotinus and Plato

PHIL 330  **Philosophy of Mind**  3
Coverage of central issues in the philosophy of mind including such topics as the relation
between mind and body, the nature of thought, consciousness, perception, personal
identity and the relation of cognitive psychology, neuroscience and computer science to
the philosophy of mind. May be cross-listed with CSCI330

PHIL 338  **Topics in Philosophy and Gender**  3
Critical examination of philosophical issues raised by feminism. May be cross-listed with
WOMS338

RESTRICTIONS: May be repeated twice for degree credit when topics vary

PHIL 340  **Cross Cultural Environmental Ethics**  3
Critical and global study of the ethics of human-environment relations as suggested by
the science of ecology, Western philosophy, physical science, the world views of
Judaism, Christianity, Islam, Hinduism, Buddhism, Taoism, Native American traditions,
African traditions, ecocentrism and American law

PHIL 341  **Ethics of Engineering Profession**  1
Introduction to cases involving engineers' moral responsibilities; emphasis on making
reasonable ethical choices. May be cross-listed with CSCI341

PHIL 345  **Philosophy of History**  3
Nature and limits of our knowledge of the past, categories of explanation used by histo-
rians and the aims of historical inquiry. Speculation about the "meaning" of history and
the structure of historical process

PHIL 351  **Advanced Logic**  3
Axiomatic quantified predicate calculus with identity; axiomatic set theory and number
theory; and demonstration of metatheorems
PREREQ: PHIL205

PHIL 360  **Humanities Colloquium**  3
See ARSC360 for course description. May be cross-listed with ENGL360

PHIL 366  **Independent Study**  1-3
See ARSC366 for course description. May be cross-listed with WOMS366

PHIL 390  **Honors Colloquium**  3
See ARSC390 for course description. May be cross-listed with WOMS390

PHIL 392  **Honors Colloquium**  3
See ARSC392 for course description. May be cross-listed with WOMS392

PHIL 444  **Medical Ethics**  3
Seminar focuses on such topics as experimentation with human subjects, genetic engi-
neering and the moral problems of health care. May be cross-listed with CSCI444

RESTRICTIONS: For students of philosophy and health professions.

PHIL 446  **Philosophy of Law**  3
The nature and function of law; relations among law, morality and society; the logic of
legal reasoning; and analysis of fundamental concepts and institutions.

PHIL 448  **Environmental Ethics**  3
Ethical problems associated with environmental protection, local, national, and interna-
tional. Relations to social and political movements. Seminar format.

PHIL 454  **Philosophy of Social Science**  3
Critical examination of the central historical and contemporary questions about the con-
cepts, methods, social structure and purposes of social science inquiry. May be cross-list-
ed with ANTH465

PREREQ: A theory of methodology course in a social science, or an epistemology or phi-
losophy of science course

PHIL 463  **Ethical Theory**  3
Justification of ethical beliefs, alternative criteria of moral rightness and the meaning of
moral concepts
PREREQ: PHIL202 or PHIL203

PHIL 465  **Senior Seminar**  3
Various authors and themes; e.g., Plato, Kant, epistemology, philosophy of mind
RESTRICTIONS: May be repeated once for credit when topics vary

PHIL 466  **Independent Study**  1-3

PHIL 647  **Philosophy of Technology**  3
Philosophical reflections on working with tools in the broadest sense; definitions; studies
of processes, products and uses; and ethical, cultural and political critiques. Seminar for-
mat. May be cross-listed with CSCI647, MAIS647 and/or URAF647

PHIL 648  **Environmental Ethics**  3
Ethical problems associated with environmental protection, local, national, and interna-
tional. Relations to social and political movements. Seminar format. May be cross-listed
with MAIS648 and/or URAF648

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PHYSICS AND ASTRONOMY

**PHYS 104  *Elementary Physics***  3
Overview of the principles of physics and their applications. Course is designed for
beginners with no previous exposure to physics

RESTRICTIONS: Requires working knowledge of algebra and the use of scientific nota-
tion. Only one course among PHYS101, PHYS104, PHYS201, PHYS207 and
SCN101 can count toward graduation

**PHYS 133  *Introduction to Astronomy***  4
Objects of the universe from the earth to galaxies. How the universal laws that govern
them, e.g., gravity and electromagnetic radiation, permit us to learn their nature from
quantitative observations. Telescopic observations, visual and electronic, included in the
laboratory

**PHYS 139  *Star and Constellation Identification***  1
Familiarity with the sky, its changing aspects, constellations, mythology, bright stars, and
planets. Topics will include night sky mapping and coordinates, how to estimate directions
and time from knowledge of the sky, and the use of binoculars and small telescopes

**PHYS 140  *Great Concepts of Physics***  3
Designed for non-science majors, will concentrate on understanding both the content
and impact of five great concepts of physics: the Newtonian Universe, Conservation of Ener-
gy, Entropy, Relativity, and Wave-Particle Duality. The influence of these concepts in other
areas of human concern, e.g., philosophy, art, history, politics, medicine, etc. will be
an important feature.

**PHYS 141  *Light, Lasers, Cameras, Perception***  3
Introduction to the phenomena of light, optics and perception for non-science majors.
Topics include: nature of light, sources of light and shadows, rainbows, mirages and
other atmospheric phenomena, cameras, telescopes, microscopes, color creation and
observation, physics influences in art, the human eye and perception

**PHYS 143  *Energy Technology and Society***  3
Basic principles of physics are applied to discuss forms of energy (mechanical/thermal, chemi-
cal, electrical and nuclear), and how energy is derived from sources such as coal, petroleum,
solar, nuclear fusion and fission. Environmental consequences of energy use are treated
PREREQ: College algebra

**PHYS 144  *Concepts of the Universe***  3
Survey of astronomy emphasizing early and modern concepts. Stars, planets, galaxies,
cosmic evolution and intelligent life are studied in the context of physical principles
which describe the dynamics of the universe. Scientific process is used to interpret obser-
ations which shape our perceptions of the cosmos

RESTRICTIONS: Not for credit to students who have taken PHYS133 or PHYS134

**PHYS 145  *Quasars, Black Holes and the Universe***  3
A non-mathematical course focusing on the role of explosions and other violent events in
the universe. The major topics are Einstein's theory of special relativity, black holes, galaxies,
exploding quasars, the expanding universe, pulsars, supernovae and x-ray stars

**PHYS 146  *Quarks, Gluons, and the Big Bang: Particles and Cosmology***  3
Non-mathematical course focusing on the elementary particles and their influence on the
early evolution of the universe. Major topics are quarks and the forces they feel, Einstein's
theory of relativity, Quantum Mechanics made fairly simple, and the Inflationary Universe
RESTRICTIONS: Requires high school algebra

**PHYS 147  *Atoms for Everyone***  3
Elementary but earnest inquiry into the sources of our knowledge that these completely
invisible building blocks of ordinary matter exist as discrete entities, and exist to the
exclusion of all other possibilities

RESTRICTIONS: Requires high school algebra

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UNIVERSITY OF DELAWARE 1996-97 CATALOG / PAGE 299
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Restrictions</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 201</td>
<td>Introductory Physics I</td>
<td>PHYS 202</td>
<td>PHYS 201, MATH 115</td>
<td>Comprehensive introduction to physics for students in physical, biological, health, and environmental sciences. Topics include: geometrical optics, rectilinear mechanics, fluid, and thermodynamics.</td>
</tr>
<tr>
<td>PHYS 202</td>
<td>Introductory Physics II</td>
<td>PHYS 201</td>
<td>PHYS 201, MATH 115</td>
<td>Further study in classical mechanics including rotational motion, waves, electricity and magnetism, and modern physics.</td>
</tr>
<tr>
<td>PHYS 207</td>
<td>Fundamentals of Physics I</td>
<td>MATH 302</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 208</td>
<td>Fundamentals of Physics II</td>
<td>MATH 302</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
<td></td>
</tr>
<tr>
<td>PHYS 306</td>
<td>Computational Methods of Physics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
<td></td>
</tr>
<tr>
<td>PHYS 313</td>
<td>Physical Optics</td>
<td>MATH 243</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
<td></td>
</tr>
<tr>
<td>PHYS 366</td>
<td>Independent Study</td>
<td>MATH 243</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
<td></td>
</tr>
<tr>
<td>PHYS 369</td>
<td>Classical Mechanics I</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
<td></td>
</tr>
<tr>
<td>PHYS 422</td>
<td>Quantum Mechanics</td>
<td>PHYS 208, MATH 302, and MATH 349</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<td>PHYS 422</td>
<td>Quantum Mechanics</td>
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<tr>
<td>PHYS 449</td>
<td>Introduction to Research</td>
<td>MATH 115</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 600</td>
<td>Physics Research Talks</td>
<td>PHYS 201, PHYS 202, and MATH 302</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 600</td>
<td>Physics Research Talks</td>
<td>PHYS 201, PHYS 202, and MATH 302</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 603</td>
<td>Electricity and Magnetism I</td>
<td>PHYS 201, PHYS 202, and PHYS 203</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 604</td>
<td>Electricity and Magnetism II</td>
<td>PHYS 201, PHYS 202, and PHYS 203</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 607</td>
<td>Methods of Mathematical Physics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 608</td>
<td>Methods of Mathematical Physics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 610</td>
<td>Quantum Mechanics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 616</td>
<td>Kinetic Theory and Thermodynamics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
<td></td>
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<tr>
<td>PHYS 620</td>
<td>Classical Mechanics II</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 621</td>
<td>Fundamentals of Modern Physics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
<td></td>
</tr>
<tr>
<td>PHYS 621</td>
<td>Introduction to Modern Physics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 624</td>
<td>Introduction to Solid State Physics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 631</td>
<td>Acoustics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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<tr>
<td>PHYS 632</td>
<td>Astrophysics</td>
<td>MATH 242</td>
<td>Only one course from PHYS 201, PHYS 202, and PHYS 203 can count toward graduation.</td>
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PHYS 633  INTRODUCTION TO STELLAR ASTROPHYSICS  3
Introduction to the physics of stellar interiors and atmospheres. The evolution of stars is
explored by studying the changes in internal composition due to nuclear reactions. The
physical processes underlying stellar spectra are investigated. Computer simulations of
stars and their atmospheres may be used
PREREQ: PHYS632 and MATH302

PHYS 638  SELECTED TOPICS IN PHYSICS  3
Treatment of a specialized subject, taken from the following list: low-temperature physics,
advanced experimental physics in research areas active in the department; cosmology,
elementary particles, lasers and Fourier optics and plasma physics.
RESTRICTIONS: May be repeated for credit when topics vary

PHYS 645  ELECTRONICS FOR SCIENTISTS  3
Fundamentals of analog and digital electronics, with emphasis on applications in science.
Circuit analysis, operational amplifiers, filters, gates, flip-flops, counters, analog to
digital and digital to analog converters
PREREQ: PHYS208 or equivalent

PHYS 646  INSTRUMENTATION FOR SCIENTISTS  3
Electronic measurements and instrumentation with emphasis on applications in science.
Amplification, noise, low-level signal recovery, lock-in amplifiers, digital signal averaging,
frequency and time measurements, transducers, bridges, interfacing to laboratory
computers and automation of experiments
PREREQ: PHYS9208 and PHYS9645 or equivalents

PHYS 647  MODERN PHYSICS LABORATORY  3
Introduction to modern experimental methods and techniques. Consists of a variety of
experiments for the study of the structural, transport, magnetic, optical and nuclear prop-
eties of matter. Covers basic experimental techniques involved in materials preparation,
vacuum design and measurement, and temperature control and measurement
PREREQ: PHYS9209 and PHYS9621

PHYSICAL THERAPY

PHYT 466  INDEPENDENT STUDY  1-6

PHYT 600  PHYSICAL THERAPY AS A PROFESSION  1
An introduction to the ethics, licensure laws and practice of physical therapy
RESTRICTIONS: Open to MPT Program students only. Requires permission of instructor

PHYT 601  EXERCISE PHYSIOLOGY: TREATMENT AND RESEARCH  3
Discusses research on the effects of exercise on various patient populations. Emphasis on
muscle, bone and connective tissue remodeling. Examines cardopulmonary rehabilita-
tion, isokinetic and isometric theories and research
RESTRICTIONS: Open to MPT Program students only

PHYT 602  PATIENT MANAGEMENT I  3
An introduction to the theory and skills necessary for the physical therapy management
of patients commonly seen in primary care facilities.
RESTRICTIONS: Open to MPT Program students only

PHYT 603  PHYSICAL AGENTS  2
Introduces the physics, physiology and clinical applications of various physical agents.
Students incorporate this new knowledge into patient care problems
RESTRICTIONS: Open to MPT Program students only

PHYT 604  FUNCTIONAL ANATOMY AND BIOMECHANICS  3
Gives a description of normal and abnormal human movement. Emphasis on surface
anatomy and evaluation procedures such as EMG and cinematography
PREREQ: BISC401 and PHYT622

PHYT 605  CLINICAL INTERNSHIP  1-9 PF
Full- or part-time clinical experiences at various health care facilities.
RESTRICTIONS: Open to MPT Program students only with completion of prior profession-
al coursework

PHYT 606  RESEARCH METHODS  3
The research process will be studied. Among the topics covered are: scientific method,
experimental design, statistical procedures and technical writing
RESTRICTIONS: Open to MPT Program students only

PHYT 607  ELECTROPHYSIOLOGICAL TREATMENTS AND EVALUATION  3
Emphasis on the physiological basis for the electrotherapeutic and electrophysiological
evaluative procedures practiced in the physical therapy clinic.
RESTRICTIONS: Open to MPT Program students only

PHYT 608  MUSCULOSKELETAL EVALUATION AND TREATMENT  3
Indepth analysis of evaluation and treatment strategies of spinal and extremity joints,
muscles and connective tissue. Emphasizes research on the physiological basis of trac-
tion, mobilization and exercise
PREREQ: PHYT604, PHYT622 and PHYT604
RESTRICTIONS: Open to MPT Program student only

PHYT 609  NEUROPHYSIOLOGICAL EVALUATION AND TREATMENT  3
Indepth analysis of evaluation and treatment strategies of neurologically involved
patients. Emphasizes research on the physiological basis of traction, mobilization and
exercise
PREREQ: All first-year MPT courses
RESTRICTIONS: Open to MPT Program students only

PHYT 610  PSYCHOSOCIAL ASPECTS OF DISABILITIES  2
Discusses the psychosocial characteristics of patient populations and therapists that
impact on the rehabilitative process. Time management, death and dying, sexuality, love
and hate and other topics are discussed
PREREQ: All previous MPT courses

PHYT 611  CLINICAL MANAGEMENT PRACTICES I  3
Discusses concepts of administration and issues in the management of hospital clinics,
private practice and consultative ventures
PREREQ: All first-year MPT courses
RESTRICTIONS: Open to MPT Program students only.

PHYT 612  CLINICAL MANAGEMENT PRACTICUM  3
Full- or part-time practicum in a management setting. Advances skills in management
PREREQ: All previous MPT courses

PHYT 613  ADVANCED ORTHOPEDICS  3
Discusses various schools of orthopedic intervention
PREREQ: All previous MPT courses
RESTRICTIONS: Open to MPT Program students only

PHYT 614  SPORTS PHYSICAL THERAPY  3
Analyzes the various competencies required in the practice of sports physical therapy.
Clinical skill acquired
PREREQ: All previous MPT courses
RESTRICTIONS: Open to MPT Program students only

PHYT 615  ADVANCED NEUROREHABILITICS  3
Discusses an integration of the various neurodevelopmental approaches to the treatment
of the neurological patient
PREREQ: All previous MPT courses

PHYT 616  PEDIATRICS SEMINAR  3 PF
Discusses selected problems encountered by the pediatric population. Studies the evalua-
tion, treatment and research basis of these problems.
RESTRICTIONS: Open to MPT Program students only

PHYT 617  PATIENT MANAGEMENT II  3
Continuation of PHYT 602. Teaches the theory and skills necessary for the physical ther-
apy management of patients commonly seen in rehabilitation settings.
PREREQ: PHYT602
RESTRICTIONS: Open to MPT Program students only

PHYT 618  LIFE SPAN DEVELOPMENT  3
A study of human development and aging from birth through death. Emphasis on motor,
sensory and cognitive functions and dysfunction
PREREQ: All first-year MPT courses

PHYT 619  ADVANCED SEMINAR  2
Lectures pursue various topics in greater depth and develop advanced clinical skills.
Examples include burn and wound care, hand therapy, geriatrics and ob/gyn. Individual-
ized clinical experiences may be arranged
PREREQ: All previous MPT courses
RESTRICTIONS: Open to MPT Program students only

PHYT 620  EDUCATIONAL PROCESS IN COMMUNITY HEALTH  1
Focuses on the learning/teaching process for application to the teaching roles of the
health professional.
RESTRICTIONS: Open to MPT Program students only

PHYT 621  PRACTICE CLINIC  1 PF
Student participation in faculty practice clinic treating referrals for physical therapy.
All students participate in the clinic at least one semester.
RESTRICTIONS: Open to MPT Program students only

PHYT 622  CLINICAL GROSS ANATOMY  6
Emphasis on structural and functional aspects of regions of body under study by means
of human cadaver, lectures and demonstrations. Stresses clinical significance of anatom-
ic structure.
RESTRICTIONS: Open to first-year physical therapy graduate students only

PHYT 623  CLINICAL NEUROSCIENCES  4
A study of the structure and function of the human nervous system with major emphasis
on the cause-effect relationships between lesions and their symptoms. Emphasis on the
neural mechanisms controlling movement.
PREREQ: PHYT622.
PLSC 100 PLANTS AND HUMAN CULTURE 3

Historical survey of interrelationships between plants and diverse human cultures (Examines Asian, African, Mediterranean, North/South American peoples (ancient and modern) to provide a broad multicultural perspective and commentary on modern American values about plants and their environment.

PREREQ: PLSC 101 or BISC 207

PLSC 101 BOTANY I 4

Introduction to botany stressing fundamental concepts and processes in plants. Topics include cell structure and function, anatomy, genetics, reproduction, physiology, taxonomy, phylogeny and ecology.

PREREQ: PLSC 101

PLSC 105 INTRODUCTORY FORESTRY 3

Distribution, ecology, value, measurement and management of forest systems.

PREREQ: PLSC 101

PLSC 133 ORNAMENTAL HORTICULTURE 3

The use of ornamental plants. Emphasis on a basic knowledge of plant materials useful in maintaining an aesthetically and functionally pleasing environment in and around the home.

PREREQ: PLSC 101 or BISC 207

PLSC 151 INTRODUCTION TO CROP SCIENCE 3

Plant structure and plant processes with practical application to the production and management of commercial crops.

RESTRICTIONS: Credit not allowed if preceded by PLSC 401.

PLSC 154 TOPICS IN PRODUCTION AND MANAGEMENT OF ORNAMENTAL PLANTS 1-6

Topics combine theory and practice in the areas of turf and ornamental horticulture.

RESTRICTIONS: Not for major credit except as elective.

PLSC 201 BOTANY II 4

Sexual and vegetative characters of algae, bacteria, fungi, liverworts, mosses, ferns, horsetails, club mosses, quillworts, gymnosperms and angiosperms. Selected genera within these divisions considered in detail.

PREREQ: PLSC 101 or BISC 207

PLSC 204 INTRODUCTION TO SOIL SCIENCE 4

Fundamentals of soil including origin, composition and classification, physical, chemical and biological properties; significance of soil properties to use and management, and to soil-plant relationships.

PREREQ: CHEM 101

PLSC 211 HERBACEOUS LANDSCAPE PLANTS 3

Survey of herbaceous plants including annuals, perennials and bulbs, plant identification, culture, selection, design and maintenance in the landscape.

PREREQ: PLSC 133

PLSC 212 WOODY LANDSCAPE PLANTS 4

The study of woody plants for landscape use in the mid-Atlantic coastal region, including plant identification, selection and culture.

PREREQ: PLSC 133

PLSC 213 TURF ESTABLISHMENT AND MAINTENANCE 4

Factors affecting the establishment and maintenance of fine and utility turf; emphasis on management of golf courses, athletic fields and sod farms.

PREREQ: PLSC 133

PLSC 270 BIOTECH: SCIENCE AND SOCIOECONOMIC ISSUES 3

See ANSC 270 for course description.

PLSC 300 PRINCIPLES OF ANIMAL AND PLANT GENETICS 3

Introduction to the theory and application of genetics as related to the improvement of plants and animals. May be cross-listed with ANSC 300 and/or ENT 300.

PREREQ: PLSC 101, or ANSC 101 and ANSC 140.

PLSC 302 VEGETABLE SCIENCE 3

Basic factors affecting productivity and marketability of vegetable crops.

PREREQ: PLSC 201 or BISC 207

PLSC 303 INTRODUCTORY PLANT PATHOLOGY 4

Introduction to the nature, causes, development, effects and control of plant disease. Laboratory involves microscope use for examining plant disease specimens and fungal structures; and experience in isolation and culture of pathogenic fungi.

PREREQ: PLSC 201 or BISC 207

PLSC 305 ENVIRONMENTAL SOIL MANAGEMENT 4

Practical application of the basic principles of soil chemistry, physics and microbiology to modern land use programs. Covers basic principles of nutrient management (availability and cycling in soils, roles in plant nutrition), soil acidity and liming, soil testing, environmental fate of non-essential elements and organic chemicals, and role of risk assessment in soil management.

PREREQ: CHEM 102 and PLSC 204

PLSC 310 ANIMAL AND PLANT GENETICS LABORATORY 1

Laboratory exercises concerning genetic concepts, methods and applications using various animal and plant systems. May be cross-listed with ANSC 310 and/or ENT 310.

COREQ: PLSC 300

PLSC 331 LANDSCAPE CONSTRUCTION I 4

Introduction to principles involved in contour grading, site drainage, design of landscape features and methods of construction related to landscaping.

PREREQ: PLSC 212

PLSC 332 BASIC LANDSCAPE DESIGN I 4

Application of design principles to actual field problems, drafting and presenting techniques.

PREREQ: PLSC 212

PLSC 364 ORNAMENTAL HORTICULTURE INTERNSHIP 1-6

Supervised, faculty-monitored, career-related experience in one or more aspects of the ornamental horticulture industry.

PREREQ: PLSC 133

PLSC 366 INDEPENDENT STUDY 1-6

PLSC 401 AGRONOMIC CROP SCIENCE 3

Production and management of the major grain and forage crops, with emphasis on diagnosis of production problems and decision making.

PREREQ: PLSC 151

PLSC 402 PLANT TAXONOMY 3

Identification, classification and nomenclature of vascular plants, including sight recognition as well as use of alternative-statement keys. Emphasis on economic plant families of eastern U.S.

PREREQ: PLSC 201

PLSC 403 NURSERY AND GARDEN CENTER MANAGEMENT 3

Production, maintenance and marketing of plants relative to the establishment and management of a nursery or garden center.

PREREQ: PLSC 101 or PLSC 151

PLSC 410 INTRODUCTION TO PLANT PHYSIOLOGY 3

The physiology of green plants: light and energy conversion, carbon fixation, nitrogen metabolism, amino acid synthesis, protein synthesis mechanics and regulation, water and solute utilization, nutrient translocation, photosynthetic processes and photoperiodism, and growth hormones, considered at the fundamental level of operation.

PREREQ: PLSC 201 or BISC 208, and CHEM 213

PLSC 411 DIAGNOSTIC PLANT PATHOLOGY 3

Consideration of major pathogenic causes of economic losses of plants. Emphasis on principles of etiology, epiphytology, symptoms and control.

PREREQ: PLSC 303

PLSC 413 PRINCIPLES OF PLANT DISEASE CONTROL 3

Principles of plant disease control by exclusion, eradication and resistance. Plant protection with emphasis on fungicides, bactericides, and nemacides and their use.

PREREQ: PLSC 303

PLSC 414 PLANT CELL AND TISSUE CULTURE 4

Principles of culturing plants in vitro. Topics for both lecture and laboratory include cell suspensions, another culture, embryo rescue, micropropagation and regeneration via organogenesis and embryogenesis.

PREREQ: PLSC 101

PLSC 417 GREENHOUSE MANAGEMENT 4

Greenhouse structures, environmental control, cultural techniques and general management practices in greenhouse operations. Laboratory exercises supplement lecture material.

PREREQ: PLSC 201 and PLSC 204

PLSC 420 PLANT PHYSIOLOGY LABORATORY 2

The extraction from higher plants of enzymes and other macromolecules, and assay by biochemical and physical-chemical means of a dissection of a specific region of the human body.

Practical and physiological aspects of the propagation of economic plants including both sexual and asexual methods.

PREREQ: PLSC 201
PREREQ: PlSC 303

Exclusion, eradication, resistance and protection with emphasis on fungicides, bactericides and nematocides and their use

PREREQ: PlSC 303

Consideration of major pathogenic causes of economic losses of plants. Emphasis on principles of etiology, epiphytology, symptoms and control.

PREREQ: PlSC 303

Exclusion, eradication, resistance and protection with emphasis on fungicides, bactericides and nematocides and their use.

PREREQ: PlSC 303

The epidemiology, detection, identification and control of plant viruses and virus-like agents.

PREREQ: PlSC 303

Characterization of microorganisms and microbial habitats in soil environments. Processes and interactions involving soil microorganisms with respect to agricultural productivity and environmental quality. Introduction to laboratory techniques for the observation, enumeration and isolation of soil microorganisms, and measurement of associated activities.

PREREQ: PlSC 303

The extraction from higher plants of enzymes and other macromolecules, and assay by chemical tests. Pigment extraction, organelle separation, ion uptake, protein manipulation using centrifuge, spectrophotometer, chromatography and electrophoresis.

See ENT 0440 for course description

PLSC 619 Soil Microbiology

PREREQ: PlSC 303

PLSC 620 Plant Physiology Laboratory

RESTRICTIONS: Includes at least two mandatory Saturday field trips.

PLSC 620 Plant Physiology Laboratory

PLSC 629 Introductory Mycology

Survey of the structure, classification and possible relationship of major groups of fungi with emphasis on representative organisms and a working knowledge of terminology. Practical laboratory experience in the culture and identification of fungi.

RESTRICTIONS: Requires permission of instructor

PLSC 640 Integrated Pest and Disease Management

PLSC 640 Integrated Pest and Disease Management

PLSC 646 Independent Study

PLSC 646 Independent Study

PLSC 660 Pesticides in the Environment

PLSC 660 Pesticides in the Environment

PORT 106 Brazilian Portuguese II - Elementary

Introduction to Brazilian Portuguese language and development of speaking, listening, reading and writing skills through the use of basic texts. Language laboratory as needed.

RESTRICTIONS: Four years of high school Brazilian Portuguese acceptable in lieu of prerequisite.

PORT 107 Brazilian Portuguese III - Intermediate

Review of grammar, continued practice in speaking and writing, and reading texts of average difficulty.

RESTRICTIONS: Four years of high school Brazilian Portuguese acceptable in lieu of prerequisite. Course satisfies the Arts and Science foreign language requirement.

PORT 108 Introduction to Political Science: Issues

Selected problems of politics drawn from comparative and international politics, American government and political theory.

RESTRICTIONS: Cannot be substituted for POSC 105

PORT 220 Introduction to Public Policy

Emphasis on what government does, with a focus on substantive policy areas as well as the mechanisms of policy making. Case studies of policy areas (e.g., health policy, environmental policy, social welfare policy, etc.) used to illustrate processes of agenda setting, decision making and policy implementation.

POS240 Introduction to International Relations

The development of international systems, their structure and political economic dynamics. Fundamental analytical concepts and approaches.

UNIVERSITY OF DELAWARE 1996-97 CATALOG / PAGE 303
POSC 260 HUMANITIES COLLOQUIUM 3
See ASRC260 for course description.

POSC 270 COMPARATIVE POLITICS 3
Introduction to comparison of politics "within nations." Covers Europe, Africa, Asia and Latin America.

POSC 285 CURRENTS IN POLITICAL THEORY 3
Basic introduction to political philosophy, organized not around particular historical periods or specific philosophers, but around some of the most important, enduring questions of political theory: What is the nature of the state? What are the obligations and responsibilities of citizens?

POSC 301 STATE AND LOCAL GOVERNMENT 3
American federalism with emphasis on government and politics, with special attention to Delaware.

POSC 302 RESEARCH METHODS 3
Design, measurement of political phenomena, collection and analysis of data and use of computer in political research.

POSC 303 THE ADMINISTRATIVE PROCESS 3
Public administration treated as process of organization, methods of management and decision making common to all levels of bureaucracy.

POSC 306 ECONOMIC THEORY OF POLITICS 3
See ECON306 for course description.

POSC 310 EUROPEAN GOVERNMENTS 3
Structure and process of British, French, West German and Russian governments.

POSC 311 POLITICS OF DEVELOPING NATIONS 3
Forces determining public policy among the emerging nations. Cross-national comparative analysis.

POSC 312 EAST ASIAN POLITICAL SYSTEMS 3
An introductory survey to study the structure and process of political power in major countries in Asia. Special emphasis on China and Japan.

POSC 313 AMERICAN FOREIGN POLICY 3
The theory, policies and administration of U.S. foreign policy.

POSC 314 MAKING UNITED STATES FOREIGN POLICY 3
Discusses the roles of the executive, foreign, defense and intelligence establishments in making American foreign policy. Also treats the impact of public opinion, interest groups and Congress.

POSC 320 PARTIES AND INTEREST GROUPS 3
Organization and behavior of political parties and interest groups, including structure, leadership, recruitment and decision making.

POSC 321 MINORITY GROUP POLITICS 3
Examines the history, strategic positions and political tactics of Blacks, Chicanos (Hispanic Americans), Native Americans and women in the American political system. Where appropriate, the politics of ethnic and racial minorities will be compared/contrasted to the politics of women.

POSC 322 BLACK POLITICS 3
Provides insight and understanding about the Black experience in the American political system. Basic questions addressed are: Is Black politics unique and, therefore, different from American politics? What are the goals and aspirations of Black America and are they universally shared? May be cross-listed with BAMS322.

POSC 323 INTRODUCTION TO WOMEN AND POLITICS 3
Political/legal status of American women since the Revolution, and their participation in the political process. Women's present political/legal status, as illustrated through current issues such as reproductive rights, pay equity and the feminization of poverty. May be cross-listed with WOMS323.

POSC 324 POLITICAL BEHAVIOR 3
Public opinion, voting and elections, the mass media, ideology, political socialization and violence. The relationship between public opinion and public policy.

POSC 333 COMMUNISM, FASCISM AND DEMOCRACY 3
Ideology and environmental backgrounds. Understanding of the operating nature and causes of these aspects of contemporary Western political life.

POSC 334 LIBERALISM AND CONSERVATISM 3
Introduces capitalism, socialism, liberalism, conservatism and democratic forms of Marxism. Accents problems of economic growth, equality, freedom and self-realization, bureaucracy, representation, justice, brotherhood, the profit motive, social cohesion, nationalism and the international order.

POSC 339 BRITAIN AND EUROPE 3
Examines Britain's role in an integrated Europe, with focus on contemporary problems and prospects of closer British ties to the European Union and related bodies.

POSC 340 POLITICS AND THE MEDIA 3
Political roles of the media in socialization, political competence, agenda setting, the electoral process and political crises. Emphasis on media-political system interaction and its import for a democratic society.

POSC 341 ENVIRONMENT OF MULTINATIONAL CORPORATIONS 3
See BUAD341 for course description.

POSC 343 SOCIETY, POLITICS AND HEALTH CARE 3
Interdisciplinary study of the political, social, economic and humanitarian issues of health care and health policy. Students will develop the capacity to understand the political process and its relationship to the health care delivery system. May be cross-listed with CSNC343 and/or SOCI343.

POSC 350 POLITICS AND THE ENVIRONMENT 3
The political context of environmental issues; air and water pollution, population control, and conservation.

POSC 355 URBAN POLITICS 3
Decision-making processes and the exercise of political power in urban communities.

POSC 360 HUMANITIES COLLOQUIUM 3
See ASRC360 for course description.

POSC 365 MODEL UNITED NATIONS 3
Intensive preparation for effective participation in the National Model United Nations held in New York City each April. RESTRICTIONS: May be repeated once for credit. Open only to selected delegates to the National Model United Nations.

POSC 372 EAST CENTRAL EUROPEAN POLITICS 3
Survey of East Central European political systems (Poland, Hungary, Czechia and Slovakia) and former Yugoslav states (Bulgaria and Albania) after World War II. The so-called new federal states in Germany (ex-DDR) will be emphasized.

POSC 377 ARAB-ISRAELI POLITICS 3
Development of the Arab-Israeli conflict analyzed from the Drayfus Affair and the Balfour Declaration to current events.

POSC 380 INTRODUCTION TO LAW 3
Broad overview of the nature, functions and limits of law. Emphasis on law as the political instrument used to regulate, control and promote behavior and deals with social problems.

POSC 387 AMERICAN POLITICAL THOUGHT 3
Overview of American political thought. Focuses on critical formative periods in American politics, such as the Founding, Civil War and Industrial Revolution, with readings selected from the writings and speeches of key American statesmen.

POSC 390 HONORS COLLOQUIUM 3
See ASRC390 for description.

POSC 400 PRACTICUM IN TEACHING POLITICAL SCIENCE 3 PF
Available to outstanding senior political science majors interested in obtaining teaching experience at the college level. Provides opportunity to lead discussion sections of students in lower division courses. RESTRICTIONS: Requires permission of instructor.

POSC 402 CIVIL LIBERTIES I 3
Individual constitutional rights of expression, religion, "fundamental rights" such as privacy and travel) and equal protection as developed by the U.S. Supreme Court. Role of the Supreme Court in American government.

POSC 404 THE JUDICIAL PROCESS 3
Structure, process and personnel of American courts; factors influencing decisions and judicial policy making.

POSC 405 CONSTITUTIONAL LAW OF THE UNITED STATES 3
Constitutional principles regulating organization and function of federal government United States Supreme Court decisions placed in a socio-political context.

POSC 406 CIVIL LIBERTIES II 3
Constitutional rights of the accused in the U.S. judicial system, especially as developed through Supreme Court cases.

POSC 407 AMERICAN PRESIDENCY 3
Modern American presidency with emphasis on presidential recruitment, organization and staffing. The nature and exercise of presidential power in the decision-making process.

POSC 408 INTERNATIONAL ORGANIZATION 3
Analysis of the organization of the international system, its structure, operating principles, formal and informal components.

POSC 409 CONTEMPORARY PROBLEMS OF WORLD POLITICS 3
Critical areas of international politics. Topics vary by instructor.
POLITICAL SCIENCE

POSC 411 Politics and Poverty 3
Relationship of policy making and social conditions in the United States with regard to
capacity of government to cope with problems arising from overpopulation and socio-
economic differences

POSC 412 Foreign Policy of the Post-Soviet Union 3
Principles, foreign policies and administration of the former Soviet government and its
most important successor states

POSC 413 Problems in American Government 3
Contemporary problems in American government and politics. May be cross-listed with
WOMS 413

POSC 414 Problems in American Foreign Policy 3
Contemporary problems in American foreign policy and policy making

POSC 415 Force and World Politics 3
Interrelationship of military and foreign policy; military strategies, arms control and disarm-
ament; and the American experience

POSC 416 Transnational Relations and World Politics 3
Transnational political and economic phenomena; emphasis on political behavior of
multinational corporations, international financial system; implications for world order.

POSC 420 Introduction to Political Economy 3
Recent political and economic history, contemporary economic policy disputes and an
analysis of how the Democratic-Republican balance of power affects, and is affected by,
changing economic conditions and the results of policies put into effect

POSC 423 Congress and Public Policy 3
Democratic functions of a modern legislature; legislative structures and processes; coalit-
ions and cleavages; parties, ideological factions and interest groups; the Federal bud-
get, national priorities and Congressional intervention in the economy; central policy
issues before Congress; Congressional oversight of the bureaucracy; Congress and the
Presidency; and election of the Congress

POSC 424 Energy Policy and Administration 3
World and US energy policies with emphasis on nuclear power, solar energy and fos-
sil fuels. Analyzes progress and design of US science and technology policy in energy domain

POSC 426 Latin American Political Systems 3
Impact of social and economic change on the political process

POSC 427 Politics in China 3
An in-depth study of who governs China and the relations among the major forces: the
party, the military and the bureaucracy

POSC 429 Politics in Japan 3
An in-depth study of who governs Japan and how these relations have evolved since the
end of World War II

POSC 431 Latin American Politics: Countries 3
Contemporary political events in three Latin American nations. Comparisons of the
actions and influence of the military, church, bureaucracies, political parties and guerril-
la groups in three different Latin American settings: modern, transitional and traditional

POSC 432 Political System of the Post-Soviet Union 3
Structure and process of the political system of the USSR and its most important successor
states (Russia, Ukraine, Byelarus, Kazakstan and others)

POSC 433 African Politics 3
Overview of politics and society in sub-saharan Africa including: colonialism, the rise of
nationalism, decolonization, single-party and military rule, the role of social movements
and religious, class, gender and ethnic identities and the move toward economic and
political liberalization

POSC 434 Political Thought I 3
From Plato to Machiavelli

POSC 435 Political Thought II 3
From Machiavelli to present

POSC 436 Politics and Literature 3
Class, civil rights, feminism, revolution and other political issues examined through nov-
els, film and other literary works. May be cross-listed with WOMS 436

POSC 437 Who Governs: Perspectives on Political Power 3
Rises the question "Who Governs" and attempts to answer it by critically examining
various schools of thought about who actually has and who should have political power
in capitali countries

POSC 439 Problems in African Politics 3
Examination of selected topics in contemporary African politics. Will focus in-depth on
aspects of politics and society in a specific region of Africa or will investigate in greater
detail issues confronting Africa today such as economic structural adjustment, democratiz-
and state-society relations. May be cross-listed with BAMS 439

POSC 441 Problems of Western European Politics by Country 3
Intensive examination of European politics from the perspective of a specific country, e.g.,
Spain, England and France

RESTRICTIONS: Offered only in conjunction with travel abroad programs

POSC 442 Problems of Western European Politics 3
Examination of current political trends in Western European politics, including changes
in party systems and problems of European integration

POSC 443 China and the World 3
An objective examination of China's relations with the major countries in the world. Spe-
cial attention paid to China's policy towards the superpowers and its role in the "Third
World."

POSC 444 Seminar in World Politics 3
Survey of current world problems including seminar sessions with visiting scholars. Con-
tent varies from year to year

POSC 445 Human Rights and World Politics 3
Alternative theories of human rights examined in cross-cultural and international contexts
International documents, contemporary cases (e.g., South Africa) and US foreign poli-
cies also examined and evaluated

POSC 446 International Human Rights on Film 3
A study of the history, evolution and current status of universal human rights using film as
a primary medium. Content covers origins of the international human rights movement
during and after WWII. A series of feature films and documentaries also highlights
recent and current human rights violations in foreign nations

POSC 448 Theories of International Relations 3
Surveys the theoretical debates regarding how we can conceive of and understand
world politics, as well as how we can evaluate contending perspectives. Considers such
schools of thought as ancient, idealist, realist, behaviorist, interdependency, radical,
neo-realist and post-structuralist perspectives

POSC 450 Problems of Latin American Politics 3
Current political issues in selected Latin American countries

POSC 452 Problems in Urban Politics 3
Contemporary problems and political relationships in urban communities

POSC 453 Public Personnel Administration 3
Public personnel systems, including political appointees, the general civil service, pro-
fessional career systems and the collective bargaining system. Emphasis on recruit-
ment, promotion, evaluation, management, patronage, affirmative action and
collective bargaining

POSC 454 Public Administrative and Organizational Theory 3
Major administrative and organizational theories as applied to public organizations.
Special attention to classical, political and pragmatic theories. Topics include administra-
tive change and decision making

POSC 455 Public Budgeting and Financial Management 3
Examines the role of budgeting in government policy formation, resource allocation,
communication and control. Reviews the relative strength of various public budget sys-
tems. Topics also include a survey of techniques employed in the management of govern-
ment financial operations

POSC 456 Disaster and Politics 3
U.S. emergency management and disaster policy examined through books, articles and
video tapes dealing with governmental preparedness for and, response to, natural and
human-caused disasters and emergency incidents

POSC 457 Community Service Seminar 3
Preparation for students to engage in community service fieldwork experiences. Includes
consideration of issues associated with public and private service delivery organizations
as well as needs of the communities served

POSC 458 Community Service Fieldwork 3
Allows students to earn academic credit for fieldwork experiences in public or private
community service agencies. Students will share and analyze experiences in a seminar
setting with academic requirements

POSC 463 International Institutions 3
A consideration of the growth, development and functions of various major international
organizations. Provides preparation for effective participation in Model United Nations
or similar international organization simulations which may run in conjunction with
course

RESTRICTIONS: Model UN Program may be repeated once for credit

POSC 464 Fieldwork in Political Science 1-6
Internship or fieldwork program under the direction of a faculty member, including
preparation of a substantial bibliography and/or major research paper

PREREQ: POSC 105

RESTRICTIONS: Requires permission of instructor

UNIVERSITY OF DELAWARE 1996-97 CATALOG / PAGE 305
POSC 465 Model OAS 3
Theoretical and practical preparation for participation in the Model Organization of American States conference held in Washington, D.C. each year. Participation as delegate to the week-long simulation may be cross-listed with EDST 465.

POSC 466 Independent Study 1-6

POSC 468 Undergraduate Research 1-6
Research conducted under the direction of an or in conjunction with a faculty member. May result in a major research paper or be incorporated into a faculty project.

POSC 470 Senior Honors Seminar 3

POSC 477 Politics of the Arab World 3
Arab politics surveyed from Morocco to Iraq.

POSC 604 International Law 3
See MAST 673 for course description.

POSC 612 Foreign Policy of the Post-Soviet Union 3
Principles, foreign policies and administration of the former Soviet government and its most important successor states.

POSC 615 Force and World Politics 3
Interrelationship of military and foreign policy; military strategies, arms control and disarmament; and the American experience.

POSC 616 Transnational Relations and World Politics 3
Transnational political and economic phenomena; emphasis on political behavior of multinational corporations, international financial system; and implications for world order.

POSC 624 Energy Policy and Administration 3
World and U.S. energy policies with emphasis on nuclear power, solar energy and fossil fuels. Analyzes progress and design of U.S. science and technology policy in energy domain. May be cross-listed with MAST 620 and/or URAF 625.

POSC 626 Conservation, Efficiency and Renewable Energy Policy 3
See URAF 626 for course description.

POSC 627 Latin American Political Systems 3
Impact of social and economic change on the political processes.

POSC 628 Comparative Environmental Politics 3
See URAF 627 for course description.

POSC 632 Political System of the Post-Soviet Union 3
Structure and process of the political system of the USSR and its most important successor states (Russia, Ukraine, Belarus, Kazakhstan and others).

POSC 633 African Political Systems 3
Structure, process and policies of the governments of Africa, south and north of the Sahara.

POSC 634 Political Thought I 3
An in-depth study of major political philosophers of the Western tradition from Plato to Machiavelli.

POSC 635 Political Thought II 3
An in-depth study of major political philosophers of the Western tradition from Machiavelli to the present.

POSC 640 International Development Policy and Administration 3
Poverty and inequality in developing countries and the economic development policies employed to alleviate them. Emphasis on policy reform, trade strategies, sustainable development and the role of the state. The approaches used by the World Bank, the IMF and USAID. May be cross-listed with URAF 640.

POSC 642 Problems of Western European Politics 3
Examination of current political trends in Western European politics, including changes in party systems and problems of European integration.

POSC 645 Foreign Policy of Communist China 3
Theory, policies and administration of Communist Chinese foreign policy.

POSC 650 Problems of Latin American Politics 3
Current political issues in selected Latin American countries.

POSC 651 Communist Political Thought 3
Major theoretical ideas of Marxism-Leninism Marx, Engels, Lenin, Stalin, Mao Tse-Tung and Castro examined for their contributions to Communist thought.

POSC 652 Topics in Political Theory 3
Focuses on selected topics in political theory, including Marxism, Liberalism and Contemporary Political Theory.

POSC 659 Topics in Public Administration 3
See URAF 659 for course description.

POSC 677 Politics of the Arab World 3
Arab politics surveyed from Morocco to Iraq.

POSC 678 Admiralty and Maritime Law 3
See MAST 678 for course description.

POSC 679 Shipping and Port Management 3
See MAST 679 for course description.

POSC 680 Metropolitan Infrastructure and Transportation 3
See URAF 680 for course description.

POSC 688 Topics in State and Local Management 3
See URAF 688 for course description.

PSYCHOLOGY

PSYC 201 General Psychology 3
A foundation course in the application of the scientific method to problems of human behavior and experience.

PSYC 202 Language and Human Development 3
See EDST 202 for course description.

PSYC 270 Families and Development Disabilities 3
See IFST 270 for course description.

PSYC 301 Personality 3
A survey of data and theories of human personality and affect. PREREQ: PSYC 301.

PSYC 303 Introduction to Social Psychology 3
Analysis of interpersonal behavior with special emphasis on problems of conformity and influence; the organization and dynamics of social groups; and the development of opinions and attitudes. PREREQ: PSYC 301.

PSYC 304 Educational Psychology - Social Aspects 3
See EDST 304 for course description.

PSYC 305 Educational Psychology - Cognitive Aspects 3
See EDST 305 for course description.

PSYC 306 Computer Applications in Psychology 3
Introduction to computer programming, statistic packages, spreadsheet and data base systems and computer graphics.
PREREQ: PSYC 309.
RESTRICTIONS: Open to PSYC majors and minors only.

PSYC 309 Measurement and Statistics 3
Theory and the application of statistical techniques to psychology data. PREREQ: One course in basic college mathematics and PSYC 201.

PSYC 310 Sensation and Perception 3
Theories and experimental study of sensation and perception. PREREQ: PSYC 309.

PSYC 312 Learning and Motivation 3
Experimental study of contemporary theories of learning and motivation. PREREQ: PSYC 301 and PSYC 309.

PSYC 314 Brain and Behavior 3
Study of the brain mechanisms underlying hunger, sex, aggression, learning, memory, perception, sleep and waking. May be cross-listed with CGSC 314.
PREREQ: PSYC 201.
PSYC 317 Sexual Behavior and Motive 3
An objective view of sex from physiological, psychological, sociological, and anthropological studies. Readings include Masters and Johnson, Freud, Kinsey, Reiss, and Ford and Beach. Practical sexual information, e.g., contraception, also discussed, sometimes by outside experts.
PREREQ: PSYC201 and PSYC309.

PSYC 322 Psychology of Adjustment 3
Problems of human adjustment with emphasis on causation and prevention of common maladjustments.
PREREQ: PSYC201.

PSYC 334 Industrial Psychology 3
Psychological factors in selection, training, fatigue, morale, attitudes, accidents, and other aspects of worker efficiency.
PREREQ: PSYC201 and PSYC309.

PSYC 325 Child Psychology 3
Survey of the interactions of physiological, psychological, and environmental factors determining psychological development. Consideration of major theories of child development.
PREREQ: PSYC201.

PSYC 333 Psychology of Women 3
Psychological analysis of the meaning and implications of being a woman; and cause and consequences of the female experience. Biological sex vs psychological sex-role identity, stereotyping, discrimination, self-concept, and the feminist perspective. May be cross-listed with WOM333.
PREREQ: PSYC201 or any 300-level psychology course.

PSYC 334 Abnormal Psychology 3
Disorders of behavior and consciousness including the various psychoses, psychoneuroses, mental deficiencies, and other conditions.
PREREQ: PSYC201.

PSYC 340 Cognition 3
Survey of major themes in human thought processes, concept formation, problem solving, creativity, language use and cognitive development. May be cross-listed with CGSC411.
PREREQ: PSYC201 and PSYC309.

PSYC 344 The Jury: Guilty or Not Guilty 3
Observations of actual criminal and civil trials, mock jury deliberations of trials observed, and lectures on jury research, films, meetings with judges, prosecutors and defense attorneys.
PREREQ: PSYC201.
COREQ: CRJU344.
RESTRICTIONS: Requires permission of instructor.

PSYC 350 Developmental Psychology 3
An analysis of theory and research in developmental psychology including the topics of developmental processes, developmental risk, systems theory and contemporary social issues.
PREREQ: PSYC201 and PSYC309.
RESTRICTIONS: If both PSYC225 and PSYC350 are taken, only PSYC225 will count for Major credit. Psychology majors and minors only.

PSYC 365 Psychology Field Placement 3
Student contracts with any psychology instructor. Requirements include a minimum of four hours per week working in an agency, institution or business, reading assignments and writing a term paper. Placement will be made with assistance from Career Planning and Placement. Inquiries should be made several months in advance.
PREREQ: PSYC201 and PSYC309.

PSYC 366 Independent Study 1-6
An analysis of contemporary issues and research in personality including the assessment of personality traits, the personality situation interaction and the social and biological bases of individual differences.
PREREQ: PSYC201 and PSYC309.
RESTRICTIONS: If both PSYC301 and PSYC370 are taken, only PSYC301 will count for Major credit. Open to Psychology majors and minors only.

PSYC 380 Psychopathology 3
Exploration of research on diagnosis, etiology and treatment of major pathological disorders. Emphasis on original research articles, class discussion, assessment instruments in addition to analysis of video taped interviews with patients used to illustrate the disorders.
PREREQ: PSYC201 and PSYC309; and either PSYC301, PSYC303, or PSYC325.
RESTRICTIONS: If both PSYC334 and PSYC380 are taken, only PSYC334 will count for major credit. Open to Psychology majors and minors only.

PSYC 390 Social Psychology 3
An analysis of theory and research in social psychology including the topics of social cognition, attitudes, interpersonal, group and intergroup relations. Student-designed research projects including data analysis.
PREREQ: PSYC201 and PSYC309.
RESTRICTIONS: If both PSYC303 and PSYC390 are taken, only PSYC303 will count for major credit. Open to Psychology majors and minors only.

PSYC 403 Psychology of Nonverbal Behavior 3
A seminar on the social psychological implications of the research literature on nonverbal behavior in social interaction. Focuses on interpersonal attraction, leadership, impression formation, causal attribution, deception, social attitudes and cross-cultural factors, with practical applications.
PREREQ: PSYC309 and PSYC303 or PSYC390.

PSYC 405 Advanced Social Psychology 3
Contemporary theories of interpersonal behavior, dynamics of social groups and experimental methods for the study of social (communication and interaction) processes.
PREREQ: PSYC309, and PSYC390 or PSYC303.

PSYC 406 Reduction of Intergroup Conflict 3
The reduction of intergroup conflict in business, educational and experimental laboratory settings, with special attention given to organizational mergers, investigation of strategies for reducing intergroup conflict.
PREREQ: PSYC309; and PSYC303 or PSYC390.

PSYC 410 Biological Bases of Motivation and Emotion 3
An evolutionary approach towards three major modern theories of motivation-ethologists' instinct theory, Freud's psychoanalytic theory, and psychologists' drive theory. Covers current work on circadian rhythms, obesity and anorexia, sleep, fever, phobias, learned helplessness, voodoo death, fear, love and aggression.
PREREQ: PSYC309 and PSYC314.

PSYC 411 Brain and Computer 3
The computing machinery of the brain: a hands-on introduction to neural models and networks. May be cross-listed with CGSC411.
PREREQ: PSYC310 or PSYC312 or PSYC314 or PSYC340.

PSYC 412 Human Psychophysiology 3
Introduction to psychophysiological recording techniques. Elementary anatomy and physiology of the human nervous system. Application of psychophysiological techniques to the investigation of psychopathology, information processing, and social psychology. Laboratory demonstration of polygraphic measurement of autonomic and CNS variables with small computer analysis.
PREREQ: PSYC309 and PSYC314.

PSYC 414 Drugs and the Brain 3
Topics covered include drug treatment of mental illness, and drug abuse/addiction.
PREREQ: PSYC309; PSYC314.
RESTRICTIONS: PSYC309 or PSYC334 recommended in addition to Prerequisites.

PSYC 415 History and Systems of Psychology 3
Psychology from the early Greeks through the more important "schools" of the 20th century. Two of the following: PSYC310, PSYC312, PSYC314 or PSYC340 as well as one of: PSYC350, PSYC370, PSYC380 or PSYC390.

PSYC 416 Psychological Perspectives on the Black American 3
The experience of Black Americans as viewed from a psychological perspective. Psychological theory and research pertaining to Black Americans; reactions to oppression, collective behavior, personality development, and life styles. May be cross-listed with BAMS432.
PREREQ: PSYC309; and PSYC390 or PSYC303.

PSYC 417 Animal Behavior 3
Seminar on naturalistic and experimental investigations of species-specific behavior.
PREREQ: PSYC309.

PSYC 418 Human Emotions 3
Emotions, cognition and behavior. Role of emotions in personality and social relationships. Includes laboratory/tutorial session with analysis and presentation of scenes from dramatic literature to illustrate integration of emotion, cognition and action.
PREREQ: PSYC309; and PSYC301 or PSYC370 or PSYC325 or PSYC350.

PSYC 419 Psychology of Humor 3
Systematic survey of psychological theories of humor and the empirical basis for them. Undertakes the analysis of cognitive, motivational and social developmental bases of smiling and laughter.
PREREQ: PSYC201, PSYC303 or PSYC325 or PSYC301; and PSYC309.

PSYC 424 Applied Social Psychology 3
The application of basic principles of interpersonal behavior to everyday life. Topics covered include persuasion, reciprocation, employee motivation, organizational development, liking and authority.
PREREQ: PSYC309, and PSYC303 or PSYC390.
PSYCHOLOGY

PSYC 425  FAMILY CONFLICT AND THE CHILD  3
Analysis of specific topic areas in child psychology, such as infancy and cognitive and social development. Topics may vary from year to year.
PREREQ: PSYC325 or PSYC350

PSYC 441  COMPUTERS AND COGNITION  3
Introduction to computer models of cognitive processes. Computer models gave rise to the interdisciplinary area of cognitive science. Course covers basic types of models that have been used and a discussion of their psychological plausibility. May be cross-listed with CGSC641.
PREREQ: PSYC340.

PSYC 444  THE PSYCHOLOGY OF AESTHETICS  3
Psychological and psychobiological theories and empirical investigations of aesthetic experience.
PREREQ: PSYC309, PSYC310, or PSYC314.

PSYC 445  TOPICS IN ADOLESCENT PSYCHOLOGY  3
Analysis of the physiological, psychological, and social factors influencing psychological development from late childhood through adolescence.
PREREQ: PSYC309, and PSYC325 or PSYC350.

PSYC 452  LANGUAGE AND THOUGHT  3
A survey of research dealing with the nature of linguistic and cognitive structures, their development and their interaction.
PREREQ: PSYC340.

PSYC 460  ASSESSMENT OF YOUNG CHILDREN  3
See PSYC452 for course description.

PSYC 462  LANGUAGE ACQUISITION  4
See EDST462 for course description.

PSYC 466  INDEPENDENT STUDY  1-6

PSYC 481  CLINICAL PSYCHOLOGY  3
Introduction to clinical theories, research and practices. Diagnosis, classification and treatment of behavior disorders.
PREREQ: PSYC309, and PSYC334 or PSYC380.
RESTRICTIONS: Psychology majors only.

PSYC 490  SOCIAL INTERDEPENDENCE  3
Presents theoretical and empirical approaches of social psychology to the study of conflict versus cooperation between mutually dependent people. Cooperation/conflict is analyzed in terms of the effects of environmental influence, the reward structure of the relationship, and the interpersonal values of participants.
PREREQ: PSYC309.
RESTRICTIONS: Junior and Senior Psychology Majors.

PSYC 491  PSYCHOLOGY OF TEMPORAL ORIENTATION  3
The psychology of temporality is the scientific study of how temporal frames of reference regarding the past, present and future affect a variety of basic human processes. The purpose of this course is to learn more about these concepts and in the process, learn something about human behavior.
PREREQ: PSYC309 and PSYC305 or PSYC390 or PSYC301.
RESTRICTIONS: Psychology majors only.

PSYC 605  ADVANCED SOCIAL PSYCHOLOGY  3
Contemporary theories of interpersonal behavior, dynamics of social groups and experimental methods for the study of social interaction processes.
PREREQ: PSYC303 and PSYC309.

PSYC 606  ANIMAL BEHAVIOR  3
Seminars on naturalistic and experimental investigations of species-typical behavior.

PSYC 608  ADVANCED LEARNING AND MOTIVATION  3
Experimental origins of the principles of learning with emphasis on the role of motivation in the learning process.
PREREQ: PSYC310 and PSYC312.

PSYC 612  HUMAN PSYCHOPHYSIOLOGY  3
Introduction to psychophysiological recording techniques. Elementary anatomy and physiology of the human nervous system. Application of psychophysiological techniques to the investigation of psychopathology. Information processing and social psychology laboratory demonstration of polygraphic measurement of autonomic and CNS variables with small computer analysis.
PREREQ: PSYC309.
RESTRICTIONS: Requires permission of instructor.

PSYC 615  HISTORY OF COGNITIVE PSYCHOLOGY  3
Review of major concepts in psychology and its philosophical roots that have determined the current theories and models of cognition. May be cross-listed with CGSC615.

PSYC 616  COMPUTER MODELS OF COGNITION  3
Survey of computer models for perception, language and problem-solving. Covers representation schemes and control structures used in artificial intelligence models. Emphasis placed on their psychological relevance. May be cross-listed with CGSC616.
RESTRICTIONS: Requires permission of instructor.

PSYC 624  INDUSTRIAL SOCIAL PSYCHOLOGY  3
Social psychology applied to problems of productivity, satisfaction, communication and organization.
PREREQ: PSYC303.

PSYC 626  NEUROSCIENCE I  4
See BISC626 for course description.

PSYC 627  NEUROSCIENCE II  3
See BISC627 for course description.

PSYC 640  TEXT COMPREHENSION  3
Survey of recent theoretical and experimental work being done in the area of text comprehension. Based on primary sources, addresses such topics as the effects of prior knowledge on processing, semantic priming, question answering and hypertext.
RESTRICTIONS: Requires permission of instructor.

PSYC 641  VISUAL COGNITION  3
Reviews current research findings on how biological systems process visual information. Topics include basic visual processes, object recognition, spatial attention, visual search, visual memory including imagery and reading. Considers models derived from cognitive psychology, machine vision and neuroscience. May be cross-listed with CGSC641.
RESTRICTIONS: Requires permission of instructor.

PSYC 642  MENTAL REPRESENTATION AND MEMORY  3
Human memory can be conceptualized in terms of representation and information storage within various interrelated mental systems. Critically evaluates research on human memory and representation within the context of major cognitive models. May be cross-listed with CGSC642.
RESTRICTIONS: Requires permission of instructor.

PSYC 650  COGNITIVE NEUROSCIENCE  3
Examines neuropsychological basis for a variety of cognitive processes such as object recognition, selective attention, visual imagery, memory and language. Topics include neural networks, effects of brain damage and neural imaging techniques, such as PET Scan and event-related brain potentials. May be cross-listed with CGSC650.
RESTRICTIONS: Requires permission of instructor.

PSYC 651  CONTROVERSIES IN COGNITIVE PSYCHOLOGY  3
Based on empirical research, students critically evaluate selected models of visual perception, attention and human memory. Opposing theoretical perspectives chosen to highlight the controversial areas of cognitive theory.
RESTRICTIONS: Requires permission of instructor.

PSYC 668  RESEARCH  1-6

PSYC 675  LANGUAGE ACQUISITION  4
See EDST675 for course description.

PSYC 681  CLINICAL PSYCHOLOGY  3
Introduction to clinical theories, research and practices. Diagnosis, classification and treatment of behavior disorders.
PREREQ: PSYC310 or PSYC312.

PSYC 692  SOCIAL SKILLS TRAINING FOR CHILDREN  3
See EDST692 for course description.

RUSSIAN

RUSS 105  RUSSIAN I - ELEMENTARY  4
Introduction to the Russian language and development of speaking, listening, reading and writing skills through the use of basic texts. Language laboratory as needed.

RUSS 106  RUSSIAN II - ELEMENTARY/INTERMEDIATE  4
Completion of basic Russian. Increasing mastery of the basic skills of speaking, listening, reading and writing.
PREREQ: RUSS105.
RESTRICTIONS: Two to three years of high school Russian acceptable in lieu of Prerequisite.

RUSS 107  RUSSIAN III - INTERMEDIATE  4
Review of grammar, continued practice in speaking and writing, and reading texts of average difficulty.
PREREQ: RUSS106.
RESTRICTIONS: Four years of high school Russian acceptable in lieu of Prereq. Satisfies the Arts and Science foreign language requirement.
RUSS 200 Russian Grammar Review 3
Systematic review of elementary and intermediate Russian grammar, study of complex sentence structure and idioms. Some conversational practice.
PREREQ: RUSS 107

RUSS 205 Russian Conversation 3
Practical use of the language. Emphasis on topics drawn from contemporary Russian life and literature.
PREREQ: RUSS 107

RUSS 211 Russian Reading and Composition: Short Fiction 3
Reading and discussion of 20th-century Russian short stories and novellas. Several short compositions. Grammar review where appropriate.
PREREQ: RUSS 107

RUSS 305 Russian Conversation and Composition 3
Discussion of current cultural, social and political topics in Russia and the former republics. Vocabulary building, grammar exercises and frequent compositions.
PREREQ: Any 200-level course conducted in Russian.

RUSS 310 Introduction to Russian Literature I 3
Masterpieces of poetry, narrative prose and drama from the 19th century.
PREREQ: RUSS 211

RUSS 312 Introduction to Russian Literature II 3
Masterpieces of poetry, narrative prose and drama from the 20th century.
PREREQ: RUSS 211

RUSS 325 Russian Civilization and Culture 3
Survey of the major cultural, social and political developments in Russia from its inception to the present.
PREREQ: RUSS 211.

RUSS 366 Independent Study 1-3

RUSS 401 Advanced Russian Grammar and Composition 3
Selected topics in advanced Russian grammar, with special attention to participial constructions, verbs of motion, aspect and problems of syntax and word order. Exercises in writing correct and idiomatic Russian.
PREREQ: One 300-level Russian course.

RUSS 440 Special Topics: Russian Drama, Prose or Poetry 3
Explores one of the three major genres by examining a specific theme. Subject matter varies and will be announced in registration booklet.
PREREQ: Any two 300-level Russian courses.
RESTRICTIONS: May be repeated for credit when topics vary.

RUSS 455 Selected Authors, Works and Themes 3
Works of one or more outstanding authors or on a special theme.
PREREQ: Two 300-level Russian literature courses.
RESTRICTIONS: May be repeated for credit when topics vary.

RUSS 465 Seminar 3
Various authors and themes.
PREREQ: One 400-level Russian literature course.
RESTRICTIONS: May be repeated for credit when topics vary.

RUSS 665 Seminar 3
Various authors and themes.
RESTRICTIONS: May be repeated for credit when topics vary.

SCIENCE

SCEN 101 Physical Science 3-4
The structure, processes and concepts of the physical world.
RESTRICTIONS: Requires high school algebra. For non-science students with no physics or chemistry background. Not for physics or chemistry major credit. Only one course from among SCEN 101, PHYS 104, PHYS 201 or PHYS 207 can count toward graduation.

SCEN 102 Physical Science 3-4
The structure, processes and concepts of the physical world.
RESTRICTIONS: Requires high school algebra. For non-science students with no physics or chemistry background. Not for physics or chemistry major credit. Only one course from among SCEN 102, PHYS 202 or PHYS 208 can count toward graduation.

SCEN 103 Concepts of Science and Technology 3
Introduction to some of the fundamental science concepts underlying high technology, emphasizing everyday devices and practical experience, for the development of scientific and computer literacy of non-science majors.
RESTRICTIONS: Requires high school algebra.

SCEN 391 Secondary Science Curriculum 3
Content, organization, levels and design of curriculum in secondary-school programs in biology, chemistry, earth science, general science, physical science and physics. Design of a science course; planning major units.
RESTRICTIONS: Must precede SCEN 491.

SCEN 491 Teaching Science in Secondary Schools 4
Techniques, approaches and preparation for teaching science in high school and middle school. Laboratory meets one full morning per week in local high schools and middle schools for observation and initial teaching.
COREQ: EDST 302.

SCEN 492 Student Teaching Seminar: Secondary Science 3 PF
Methods, techniques and problems in student teaching in secondary schools and their solutions. Assessment, authority, management, strategies and teaching for understanding.
COREQ: EDDV 400.

SOCIOLOGY

SOCI 201 Introduction to Sociology 3
An overview of the sociological perspective of the study of society, social organization and social institutions with special emphasis on the social causes and consequences of human behavior.

SOCI 202 Social Deviance 3
May be cross-listed with CRJU 304.

SOCI 203 Individual and Society 3
Major forms of deviant behavior and the varied approaches to analysis.

SOCI 209 Social Problems 3
Topics may include poverty, intergroup conflicts, war, mental illness, aging, adolescence and environmental pollution.

SOCI 210 Population Problems 3
The interaction between population characteristics and other social and economic factors.

SOCI 211 Men, Conflict and Social Change 3
See WOMS 211 for course description.

SOCI 213 Men and Women in American Society 3
Designed to provide students with a sociological framework for analyzing sex and gender relations in contemporary American society. Topics include the social construction of gender, patterns of sexualization, gender stratification in the paid work force, gender relations in the family and other social institutions. May be cross-listed with WOMS 213.

SOCI 233 Race and Ethnic Minority Status 3
See CSCC 242 for course description.

SOCI 270 Families and Developmental Disabilities 3
See IFST 270 for course description.

SOCI 301 Introduction of Sociological Research 3
Survey of research methods and data analysis employed in sociology.
PREREQ: SOCI 201.
RESTRICTIONS: Strongly recommended: Junior status and 12 social science credits.

SOCI 302 Social Problems 3
May be cross-listed with CRJU 304.

SOCI 303 Juvenile Delinquency 3
Delinquency as a form of socially deviant behavior; definition of the extent of limitations of statistics, theories of causation, and the delinquent subculture; prevention and treatment.
PREREQ: SOCI 201 or SOCI 209.

SOCI 304 Criminology 3
The nature, kinds and causes of crime. Criminal liability, criminal careers and organized racketeering. May be cross-listed with CRJU 304.
PREREQ: SOCI 201 or SOCI 202 or SOCI 209.

SOCI 305 Social Class and Inequality 3
Internal differentiation as a basis for inequality and differential life chances of human societies.
SOCI 306 PERSONALITY AND SOCIETY 3
Interaction of personality and society, including such segments as complex organizations and small groups. Particular emphasis on the social formation of personality, and its role in the production of various modes of social behavior and the dynamics of social change. PREREQ: SOCI201, SOCI202 or PSYC201

SOCI 308 THE FAMILY 3
The comparative study of the family in various societies provides a background for the analysis of family organization in modern America. PREREQ: SOCI201 or SOCI203 or SOCI209

SOCI 310 SOCIOLOGY OF HEALTH CARE 3
Professionalization of health occupations, hospitals as social systems, medical education and practice organizations, health care organizations and their interrelationships (politics of health), and health service patterns. May be cross-listed with CSCC310. PREREQ: SOCI201

SOCI 311 HOSPITALS 3
Hospitals, asylums, nursing homes and other medically organized institutions viewed as health care settings and as organizations in society. Includes considerations of hospitals as organizations, as research settings, as locations where health professionals work and as sites of patient experience. May be cross-listed with CSCC311. PREREQ: SOCI201

SOCI 312 THEORIES OF SOCIETY 3
Covers writings of Karl Marx, Emile Durkheim, Max Weber and related current approaches. Focuses on theoretical perspectives concerned with social development, social conflict, solidarity, social class and gender. PREREQ: SOCI201

SOCI 320 PERSONALITY AND POLITICS 3
The role of personality in political behavior. Considerations include the social and psychological motivations for political activity and the differential relationship of personality to variations in political systems, roles, ideologies and dynamics, such as political consensus and cleavage. Attention given to particular methods of research in this specific area of social behavior. PREREQ: SOCI201 or SOCI203 or PSYC201 or POSC105

SOCI 322 CROWDS, CULTS AND REVOLUTIONS 3
Analysis of forms of behavior in relatively unstructured situations such as crowds, panics, riots and demonstrations; and processes of interaction: susceptibility, contagion, polarization and communication. PREREQ: SOCI201

SOCI 327 SOCIOLOGY OF ORGANIZATIONS 3
Business enterprises, the military, governmental bureaus and other large-scale organizations. Bureaucratic structure, internal systems of status and authority, division of labor, social control, and the individual in the organization. PREREQ: SOCI201

SOCI 330 POPULATION, LAW AND SOCIETY 3
Interrelationships among population, law and social structure with an emphasis on analyzing strategies of adaptation to change. Introduction to demographic techniques; contemporary issues such as family planning, population policies, migration, marriage and divorce. May be cross-listed with CRU5330. PREREQ: 18 credit hours in sociology, psychology, political science or economics

SOCI 341 WELFARE AND SOCIETY 3
Institutional apparatus created to deal with the welfare problems of an industrial society, development of welfare institutions, their structure and functioning. PREREQ: 18 credit hours in sociology, psychology, political science or economics

SOCI 343 SOCIETY, POLITICS AND HEALTH CARE 3
See CSCC343 for course description

SOCI 345 SOCIOLOGY OF LAW 3
Analysis of law as a social process in both historical and comparative perspective. Focuses on various theories of law and society and relevant empirical research. May be cross-listed with CRU5345. PREREQ: SOCI201 or SOCI202 or SOCI203 or PSYC201

SOCI 346 SOCIOLOGY OF AGING 3
Empirical and theoretical investigation of the aging process. PREREQ: SOCI201 or SOCI202 or SOCI203 or PSYC201

SOCI 348 THEORIES OF SOCIAL WORK PRACTICE 3
Methods of social work practice; casework, group work, community organization; sociological and psychological foundations underlying social services. May be cross-listed with CRU5348. PREREQ: SOCI201

SOCI 355 COMPUTERS, ETHICS AND SOCIETY 3
See CSCC355 for course description

SOCI 360 SOCIOLOGY OF RELIGION 3
Sociological analysis of major religions and the societies with which they have been associated; social settings of particular systems of belief; the relation of status; religious affiliation and personal behavior in modern societies. PREREQ: SOCI201

SOCI 361 RACE, POWER AND SOCIAL CONFLICT 3
The structure of minority groups; processes of conflict, competition and cooperation; analysis of stratification patterns as they affect and are affected by minority groups. May be cross-listed with BAMS361. PREREQ: SOCI201

SOCI 362 SOCIOLOGY OF MASS COMMUNICATION 3
Impact of mass media - television, film, radio and press - upon social attitudes, values and behavior. Problems of audience feedback, the media in social crisis and issues of control. PREREQ: SOCI201

SOCI 366 INDEPENDENT STUDY 1-3

SOCI 376 AMERICAN SOCIAL CHARACTER 3
Nature of social character in America, particularly as influenced by recent sociocultural change. Dominant and variant systems of beliefs, ideologies, values, motivations, psychology, personality types and social behavior. PREREQ: SOCI201

SOCI 380 DEVELOPMENT AND MODERNIZATION 3
Contemporary issues of social, political and economic development in societies. Dominant theories of modernization and development. Roles of men and women in developing societies. PREREQ: SOCI201

SOCI 399 PRACTICUM: TEACHING SOCIOLOGY 3 PF
Practical experience in undergraduate education is gained by serving as a discussion leader in a course taught by a regular member of the faculty. RESTRICTIONS: Requires permission of instructor. Not for major credit

SOCI 401 ADVANCED SOCIOLOGICAL METHODS 3
Conceptualization, design, data collection and data analysis in sociological research.

SOCI 402 URBAN STUDIES PRACTICUM AND SEMINAR 4 PF
Field experience and related seminar. Placement in urban planning and service agencies where students work for approximately 160 hours under professionally trained supervisors. Students meet in a weekly seminar with coordinator. PREREQ: SOCI204

SOCI 407 SOCIOLOGY OF SEX AND GENDER 3
Seminar on sex and gender relations from a sociological perspective. Surveys current research on gender stratification in the paid work force, the feminization of poverty, gender relations in the family, sexual violence, and feminism as a social movement. Special attention given to current theoretical debates on the origins and persistence of sexual inequality and the interaction of gender with race and class in patterns of social stratification. May be cross-listed with WOMS407. PREREQ: SOCI201, SOCI213 AND WOMS201

RESTRICTIONS: Restricted to junior and senior sociology and women's studies majors

SOCI 410 HEALTH SERVICES PRACTICUM AND SEMINAR 4 PF
Field experience and related seminar. Placement in health service settings where student works for about 160 hours under supervision of health service administrators. Students meet in a weekly seminar with coordinator. May be cross-listed with CSCC410. PREREQ: SOCI310 or SOCI311

RESTRICTIONS: Requires permission of instructor

SOCI 411 TECHNIQUES OF DEMOGRAPHIC ANALYSIS 3
Study of demographic equation (fertility, mortality and migration), population processes (composition and distribution) and the use of computers to analyze demographic data. PREREQ: SOCI310

SOCI 412 RESEARCH PRACTICUM 4 PF
Field experience and related seminar. Placement in research, planning and service agencies where students work for approximately 160 hours under professionally trained supervisors. Students meet in a weekly seminar with coordinator. RESTRICTIONS: Requires permission of instructor

SOCI 414 DATA ANALYSIS 3
Methods of analyzing data in sociological research focusing on multivariate approaches. PREREQ: SOCI310

RESTRICTIONS: Requires permission of instructor

SOCI 415 RACE, CLASS AND GENDER 3
Analysis of current American social issues that show interrelationship of race, class and gender. Readings from sociology, Afro-American studies, feminist studies, history and literature. May be cross-listed with BAMS415 and/or WOMS415

SOCI 416 SOCIAL THOUGHT AND CONTEMPORARY SOCIETY 3
Seminar focuses on ways in which social thought defines and analyzes contemporary society. Explores how alternative theories and methods serve to create knowledge about contemporary concerns with everyday life, democracy, equality, social structure and power. PREREQ: SOCI312
A survey of methods and techniques for defining research problems and for gathering information for local community activities.

Conditions underlying urban residential patterns and the consequences of these patterns.

SOCI 495 FIELD EXPERIENCE IN CRIMINAL JUSTICE 4 PF
Exposes sociological similarities and differences between the United States and a select country on a number of critical sociological topics. Includes ethnic and religious diversity, culture, demographic structure, social institutions, social stratification and urbanization.

RESTRICTIONS: Requires permission of instructor. Only 3 credits from this course may apply toward departmental requirement of six 400 level credits.

SOCI 435 SOCIOLOGY OF AMERICAN JEWRY 3
Examines the demographic, socioeconomic, cultural and institutional dimensions of the US Jewish population in the context of models of social integration and in comparison to other immigrant groups in the population. These dimensions are used to discuss current issues facing this population subgroup. May be cross-listed with JWST435.

PREREQ: SOC201

SOCI 441 SOCIAL WELFARE PRACTICUM AND SEMINAR 4 PF
Field experience and related seminar. Placement in social service agencies where students work for approximately 160 hours under professionally trained supervisors; students meet in a weekly seminar with coordinator.

PREREQ: SOC341

RESTRICTIONS: Requires permission of instructor.

SOCI 442 LAW AND SOCIETY PRACTICUM AND SEMINAR 4 PF
Field experience and related seminar. Placement in court, law firm or other law-related institution where students work for approximately 160 hours under professionally trained supervisors; weekly seminar with program coordinator.

PREREQ: SOC345

RESTRICTIONS: Requires permission of instructor.

SOCI 448 COMMUNITY-BASED TREATMENT 3
Explores issues related to the appropriateness and design of community-based programs for the mentally disabled, substance abusers, the homeless, dependent children, etc. Emphasis on analyzing client needs and community resources, and on understanding the perspectives of clients, staff and neighbors about these programs. May be cross-listed with ORU448.

SOCI 450 POLITICAL SOCIOLOGY 3
Analysis of political organization and action, including evaluation of major approaches. Case studies of political structures and behavior.

PREREQ: SOC201

SOCI 454 LAWYER'S ETHICS 3
An exploration of the ethical, moral and legal dilemmas that confront attorneys in the practice of law and how they attempt to resolve them.

PREREQ: SOC201

RESTRICTIONS: Open to junior and senior sociology major only.

SOCI 456 LAWYERS AND SOCIETY 3
Seminar focusing upon the social organization and dynamics of the legal profession. Topics include professional association, law school socialization, professional ethics and law practice. May be cross-listed with ORU456.

PREREQ: SOC201

SOCI 460 WOMEN IN INTERNATIONAL DEVELOPMENT 3
Understanding of international development process in third world countries by examination of the roles of men and women. Analyzes processes of development with emphasis on women's participation and/or exclusion. Examines development at the project proposal or program implementation level. Hands-on experience in practical project development and proposal presentation skills. May be cross-listed with GEOG460, IFS760 and/or WIMS460.

SOCI 466 INDEPENDENT STUDY 1-3
A substantive and theoretical introduction to the major issues in environmental sociology; the emergence and development of the environmental movement; the development of environmental issues; and how environmental issues are related to structural, contextual and perceptual factors.

RESTRICTIONS: Requires upper division status, any major.

SOCI 470 ENVIRONMENTAL SOCIOLOGY 3

SOCI 495 FIELD EXPERIENCE IN CRIMINAL JUSTICE 4 PF
See ORU495 for course description.

SOCI 604 SOCIAL ORGANIZATIONS: URBAN COMMUNITY 3

SOCI 605 DATA COLLECTION 3
A survey of methods and techniques for defining research problems and for gathering and ordering data in sociological research.

RESTRICTIONS: Requires permission of instructor.

SOCI 606 QUALITATIVE METHODOLOGY 3
Focuses on research design, the logic of inquiry and an elaboration of selected issues introduced in SOCI605. Special emphasis on epistemological issues, methodological concerns central to the social sciences, and on analyzing client needs and community resources, and on understanding the perspectives of clients, staff and neighbors about these programs. May be cross-listed with WMS607.

SOCI 609 SOCIAL STRATIFICATION 3
Reviews major theoretical and empirical work in social stratification.

SOCI 611 TECHNIQUES OF DEMOGRAPHIC ANALYSIS 3
Study of demographic equation (fertility, mortality and migration), population processes (composition and distribution) and the use of computers to analyze demographic data.

SOCI 612 DEVELOPMENT OF SOCIOLOGICAL THEORY 3
Historical survey of the development of sociology and sociological theory beginning with the period of the Social Contract theorists through the classic European theorists of 19th century.

SOCI 613 RESEARCH AND SOCIAL THEORY 3
Focuses on the relations between theory and method in social research.

SOCI 614 DATA ANALYSIS 3
Methods of analyzing data in sociological research focusing on multivariate approaches.

PREREQ: SOC201

SOCI 621 THEORIES AND APPROACHES IN SOCIAL DEVIANCE 3
General and specific theoretical orientations in the analysis of social deviance.

SOCI 622 COLLECTIVE BEHAVIOR 3
Process and mechanisms operating in panics, riots, demonstrations and other disruptions of social order.

SOCI 626 SOCIOLOGY OF ORGANIZATIONS 3
Cultural context of organizational behavior: organizational input/output systems, structures and dynamics. Case studies of industrial, educational, medical and voluntary action organizations.

SOCI 627 THEORIES OF COMPLEX ORGANIZATION 3
Development of theories of organizations: systems of authority and power, communication, reward and penalty; dynamics of conflict and accommodation between and within organizations; and problems of induction, placement, coordination and succession within organizations.

SOCI 628 CORPORATE AND GOVERNMENTAL DEVIANCE 3
Analysis and cases of internal organizational behavior when external efforts are made to have these behaviors treated as deviant. Also defenses used by the accused organizations, and preconditions for, and consequences of, successfully labeling and sanctioning an organization as deviant.

SOCI 629 ORGANIZATIONAL CAREERS 3
Relationship between occupational careers and the organizations in which they are pursued. Process of recruitment, socialization, placement, promotion and succession.

SOCI 650 POLITICAL SOCIOLOGY 3
Analysis of political organization and action, including evaluation of major approaches. Case studies of political structures and behavior.

SOCI 655 LAW AND SOCIETY 3
Historical and structural development of legal systems. Emphasis on comparing legal systems in various cultures from Roman and Oriental law to Anglo-American legal systems.

SOCI 661 RACIAL STRATIFICATION 3
Reviews the concept of race as a social historical category and examines the relationship of racial stratification to other systems of inequality. Also evaluates sociological theories of racial discrimination and institutionalized racism.

SPANISH

SPAN 101 ELEMENTARY SPANISH I 3
Introduction to the Spanish language and a development of speaking, listening, reading and writing skills through the use of basic texts. Language laboratory work as needed.

SPAN 102 ELEMENTARY SPANISH II 3
Completion of basic Spanish.

PREREQ: SPAN101 or SPAN105

SPAN 105 SPANISH I - ELEMENTARY 4
Introduction to the Spanish language and a development of speaking, listening, reading and writing skills through the use of basic texts. Language laboratory work as needed.
SPAN 106 SPANISH II - ELEMENTARY/INTERMEDIATE 3
Completion of basic Spanish. Increasing mastery of the basic skills of speaking, listening, reading and writing.
PREREQ: SPAN105
RESTRICTIONS: Two to three years of high school Spanish acceptable in lieu of prerequisite.

SPAN 107 SPANISH III - INTERMEDIATE 4
Review of grammar, continued practice in speaking and writing, and reading texts of average difficulty.
PREREQ: SPAN106
RESTRICTIONS: Four years of high school Spanish acceptable in lieu of prerequisite.

SPAN 111 INTERMEDIATE SPANISH 1 3
Review of grammar. Increasing mastery of the basic skills of speaking, listening, reading and writing.
PREREQ: SPAN102 or SPAN106
RESTRICTIONS: Three years of high school Spanish acceptable in lieu of prerequisite.

SPAN 112 INTERMEDIATE SPANISH 2 3
Continued practice in speaking and writing, reading texts of average difficulty, grammar review as needed.
PREREQ: SPAN111
RESTRICTIONS: Four years of high school Spanish acceptable in lieu of prerequisite.

SPAN 200 SPANISH COMPOSITION AND GRAMMAR 3
PREREQ: SPAN107 or SPAN112

SPAN 201 SPANISH READING AND COMPOSITION 3
Major emphasis on reading development, composition and literary analysis.
PREREQ: SPAN200

SPAN 205 SPANISH CONVERSATION 3
Practical use of Spanish by means of oral reports and discussions. Emphasis on improvement of basic conversational skills. Grammar review where appropriate, and/or some written work.
PREREQ: SPAN107 or SPAN112, or one 200-level course
RESTRICTIONS: Prerequisites require a minimum grade of B

SPAN 206 CULTURE THROUGH CONVERSATION 3
Discussion of topics drawn from contemporary Spanish or Latin American life. For students who wish to broaden their knowledge of Hispanic culture while improving their oral and aural language skills.
PREREQ: SPAN107 or SPAN112

SPAN 207 CONTEMPORARY LATIN AMERICA 1 3
Introduction to contemporary Latin America, its culture, its people, their way of life and the issues confronting them.
RESTRICTIONS: Taught abroad, in both English and Spanish. Not for major credit.

SPAN 208 CONTEMPORARY SPANISH 1 3
Introduction to contemporary Spain, its culture, its people, their way of life and the issues confronting them.
RESTRICTIONS: Taught abroad, in both English and Spanish. Not for major credit.

SPAN 250 INTRODUCTION TO BUSINESS SPANISH 3
Familiarizes students with characteristics of business Spanish (terminology, syntactical patterns, etc.) and policies and practices of the Hispanic business community.
PREREQ: SPAN107 or SPAN112

SPAN 254 LATIN AMERICAN POLITICS IN THE PRESS 3
Students will explore topics in contemporary Latin American politics as expressed in the news media. The emphasis of the course will be on current events related to the internal and external politics of Latin America. Focus of the study will be the Latin American press: newspapers and magazines printed in the Spanish language.
PREREQ: Any 200-level course taught in the Spanish language.

SPAN 255 SPANISH POLITICS IN THE PRESS 3
Explores topics in contemporary Spanish politics as expressed in the news media. Emphasis on current events related to the internal and external politics of Spain. Focus is the Spanish press: newspapers and magazines printed in the Spanish language.
PREREQ: Any 200-level course taught in the Spanish language.

SPAN 301 SURVEY OF SPANISH LITERATURE 3
Development of Spanish literature from its origins to the 17th century. Study of representative works, discussions and collateral readings.
PREREQ: SPAN201

SPAN 302 SURVEY OF SPANISH LITERATURE 3
Spanish literature from the 18th century to the present. Selection of representative works, discussions and collateral readings.
PREREQ: SPAN201

SPAN 303 SURVEY OF SPANISH-AMERICAN LITERATURE 3
Representative works in all genres of Latin American literature from pre-Columbian to Modernism.
PREREQ: SPAN201

SPAN 304 SURVEY OF SPANISH-AMERICAN LITERATURE 3
Representative works in all genres of Latin American literature in the 20th century.
PREREQ: SPAN201

SPAN 305 ORAL COMMUNICATION 3
For individuals with a comprehensive knowledge of Spanish grammar and vocabulary. Emphasis on refinement of expression of abstract ideas as well as mastery of practical communication.
PREREQ: SPAN200

SPAN 306 PRACTICAL ORAL/Written Expression 3
Strengthens skills in grammar and vocabulary in preparation for advanced courses. Includes oral exercises, discussion of articles and videos, textual analysis and compositions.
PREREQ: Any two 200-level Spanish courses conducted in Spanish.
RESTRICTIONS: Taught abroad only.

SPAN 308 CONTEMPORARY SPAIN II 3
Discussion and study of issues related to contemporary cultural, political and social developments in Spain, including its place in today's European community.
PREREQ: Any two 200-level Spanish courses taught in the Spanish language.
RESTRICTIONS: Taught abroad and in Spanish.

SPAN 314 SPANISH PHONETICS AND PHONOLOGY 3
PREREQ: SPAN200
RESTRICTIONS: Recommended for prospective teachers.

SPAN 325 SPANISH CIVILIZATION AND CULTURE 3
Survey of geography, history, art and society of Spain.
PREREQ: SPAN200

SPAN 326 LATIN AMERICAN CIVILIZATION AND CULTURE 3
Survey of geography, history, art and society of Latin American lands.
PREREQ: SPAN200

SPAN 350 ADVANCED BUSINESS SPANISH 3
Development of strategies to initiate and maintain oral and written communication in the world of business. Practice in speaking Spanish in business situations, letter writing and article reading. Functional and cultural approach.
PREREQ: Any two 200-level Spanish courses, one preferably being SPAN250.

SPAN 355 SPECIAL TOPICS 3
Explores an area of special interest in Spanish literature or culture studies. Subject matter varies and will be announced in the registration booklet.
PREREQ: SPAN200
RESTRICTIONS: May be repeated for credit when topics vary.

SPAN 366 INDEPENDENT STUDY 1-3

SPAN 401 ADVANCED SPANISH GRAMMAR 3
A systematic study of standard written and oral Spanish syntax. Translation and syntactical exercises.
PREREQ: Any 300-level Spanish course.

SPAN 403 HISTORY OF THE SPANISH LANGUAGE 3
History of the language and the influence of the pre-Roman strata, Latin, Germanic languages and Arabic. Historical phonology and morphology.
PREREQ: Any 300-level Spanish course.

SPAN 406 ADVANCED SPANISH LANGUAGE 3
Advanced grammatical structure and stylistics with special attention given to technical vocabulary and discourse (e.g., business, law, science, agriculture).
PREREQ: Any 300-level Spanish course.
RESTRICTIONS: Taught abroad only.

SPAN 415 LATIN AMERICAN LITERATURE AND ITS POLITICAL CONTEXT 3
Analysis of selected works by contemporary Latin American authors, focusing on the techniques used by these writers to reveal the political upheaval that has affected Latin America in recent years.
PREREQ: One SPAN300-level survey of literature.
SPAN 416  CERVANTES: DON QUIJOTE  3
The reading of Don Quijote in Spanish; major themes of the book. The life and times of Cervantes. Antecedents to Don Quijote in Spanish literature. The purpose of Don Quijote. Introduction to the language of Cervantes
PREREQ: One SPAN300-level survey of literature

SPAN 417  HISPANIC NOBEL PRIZE AUTHORS  3
Covers the works of Spanish and Latin American Nobel Prize authors - Echegaray, Benavente and Martinez, Mistral, Jimenez, Austurias, Alexandre, Neruda and Garcia Marquez - in relation to their cultural milieu on the regional, national and international levels and in relation to their authors' biographies
PREREQ: One SPAN300-level survey of literature

SPAN 418  GOD, MAN AND WOMAN  3
Analysis of the presentation of God, man and woman in a selection of narrative poems, dramas and novels from the 15th to the 17th centuries. Authors studied include Santillana, Diego de San Pedro, Alemán, Juan de la Cueva, Cervantes, Luis de Leon, Grecian and Quevedo
PREREQ: One SPAN300-level survey of literature

SPAN 430  LATIN AMERICAN NOVEL AND CINEMA  3
Study of a selection of novels of the 20th century that have brought international recognition to the Latin American writers. These novelists depict the social, economic, political and cultural traits of their respective countries. Film versions of some of the novels illustrate artistic interpretations of the subject matter
PREREQ: One SPAN300-level survey of literature

SPAN 433  MODERN SPANISH LITERATURE  3
Spanish drama and lyric poetry from Romanticism to contemporary period
PREREQ: One SPAN300-level survey of literature

SPAN 434  MODERN SPANISH LITERATURE  3
Prose from costumbrismo to the present
PREREQ: One 300-level survey of literature

SPAN 435  SPANISH MEDIEVAL LITERATURE  3
Study of the literature from the early lyric poetry to the 15th century
PREREQ: One SPAN300-level survey of literature

SPAN 436  STUDIES IN THE LITERATURE OF THE SPANISH GOLDEN AGE  3
The poetry and prose of the 16th and 17th centuries
PREREQ: One SPAN300-level survey of literature

SPAN 439  POSTWAR SPANISH NARRATIVE  3
The Spanish novel from 1962 to the present. Focuses on novels by leading authors such as Luis Martin-Santos, Juan Goytisolo, Juan Benet, Carmen Martin Gaite, Ana Maria Moix and Esther Tusquets. Analysis of these works grounded in international literary theory and criticism
PREREQ: One SPAN300-level survey of literature

SPAN 441  THE CONTEMPORARY SPANISH AND SPANISH-AMERICAN NOVEL  3
Study of the novel of the 20th century considered as an artistic expression of the thought and life of the Hispanic world
PREREQ: One SPAN300-level survey of literature

SPAN 443  MEXICAN LITERATURE  3
Representative authors from the Colonial period to the present
PREREQ: One SPAN300-level survey of literature

SPAN 447  CONTEMPORARY HISPANIC FICTION BY WOMEN  3
Explores current fiction by women in Spanish and Spanish American. Analyzes selected works as individual literary creations, and also situates them in their cultural, historical and aesthetic contexts, using appropriate critical methodologies
PREREQ: One 300-level survey of Spanish literature course

SPAN 451  CONTEMPORARY SPANISH POETRY  3
Analysis of Spanish poetry from Beccuer to the present day
PREREQ: One SPAN300-level survey of literature

SPAN 455  SELECTED AUTHORS, WORKS AND THEMES  3
Works of one or more outstanding authors or on a special theme
PREREQ: Two 300-level Spanish literature courses
RESTRICTIONS: May be repeated for credit when topics vary

SPAN 462  SPANISH ESSAY AND CRITICISM OF THE TWENTIETH CENTURY  3
Study of contemporary critical works and essays
PREREQ: One SPAN300-level survey of literature

SPAN 466  INDEPENDENT STUDY  1-3

SPAN 482  THE THEATRE OF THE SPANISH GOLDEN AGE AND ITS LEGACY  3
Compares the masters of the Golden Age Theatre with today's internationally-known Spanish playwrights. Studies the comedies of Tirso de Molina, Lope de Vega and Calderon de la Barca, and finds their legacy in the plays of Saavedra, Zorrilla, Garcia Lorca and Cossana. Investigates the sources and interpretation of the contemporary theatre, and how they have been influenced by the earlier dramatists
PREREQ: One SPAN200-level survey of literature

SPAN 484  CONTEMPORARY SPANISH THEATRE  3
Twentieth-century Spanish theater as a reflection of and commentary on society. Principal authors: Garcia Lorca, Buero Vallejo and Sastris
PREREQ: One SPAN300-level survey of literature

SPAN 601  ADVANCED SPANISH GRAMMAR  3
Systematic study of standard written and oral Spanish syntax. Translation and syntactic exercises

SPAN 603  HISTORY OF THE SPANISH LANGUAGE  3
History of the language and the influence of the pre-Roman strata, Latin, Germanic language and Arabic. Historical phonology and morphology

SPAN 615  LATIN AMERICAN LITERATURE AND ITS POLITICAL CONTEXT  3
In-depth analysis of selected works by contemporary Latin American authors, focusing on techniques used by these writers to reveal the political upheaval that has affected Latin America in recent years

SPAN 616  CERVANTES: DON QUIJOTE  3
The reading of Don Quijote in Spanish; major themes of the book. The life and times of Cervantes. Antecedents to Don Quijote in Spanish literature. The purpose of Don Quijote. Introduction to the language of Cervantes

SPAN 617  HISPANIC NOBEL PRIZE AUTHORS  3
Studies the works of Spanish and Latin American Nobel Prize authors - Echegaray, Benavente and Martinez, Mistral, Jimenez, Austurias, Alexandre, Neruda and Garcia Marquez - in relation to their cultural milieu on the regional, national and international levels and in relation to their authors' biographies

SPAN 618  GOD, MAN AND WOMAN  3
Analysis of the presentation of God, man and woman in a selection of narrative poems, dramas and novels from the 15th to the 17th centuries. Authors studied include Santillana, Diego de San Pedro, Alemán, Juan de la Cueva, Cervantes, Luis de Leon, Grecian and Quevedo

SPAN 619  GOD, MAN AND WOMAN  3
Analysis of the presentation of God, man and woman in a selection of narrative poems, dramas and novels from the 15th to the 17th centuries. Authors studied include Santillana, Diego de San Pedro, Alemán, Juan de la Cueva, Cervantes, Luis de Leon, Grecian and Quevedo

SPAN 630  LATIN AMERICAN NOVEL AND CINEMA  3
Study of a selection of novels of the 20th century that have brought international recognition to the Latin American writers. These novelists depict the social, economic, political and cultural traits of their respective countries. Film versions of some of the novels illustrate artistic interpretations of the subject matter

SPAN 633  MODERN SPANISH LITERATURE  3
Spanish drama and lyric poetry from Romanticism to contemporary period

SPAN 634  MODERN SPANISH LITERATURE  3
Prose from costumbrismo to the present

SPAN 635  SPANISH MEDIEVAL LITERATURE  3
Study of the literature from the early lyric poetry to the 15th century

SPAN 636  STUDIES IN THE LITERATURE OF THE SPANISH GOLDEN AGE  3
The poetry and prose of the 16th and 17th centuries

SPAN 639  POSTWAR SPANISH NARRATIVE  3
Covers the Spanish novel from 1962 to the present. Focuses on novels by leading authors such as Luis Martin-Santos, Juan Goytisolo, Juan Benet, Carmen Martin Gaite, Ana Maria Moix and Esther Tusquets. Analysis of these works grounded in international literary theory and criticism

SPAN 641  THE CONTEMPORARY SPANISH AND SPANISH-AMERICAN NOVEL  3
Study of the novel of the 20th century considered as an artistic expression of the thought and life of the Hispanic world

SPAN 643  MEXICAN LITERATURE  3
Representative authors from the Colonial period to the present

SPAN 647  CONTEMPORARY HISPANIC FICTION BY WOMEN  3
Explores current fiction by women in Spanish and Spanish American. Analyzes selected works as individual literary creations, and also to situate them in their cultural, historical and aesthetic contexts, using appropriate critical methodologies

SPAN 651  CONTEMPORARY SPANISH POETRY  3
Analysis of Spanish poetry from Beccuer to the present day. Special emphasis on stylistics

SPAN 655  SELECTED AUTHORS, WORKS AND THEMES  3
Works of one or more outstanding authors or on a special theme
RESTRICTIONS: May be repeated for credit when topics vary
SPANISH

SPAN 662 SPANISH ESSAY AND CRITICISM OF THE TWENTIETH CENTURY 3
Study of contemporary critical works and essays

SPAN 682 THE THEATRE OF THE SPANISH GOLDEN AGE AND ITS LEGACY 3
Compares the masters of the Golden Age Theatre with today's internationally known Spanish playwrights. Studies the comedies of Tirso de Molina, Lope de Vega, Calderon de la Barca and finds their legacy in the plays of Saavedra, Zorrilla, Garcia Lorca and Casona. Investigates the sources and interpretation of the contemporary theatre, and how they have been influenced by the earlier dramatists

SPAN 684 CONTEMPORARY SPANISH THEATRE 3
Twentieth-century Spanish theatre as a reflection of and commentary on society. Principal authors: Garcia Lorca, Buero Vallejo and Sastre

STATISTICS

STAT 201 INTRODUCTION TO STATISTICS I 3
Probability, estimation, classical statistical inference and data analysis

STAT 202 INTRODUCTION TO STATISTICS II 3
Correlation and regression, multiple regression, analysis of variance, classical time series, short- and long-term forecasting, smoothing, and index numbers: business indicators

STAT 205 STATISTICAL METHODS 4
Descriptive statistics, graphical displays, sampling, variation, normal distribution, estimation, hypothesis testing, one-way analysis of variance, simple linear regression and goodness-of-fit. Laboratory covers use of statistical packages on mainframe and microcomputers

STAT 300 STATISTICAL METHODS AND THEORY 4
Exploratory data analysis, probability, estimation, classical statistical inference, regression, multiple regression. Laboratory covers use of statistical packages

STAT 366 INDEPENDENT STUDY 1-6

STAT 370 INTRODUCTION TO STATISTICAL ANALYSIS I 3
Basic probability; continuous and discrete joint distributions; distribution of functions of random variables; order statistics; expected value and central limit theorem

STAT 371 INTRODUCTION TO STATISTICAL ANALYSIS II 3
Distributions of common statistics, sampling techniques, estimation, confidence intervals, hypothesis testing and selected topics

STAT 418 SAMPLING METHODS 3
Types of sampling, census vs survey, methods of sample selection, sampling and nonsampling errors. Planning and execution of surveys, and data collection in selected fields of application

STAT 420 DATA ANALYSIS AND NONPARAMETRIC STATISTICS 3
Techniques of exploratory and graphical data analysis for univariate and multivariate data sets, and numerical and categorical variables. Emphasis on selection of proper procedure. Nonparametric techniques of estimation testing and curve smoothing

STAT 450 STATISTICS FOR THE ENGINEERING AND PHYSICAL SCIENCES 3
Combibinatory probability; distribution theory, estimation and hypothesis testing. Experimental design, analysis of variance and regression theory

STAT 466 INDEPENDENT STUDY 1-6

STAT 555 STATISTICS FOR BUSINESS AND ECONOMICS 3
Statistical inference, modern decision making, measures of association, classical time series analyses, forecasting and non-parametric techniques

STAT 600 FUNDAMENTALS OF STATISTICAL ANALYSIS 3
Basic topics in mathematics of most importance in probability and statistics. Selected topics in analysis. Arithmetic operations on arrays and matrices. Least squares approximation and the projection theorem

STAT 601 PROBABILITY THEORY AND APPLICATIONS 3
See MATH630 for course description

STAT 602 MATHEMATICAL STATISTICS 3
Derived sampling distributions, decision theory, estimation theory, multivariate normal, hypotheses testing and special topics

STAT 611 REGRESSION ANALYSIS 3
Simple linear and nonlinear regression. Subset regression; principal component and ridge regression. Introduction to experimental design and design models

STAT 615 DESIGN AND ANALYSIS OF EXPERIMENTS 3
Fundamental principles of design, randomized designs, Latin squares, sources of error, components of error. Factorial designs, response surfaces, models for design

STAT 616 DESIGN AND ANALYSIS OF EXPERIMENTS 3
Planning of experiments, designs for specific problems, fractional factorials, quasi-factorial experiments, balanced and unbalanced designs, confounding, introduction to linear estimation

STAT 617 MULTIVARIATE METHODS 3
Multivariate analysis of variance and covariance, classification and discrimination, canonical correlation, principal components and factor analysis

STAT 618 SAMPLING TECHNIQUES 3
Simple random sampling, stratified random sampling, ratio estimates, regression estimates, systematic sampling, cluster sampling and double sampling

STAT 620 NONPARAMETRIC STATISTICS 3
Statistical procedures valid under unrestrictive assumptions; scales of measurement; efficiency comparisons; signed rank procedures; two-sample rank tests; zeros, ties, and other problems of discrete data; order statistics; k-sample procedures; and nonparametric measures of correlation

STAT 635 STATISTICAL QUALITY CONTROL 3
Process variation, sequence plotting, control charts, cumulative sum process control procedures, process capability studies, acceptance sampling, quality management and organization, and troubleshooting using graphical techniques

STAT 640 STATISTICAL CONSULTING 3
The client-consultant relationship. Effective communication. Identifying the question, developing a plan and presenting the results. Following up. Actual consulting experience

STAT 641 STATISTICAL LABORATORY 1
Involves attendance at weekly statistical laboratory meetings

STAT 650 STATISTICS FOR THE ENGINEERING AND PHYSICAL SCIENCES 3
Combinatorical probability, distribution theory, estimation and hypothesis testing. Experimental design, analysis of variance and regression theory

STAT 656 BIOSTATISTICS 3
Introductory course in statistics focused toward applications in biological, medical and other life sciences. Topics include graphical and numerical techniques, random variables and their distribution, estimation and inference

STAT 657 STATISTICS FOR EARTH SCIENCES 3
Spatial distributions; directional data; statistical graphics, regression and time series analysis; model validation; sampling; principal components; cluster analysis; discriminate analysis; and statistical software routines. May be cross-listed with GEO 657

TEXTILES, DESIGN AND CONSUMER ECONOMICS

TDCE 114 CLOTHING IN CONTEMPORARY SOCIETY 3
Introduction to the study of clothing, including social psychological influences in personal clothing choice, basic concepts of fashion, structure and operation of the apparel industry, elements of apparel quality and retailing of clothing

TDCE 200 CONSUMER ECONOMICS 3
Consumer decision making, theory of consumer markets, analysis of consumption activities of individuals and families, interaction of consumers, government and the marketplace

TDCE 211 BASIC CLOTHING PROCESSES 3
Basic clothing construction procedures, fitting techniques and methods of evaluation for apparel

TDCE 213 TWENTIETH-CENTURY DESIGN: ETHNIC INFLUENCE 3
Examines African American and other ethnic groups, their cultures and clothing practices and subsequent influences on fashion. Studies individual minority designers and their contributions
TDCE 214 Costume History Before 1700 3
Costume as a mirror of civilization in Western Europe and the Near East from antiquity through the 17th century. Influence of societal, economic and aesthetic factors upon the development of costume.

TDCE 215 Fundamentals of Textiles I 3
Fundamental concepts related to textile materials. Emphasis on structure/property relationships in fibers and yarns. Includes standards and testing.
PREREQ: TDCE114 or TDCE211/216 and CHEM102

TDCE 216 Advanced Clothing Processes 3
Advanced clothing construction and fitting principles and processes; comparative analysis of assembly and organizational procedures including industrial concepts.

RESTRICTIONS: Advanced placement required. Credit not given for both TDCE211 and TDCE216 except for apparel design majors.

TDCE 217 Accounting Practice for Merchandising 3
Introduction to basic accounting principles used in the retailing of apparel and other fashion products. Emphasis placed on the retail method of inventory, perpetual and periodic systems, LIFO, FIFO, development of gross margin statement and the effects of cash/credit discounts and cumulative mark-up on profitability.

TDCE 218 Fashion Merchandising 3
An overview of the fashion industry which examines the interrelationship between primary, auxiliary and retail fashion markets; trends in fashion retailing, promotion and manufacturing; and retail career opportunities.

TDCE 220 Fundamentals of Textiles II 3
Fundamental concepts of textile materials emphasis on structure/property relationships in cloth forms, and finishing processes (including dye and print application); standards, laws and regulations. It is the second course of a textile sequence.
PREREQ: TDCE215

TDCE 224 Clothing Design and Production Since 1700 3
Clothing design and production in America and Western Europe since 1700. Study of craft skills, growth of ready-to-wear industry, costume and 20th-century manufacturing and fashion centers.

TDCE 225 Architectural Drawing 3
Introduction to the handling of the tools, techniques and terms of architectural drawing and the designing of plans, elevations, sections and drawing of isometrics and perspectives.

TDCE 223 Fashion Drawing and Rendering 3
Drawing from the fashion model; emphasis on rendering clothing character, fabrics and fashion details using various media; translation of drawings to finished fashion illustrations.
PREREQ: ART 129 or ART 130

TDCE 235 Family Resource Management 3
The study of effective assessment and allocation of human and material resources by individuals and families at different stages in the life cycle.

TDCE 242 Consumer Movement in Perspective 3
The history, present status and possible future of the consumer movement in the United States examined within the context of the existing economic, political and social environments.

TDCE 305 Customer Service and Consumer Voice 3
Explores incentives for seller to respond to consumer requests, comments, and complaints and to encourage customer feedback after purchase and investigates incentives for consumers to request, to comment, and to complain after purchase. Identifies alternative models of consumer satisfaction and dissatisfaction and complaining behaviors. Students design, develop, and evaluate a consumer response system.

TDCE 310 Housing 3
Selection of housing as related to varying income levels and stages in the life cycle; types of housing, government agencies, and design considerations for special groups.

TDCE 312 American Residential Style 3
Historic survey of residential architectural styles from 1700 to present. Emphasis on exterior design elements as they relate to interior layouts, details, ornamentation and furnishings. Field trips.

TDCE 313 Multicultural Fashion Accessories 3
Examines design and production of accessory apparel and body adornment objects created by cultures throughout the world. Ornamental and functional accessories from African, Asian, Indian, American and Far Eastern cultures will be emphasized. Students will produce accessories inspired by self-conducted research.
PREREQ: TDCE211

TDCE 314 Apparel Design I 3
Comparative study of the foundation principles and processes of apparel design utilizing draping, flat pattern and simple drafting techniques.
PREREQ: TDCE216

TDCE 317 Tailoring 3
Principles and processes involved in accepted methods of tailoring suits and coats.
PREREQ: TDCE211 or TDCE216

TDCE 318 Fashion Merchandise Products 3
Examines various types of fashion merchandise including the range of characteristics, sources and manufacturing processes. Emphasis on leather, furs, jewelry, kitchen and home furnishings, and allied merchandise areas.

TDCE 319 Dress and Culture 3
Examination of similarities and differences in the dress of culturally distinct groups; analysis of functions served by dress and factors influencing changes in cultural forms of dress.
PREREQ: PSYC201 and SOCI201

TDCE 320 Fashion Merchandising Internship 6
An off-campus supervised and coordinated field study program in selected retail stores.
RESTRICTIONS: Requires permission of instructor.

TDCE 321 Travel Study Program 1-6
Study of the domestic and/or international textiles, apparel, interior and allied fashion industries through visits and research projects.
RESTRICTIONS: Requires TDCE faculty approval through an application process. Offered at regular intervals.

TDCE 322 Retail Design and Consumer Behavior 3
Exploration of the effects of retail design on consumer behavior. Logos, packaging, point-of-purchase display, signage, personnel, and store layout shall be examined.

TDCE 324 Apparel Design II 3
Advanced flat pattern, draping and drafting techniques including design and execution of tailored garment structures, as well as apparel utilizing stretch materials.
PREREQ: TDCE314

TDCE 325 Presentation Techniques 3
Development of oral, written, graphic, problem-solving and personal skills for professional presentations. Techniques include computer graphics, photography, as well as audio and video applications as they relate to professional presentations.

TDCE 328 Fashion Sales Promotion 3
Fashion advertising, fashion promotion and other special purpose media utilized uniquely in our world of fashion. Emphasis not only on various components of fashion promotion media and their interrelationship, but also on the interdependency of promotional strategy and fashion merchandising.

TDCE 330 Apparel Design Internship 4
An off-campus, supervised field study program in selected businesses dealing with apparel design and/or production.
RESTRICTIONS: Requires permission of instructor.

TDCE 332 Consumers, Health and Medical Care 3
Economic perspective on consumer interests in health, medical insurance and medical care. Emphasis on unusual aspects of healthcare and health insurance markets and relationships between the markets. Includes important effects of uncertainty on decision making, market institutions and public policy.
PREREQ: ECON151 or ECON100

TDCE 333 CAD: Fashion Design and Forecasting 3
Introduction to computer graphics for fashion design, emphasizing concept development, visualization, storyboard layout, and design presentation. Focuses on trend research and presentation, and collection design for targeted markets.
PREREQ: TDCE233

TDCE 335 Consumer Financial Management 3
Analysis of financial models utilized in planning, organizing and initiating a strategy for generating and allocating earned and unearned income. Emphasis on studying consumer financial decision making during various stages of an individual's life cycle (e.g., single, newly-married, single parent, etc.)

TDCE 340 Consumer Affairs Internship 4
An off-campus supervised and coordinated field study in selected agencies and organizations.
PREREQ: TDCE200.
RESTRICTIONS: May be repeated once for credit.

TDCE 342 Consumer Laws and Regulations 3
In-depth examination of consumer legislation and regulation policies at the federal and state level. Major pieces of consumer legislation, as well as the agencies responsible for implementing and enforcing these policies, examined in terms of efficiency and effectiveness.
PREREQ: TDCE200, ECON151 or ECON152.

TDCE 365 Fashion Merchandising and Apparel Design Seminar 1 PF
Creates awareness of career opportunities and develop techniques for success in apparel design and textile clothing career options.
RESTRICTIONS: APD and TC majors only.

TDCE 366 Independent Study 1-6
TEXTILES, DESIGN AND CONSUMER ECONOMICS

TDCE 400 Controversial Issues in Consumer and Family Behavior 3
Utilizes an economic approach to consumer and family behavior to examine how various economic, social, legal and corporate policies encourage or discourage family investment in human capital. Issues and their relationship to the development and utilization of human capital within the family unit vary.

TDCE 401 Consumer Policy Analysis 3
Analysis of a consumer welfare related market practice issue. Issue may change. Use of management problem-solving tools to understand the issue and develop policies. PREREQ: ECON 115

TDCE 415 Topics in Textiles 3
One topic is covered each semester; either fiber science, textile analysis, or textile dyeing and finishing.

TDCE 416 Fashion Direct Marketing 3
Examines the scope and application of direct marketing including mail-order, customer lists, catalogues, telemarketing, inserts, magazines and package goods applied to the clothing and textile industries.

TDCE 418 Advanced Fashion Merchandising 4
Focuses on computer application related to mathematical concepts and calculations used in merchandising soft goods at the retail level. Markons, markdowns, retail method inventory, open-to-buy and vendor negotiations are emphasized. PREREQS: TDCE 218, BUAD 301, ACCT 207 or TDCE 127 and ACC 1260.

TDCE 419 Social Psychological Aspects of Clothing 3
Study of clothing and appearance as contributors to human interactions; consideration of the importance of clothing in individual and collective behavior. Analysis of how dress reflects self-imagery, establishes social identities and affects interpersonal encounters. PREREQS: TDCE 114, PSY 290 and SOC 201.

TDCE 420 Family Financial Management 3
Problem-solving approach for resolving family financial problems using a variety of financial management techniques. Primary focus oriented toward financial counseling, financial planning or a combination of the two. PREREQ: TDCE 335

TDCE 424 Apparel Design III 3
Conceptualization, design and execution of a coordinated apparel collection. Advances and expands knowledge and skills from previous courses. PREREQ: TDCE 324

TDCE 426 Fundamentals of Textile Conservation 3
Introduces scientific principles relevant to the cleaning, repair, storage and exhibition of antique textiles. Evaluates treatment procedures that eliminate damaging agents, retard their effects, or shield textiles from them.

TDCE 433 CAD: Mass Market Apparel 4
Focuses on all phases of apparel product development for a targeted market from conceptualization through execution of sample garments for mass production. Introduces computer-aided pattern designing, grading, marker making and data management (e.g., sizing, specifications, operations and costing) includes field trip. PREREQ: TDCE 324.

TDCE 435 Consumer and the Environment 3
Analysis of dwindling energy resources and their effect upon consumer alternatives in the marketplace; sociocultural, family and income aspects of consumer behavior in a high energy consuming society. PREREQS: TDCE 200, ECON 151 or ECON 152.

TDCE 440 Advanced Consumer Economics 3
Application of economic tools to analyze consumer welfare in public and private markets. Efficiency and equity tradeoffs, externalities, cost-benefit, program evaluation. PREREQ: TDCE 200.

TDCE 442 Consumer Welfare and Employee Benefits 3
A critical analysis and evaluation of employee benefits, emphasizing the employee's needs, rights and alternatives. Benefits to be analyzed include social insurance, group, life, health, dental and disability insurance; qualified retirement plans; and other direct and indirect benefits.

TDCE 444 Fashion Presentation 1
Portfolio preparation and fashion show production for apparel design and merchandising majors. Joint, integrated team projects required. PREREQS: For APD majors: TDCE 333, TDCE 365 and TDCE 424. For TCM majors: TDCE 365, TDCE 165 and TDCE 419. RESTRICTIONS: TC and APD seniors only.

TDCE 450 The Historic Interior 3
Survey of the design and function of interior spaces and furnishings in the context of the cultures and the times from which they evolved. Primary emphases on Western Europe and America. Primitive cultures, early civilizations and the Orient also explored. Field trips.

TDCE 451 Contemporary Furnishings 3
A survey of modern design evolution in furniture, textiles and the minor arts from the late 19th century to the present. Emphasis on styling and technological forces shaping 20th-century design of interior furnishings. Field trips.

TDCE 455 Textiles, Clothing and the Economy 3
The interplay of economic forces in the production, marketing and consumption of textiles and clothing. PREREQS: ECON 151 or ECON 152.

TDCE 465 Seminar 1-3 PF
May be repeated to a maximum of three credits.

TDCE 466 Independent Study 1-6

TDCE 468 Research 1-6

THEATRE

THEA 102 Introduction to Performance 3
A survey of performance training techniques for the non-musician, including the elements of voice, improvisation, movement, dance, character analysis and portrayal.

THEA 104 Introduction to Theatre and Drama 3
Survey of the elements of theatre and drama. Includes attendance at theatrical productions, readings of representative plays, discussion of a method of dramatic analysis, explanation of staging in periods of major importance and discussion of the actor, the designer and the director.

THEA 106 The Theatrical Experience Abroad 3
Survey of the elements of performance, theatre and drama in relationship to observed field performances. Attendance at rigorous program of theatrical performances. Studies elements of voice, improvisation, movement, dance, character analysis and portrayal specifically based on observed performances.

THEA 200 Introduction to Theatre Production 3
Processes involved in the production of scenery, properties, lighting, sound and costumes for live performance events. Plays read and analyzed for production requirements.

THEA 202 Introduction to Theatre Design 3
Survey of the evolution of design theory and aesthetics for live production. Elements include the design of scenery, properties, costumes, lighting and sound. Plays read and analyzed for design requirements.

THEA 202 Introduction to Textile Design 3
Survey of the evolution of design theory and aesthetics for live production. Elements include the design of scenery, properties, costumes, lighting and sound. Plays read and analyzed for design requirements.

THEA 203 Introduction to Costuming 3
Explores the evolution of costume design and technology. Discusses and analyzes all aspects of costuming through reading of plays.

THEA 204 Introduction to Voice and Speech 3
The use of voice and speech in performance. Includes exercises to develop relaxation, breath support, resonance, vocal strength, optimum pitch and articulatory precision, as well as studies in basic vocal techniques. Studio format.

THEA 205 Introduction to Mime 3
Explores the theory and practice of theatrical performance without words. Theories of DellSarte, Laban, Decourx and others. Students engage in learning and performing short mime pieces for class.

THEA 206 Introduction to Dance 3
Examines the function and impact of dance in the lives of individuals, societies, and cultures. Lecture and participatory format.

THEA 207 Technical Production Practicum 1-4
Laboratory course for the production of scenery, properties, lighting and sound for public performances of the Professional Theatre Training Program Productions.

THEA 209 Costume Production Practicum 1-4
Laboratory exercise for the production of costumes and costume crafts for public performances of the Professional Theatre Training Program Productions.

THEA 220 Movement and Nonverbal Communication I 3
Emphasis on actor's physical expression of ideas, attitudes and feelings. Basic stage techniques, exploration of power and presence, and development of imagination and ability to use metaphor. Relationship of nonverbal communication to text in building a character.

THEA 226 Fundamentals of Acting 3
Exploration of basic elements of the actor's art and craft so as to deepen and broaden the experience of viewing the theatre. May utilize theatre games, basic text work, improvisation and lecture/demonstrations.
THEA 236  FUNDAMENTALS OF JAZZ DANCE  3
Jazz Dance as an art form and vehicle for individual and group expression. Emphasis on rhythm and style.
RESTRICTIONS: Previous dance experience recommended

THEA 300  FUNDAMENTALS OF STAGECRAFT  3
Concentrates on traditional techniques used in the construction and rigging of scenery and properties for the stage. Demonstrates basic techniques and processes through a combination of classroom lecture and laboratory experience.
PREREQ: THEA200
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 301  FUNDAMENTALS OF PROPERTIES CONSTRUCTION  3
Introduces basics of organization and management of properties for a theatrical production in addition to basic techniques of property construction. Demonstrates basic techniques and processes through a combination of classroom lecture and laboratory experience.
PREREQ: THEA200
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 302  FUNDAMENTALS OF STAGE LIGHTING  3
Introduces basic techniques and processes used in the lighting of theatrical productions. Emphasis on the use and manipulation of lighting equipment. Demonstrates equipment and basic techniques and processes through a combination of classroom lecture and laboratory experience.
PREREQ: THEA200
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 303  FUNDAMENTALS OF SCENE PAINTING  3
Introduction to the tools, materials, and techniques of painting scenery for the stage. Demonstrates basic techniques and processes through a combination of classroom lecture and laboratory experience.
PREREQ: THEA200
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 304  FUNDAMENTALS OF AUDIO FOR THE THEATRE  3
Introduces the physical phenomenon of sound and the techniques of controlling and manipulating it for theatrical productions. Demonstrates basic techniques and processes through a combination of classroom lecture and laboratory experience.
PREREQ: THEA200
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 305  FUNDAMENTALS OF COSTUME CONSTRUCTION FOR THE STAGE  3
Introduces basic costume construction techniques through lectures, demonstrations, and laboratory experience. Culminates in the construction of a finished costume.
PREREQ: THEA203
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 306  FUNDAMENTALS OF PATTERNMAKING FOR THE STAGE  3
Teaches basic pattermaking techniques required in costuming through lectures, demonstrations, and laboratory experience. Includes how to recreate historical details used for period theatrical garments.
PREREQ: THEA203
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 307  FUNDAMENTALS OF DRAPING FOR THE STAGE  3
Teaches basic draping skills and applies them to period costumes. Examines several historical periods commonly used in theatrical productions. Students create muslins or finished garments from at least four historical periods.
PREREQ: THEA203
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 308  FUNDAMENTALS OF COSTUME CRAFTS  3
Provides basic experience in several craft-related areas commonly utilized in costuming, including maskmaking, surface design, hatmaking, leather work and Thermoplastics.
PREREQ: THEA203
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 309  FUNDAMENTALS OF STAGE MANAGEMENT  3
Study of the techniques and procedures used in managing theatrical productions from conception through performance.
PREREQ: THEA200
COREQ: Theatre majors enroll in a minimum of one credit of THEA407

THEA 337  INTERMEDIATE JAZZ DANCE  3
Jazz dance as an art form and vehicle for individual and group expression. Introduces criteria for judgment and response. Develops performance potential.
RESTRICTIONS: Previous dance experience or THEA236 recommended

THEA 341  THEATRE/DRAMA: CLASSIC/medieval  3
Survey of major historical and theoretical developments in theatre practice and dramaturgy during the period. Readings in primary and secondary historical sources, major critical and theoretical texts, and representative plays of the period. May be crosslisted with CMIT341.

THEA 342  THEATRE/DRAMA: RENAISSANCE TO 1700  3
Survey of major historical and theoretical developments in theatre practice and dramaturgy during the period. Readings in primary and secondary historical sources, major critical and theoretical texts, and representative plays of the period. May be crosslisted with CMIT342.

THEA 343  THEATRE/DRAMA: 1700 to 1900  3
Survey of major historical and theoretical developments in theatre practice and dramaturgy during the period. Readings in primary and secondary historical sources, major critical and theoretical texts, and representative plays of the period. May be crosslisted with CMIT343.

THEA 344  THEATRE/DRAMA: 1900 to PRESENT  3
Survey of major historical and theoretical developments in theatre practice and dramaturgy during the period. Readings in primary and secondary historical sources, major critical and theoretical texts, and representative plays of the period. May be crosslisted with CMIT344.

THEA 345  HISTORY OF THEATRE: AMERICAN MUSICAL THEATRE  3
Musical-dramatic forms of the 18th, 19th and 20th centuries in the United States and their impact on the modern musical theatre. Complete works read and compared to a series of criteria that are found in successful modern shows. Comparison of older and current work. May be crosslisted with MUSC345.

THEA 346  HISTORY OF THEATRE: THE AMERICAN THEATRE  3
Survey of major historical and theoretical developments in American theatre practice and dramaturgy from Revolutionary times to the present. Readings in primary and secondary historical sources, major critical and theoretical texts, as well as representative plays of the period.

THEA 360  FUNDAMENTALS OF ORAL INTERPRETATION  3
Basic course in interpretation of text for the stage. Concentrates on texts from plays; explores prose and poetry. Emphasis on diction, meaning and presentation. Studio format.

THEA 366  INDEPENDENT STUDY  1-6

THEA 407  THEATRE PRACTICUM FOR MAJORS  1-4
Students assigned production responsibilities on departmental productions in the areas of lighting, sound, scenery, properties, costuming, stage management, painting and theatre management.
RESTRICTIONS: Open to majors only. Requires permission of instructor.

THEA 410  FUNDAMENTALS OF DRAMATURGY  3
Topics covered include various methods of dramatic and entertainment analysis, scene analysis, development of dramatical plot, fable and practice. Survey of function and role of the dramaturg in contemporary theatre. Readings in primary and secondary material.

THEA 420  FUNDAMENTALS OF STAGE DIRECTING  3
Exploration of the director's part in the creative process of theatre. Philosophical, technical, and organizational problems of directing plays.
PREREQ: THEA104

THEA 466  INDEPENDENT STUDY  1-6

THEA 476  SEMINAR IN PERFORMANCE TES & TECHNIQUES  3
Seminar in performance theories and techniques. Topics will be announced.
PREREQ: THEA226

THEA 490  SEMINAR IN THEATRE AND DRAMA  3
Seminar in theatre and drama. Topics will be announced.
RESTRICTIONS: Requires permission of instructor.

THEA 600  DISTINCTIONS OF PROFESSIONAL THEATRE PRACTICE  1
Inquiry into the nature of the theatre as an art form; techniques and issues of organization, management, leadership team participation and creativity necessary to the pursuit and accomplishment of fulfilling careers in institutional and commercial theatres. Explores how the nature and purpose of the theatre as an art informs the day-to-day practices, values and behavior of the individual artist.
RESTRICTIONS: Requires enrollment in Professional Theatre Training Program. May be repeated for up to six credit hours.

THEA 601  DYNAMICS  1
A vocal/physical warmup. Exercises designed to prepare student for the day's work.
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program. May be repeated for up to six credit hours.

THEA 602  VOICE DEVELOPMENT IA  1
Basic: breath control and tone production to develop strength, control, flexibility and awareness.
RESTRICTIONS: Requires enrollment in the Professional Theatre Program/Acting or Directing.

THEA 603  VOICE DEVELOPMENT IB  1
Continuation of THEA602
PREREQ: THEA602.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEA 604</td>
<td>Voice Development IIA 1</td>
<td>Continuation of THEA603, with an emphasis on range extension and the development of greater variety in expressiveness</td>
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<tr>
<td>THEA 605</td>
<td>Voice Development IIB 1</td>
<td>Continuation of THEA604.</td>
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<tr>
<td>THEA 606</td>
<td>Voice Development IIIA 1</td>
<td>Individual instruction to identify habitual vocal patterns and to strengthen individual weaknesses in voice</td>
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<tr>
<td>THEA 607</td>
<td>Voice Development IIIB 1</td>
<td>Continuation of THEA606.</td>
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<tr>
<td>THEA 608</td>
<td>Stage Movement IA 1</td>
<td>Excerpts and assignments to develop alignment, strength, flexibility, control, awareness, endurance, rhythmic sensitivity, balance and expressiveness</td>
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<tr>
<td>THEA 609</td>
<td>Stage Movement IB 1</td>
<td>Continuation of THEA608.</td>
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<tr>
<td>THEA 610</td>
<td>Stage Movement IIA 1</td>
<td>Continuation of THEA609, with an emphasis on stage combat, tumbling, circus and other advanced movement techniques.</td>
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<tr>
<td>THEA 611</td>
<td>Stage Movement IB 1</td>
<td>Continuation of THEA610.</td>
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<tr>
<td>THEA 612</td>
<td>Stage Movement IIIA 1</td>
<td>Individual instruction to identify habitual movement patterns and to strengthen individual weaknesses in stage movement</td>
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<tr>
<td>THEA 613</td>
<td>Stage Movement IIIB 1</td>
<td>Continuation of THEA612.</td>
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<tr>
<td>THEA 614</td>
<td>Stage Speech IA 1</td>
<td>Ear training and phonetics. Corrective work on regional speech habits.</td>
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<tr>
<td>THEA 615</td>
<td>Stage Speech IB 1</td>
<td>Continuation of THEA614. Beginning work on verse scansion.</td>
<td>THEA614</td>
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<tr>
<td>THEA 616</td>
<td>Stage Speech IIA 1</td>
<td>Continuation of THEA615, with an emphasis on phrasing and verse scansion.</td>
<td>THEA615</td>
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<tr>
<td>THEA 617</td>
<td>Stage Speech IIB 1</td>
<td>Continuation of THEA616.</td>
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<tr>
<td>THEA 618</td>
<td>Stage Speech IIIA 1</td>
<td>Stage dialects and advanced work in phrasing and verse scansion. Individual tutoring in problem areas</td>
<td>THEA617</td>
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<tr>
<td>THEA 619</td>
<td>Stage Speech IIIB 1</td>
<td>Continuation of THEA618.</td>
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<tr>
<td>THEA 620</td>
<td>Rehearsal and Performance/Acting 1-6</td>
<td>Practical instruction and assignments in the preparation, rehearsal and performance of theatrical productions</td>
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<tr>
<td>THEA 621</td>
<td>Stage Directing IA 1</td>
<td>Fundamental techniques of planning and staging of production.</td>
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<td>THEA 622</td>
<td>Stage Directing IB 1</td>
<td>Continuation of THEA621.</td>
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<tr>
<td>THEA 623</td>
<td>Stage Directing IIA 1</td>
<td>Continuation of THEA622, with an emphasis on techniques of script preparation and actor coaching</td>
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<tr>
<td>THEA 624</td>
<td>Stage Directing IIB 1</td>
<td>Continuation of THEA623.</td>
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<tr>
<td>THEA 625</td>
<td>Stage Directing IIIA 1</td>
<td>Continuation of THEA624, with an emphasis on text analysis and actor coaching and an examination of styles and genres</td>
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<tr>
<td>THEA 626</td>
<td>Stage Directing IIIB 1</td>
<td>Continuation of THEA625.</td>
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<tr>
<td>THEA 627</td>
<td>Stage Management for Directors 1</td>
<td>Techniques and methods of stage management from the directorial point of view</td>
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<tr>
<td>THEA 628</td>
<td>Set Design for Directors 1</td>
<td>Principles of scenic design from a directorial point of view.</td>
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<tr>
<td>THEA 629</td>
<td>Costume Design for Directors 1</td>
<td>Principles of costume design from a directorial point of view.</td>
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<tr>
<td>THEA 630</td>
<td>Production Budgeting 1</td>
<td>Principles of assessing production expenses, time and personnel requirements for the professional theatre</td>
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<tr>
<td>THEA 631</td>
<td>Rehearsal and Performance/Directing 1-3</td>
<td>Practical training in stage direction through serving as assistant director on faculty-directed productions</td>
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<tr>
<td>THEA 632</td>
<td>Stage Management Organizational and Managerial Techniques IA 1-2</td>
<td>Development of organizational structuring and communication techniques for the administration of stage managerial projects</td>
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<tr>
<td>THEA 633</td>
<td>Stage Management Organizational and Managerial Techniques IB 1-2</td>
<td>Further development of organizational structuring and communication techniques for the administration of stage managerial projects</td>
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<tr>
<td>THEA 634</td>
<td>Stage Management Organizational and Managerial Techniques IIA 1-2</td>
<td>Development of organizational structuring and communication techniques for the administration of stage managerial projects</td>
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<tr>
<td>THEA 635</td>
<td>Stage Management Organizational and Managerial Techniques IIIA 1-2</td>
<td>Development of organizational structuring and communication techniques for the administration of stage managerial projects</td>
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<tr>
<td>THEA 636</td>
<td>Stage Management Organizational and Managerial Techniques IIIB 1-2</td>
<td>Development of organizational structuring and communication techniques for the administration of stage managerial projects</td>
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<tr>
<td>THEA 637</td>
<td>Stage Management Organizational and Managerial Techniques IIIB 1-2</td>
<td>Development of organizational structuring and communication techniques for the administration of stage managerial projects</td>
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<tr>
<td>THEA 638</td>
<td>Stage Management Production Skills IA 1-2</td>
<td>Development of stage managerial skills for organizing, preparing and fulfilling theatrical productions from inception through rehearsals and performance.</td>
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<tr>
<td>THEA 639</td>
<td>Stage Management Production Skills IB 1-2</td>
<td>Development of stage managerial skills for organizing, preparing and fulfilling theatrical productions from inception through rehearsals and performance.</td>
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THEA 640  Stage Management Production Skills 1B  1-2
Further development of stage managerial skills for organizing, preparing and fulfilling theatrical productions from inception through rehearsals and performance
PREREQ: THEA 643

THEA 641  Stage Management Production Skills IIA  1-2
Development of stage managerial skills for organizing, preparing and fulfilling theatrical productions from inception through rehearsals and performance
PREREQ: THEA 640

THEA 642  Stage Management Production Skills IIIB  1-2
Further development of stage managerial skills for organizing, preparing and fulfilling theatrical productions from inception through rehearsals and performance
PREREQ: THEA 641

THEA 643  Stage Management Production Skills IIIA  1-2
Development of stage managerial skills for organizing, preparing and fulfilling theatrical productions from inception through rehearsals and performance
PREREQ: THEA 442

THEA 644  Stage Management Production Skills IIIIB  1-2
Further development of stage managerial skills for organizing, preparing and fulfilling theatrical productions from inception through rehearsals and performance
PREREQ: THEA 643

THEA 645  Rehearsal and Performance/Stage Management  1-5
Practical instruction and assignments in the preparation, rehearsal and performance of theatrical productions
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Stage Management. May be repeated for up to 24 credits

THEA 647  Stage Makeup 1
Study and practical work in all aspects of stage makeup. Emphasis on the use of materials, the effects of light and color and character analysis
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Costume Production

THEA 648  Costume Construction 1
Introductory course exploring the mechanics and technology of the art of costuming. Surveys all aspects of the costume designer's craft including practical work in the costume shop
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Costume Construction

THEA 649  Costume Design 1
An approach to the designing of costumes for plays through an appreciation and understanding of the basic principles of design. Covers in-depth technical rendering technique, color theory, and the elements of design
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Costume Production

THEA 650  Historical Costume I 1
Examines theatrical costume as well as concurrent fashion trends from primitive ritual to Restoration theatrical works in the 17th century

THEA 651  Historical Costume II 1
A study of costume and theatrical costume history from 1670 to the present. Emphasis on sociological changes in patterns of fashion behavior and recreating that attitude for stage

THEA 652  Tailoring I 1
Construction of stage costumes: intermediate and advanced dressmaking and tailoring techniques, textiles survey, cutting, fitting, and alterations
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Costume Production

THEA 653  Tailoring II 1
Construction of stage costumes: advanced tailoring techniques and practical application of skills in costume shop
PREREQ: THEA 652

THEA 654  Patternmaking I 1
Basic patternmaking, includes drafting of basic slopers, sleeves, collars, pants, etc. Emphasis on theatrical costumes
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Costume Production

THEA 655  Patternmaking II 1
Advanced pattern drafting of period patterns, coats, suits, and menswear for the theatre
PREREQ: THEA 654

THEA 656  Patternmaking III 1
Continuation of THEA 655. Emphasis on Renaissance and Restoration costumes
PREREQ: THEA 655

THEA 657  Patternmaking IV 1
Continuation of THEA 656. Emphasis on 19th-century men's and women's costumes
PREREQ: THEA 656

THEA 658  Costume Crafts I 1
Study and practical work in dyeing and painting of costumes
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Costume Production

THEA 659  Costume Crafts II 1
Advanced projects in costume accessory construction. Emphasis on millinery, hat blocking, wig making and new techniques in related areas
PREREQ: THEA 658

THEA 660  Costume Crafts III 1
Study and practical work in three-dimensional construction techniques to include maskmaking, armor, molding and leatherwork and sculptural foam animals
PREREQ: THEA 659

THEA 661  Draping I 1
Advanced study in construction of stage costumes with an emphasis on draping
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Costume Production

THEA 662  Draping II 1
Emphasis on advanced draping problems with detailed period and contemporary costumes
PREREQ: THEA 661

THEA 663  Draping III 1
Continuation of THEA 662 with emphasis on Renaissance and Restoration costume
PREREQ: THEA 662

THEA 664  Internship in Professional Theatre  1-9
Engagement with professional theatre in individual discipline area
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program. May be repeated for up to 18 credit hours

THEA 665  Theatre Literacy 2
Discussion, research, and practicum in theatre terminology, literature and history
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program. May be repeated for up to 12 credit hours

THEA 668  Research 1-6

THEA 669  Draping IV 1
Continuation of THEA 663 with emphasis on 18th- and 19th-century costume
PREREQ: THEA 663

THEA 670  Costume Shop Management 1
Problems and techniques of costume shop management, personnel organization, equipment, inventory and supply control, and financial organization and management
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Costume Production

THEA 671  Applied Costume Shop Management 1
Practical application of skills learned in THEA 670
PREREQ: THEA 670

THEA 672  Production Preparation and Performance 1-4
Practical instruction and assignments in the preparation, construction, and mounting of costumes and costume accessories for theatrical performances
RESTRICTIONS: May be repeated for up to 22 credits

THEA 674  Scenery Production 1
Materials, tools, hardware, and construction methods used for scenery construction. Emphasis on traditional scenic construction with wood as the primary material
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Technical Production

THEA 675  Properties Production 1
Concentrates on property production techniques with emphasis on properties management, acquisition, and health and safety
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Technical Production

THEA 676  Scenery; Metalworking 1
Materials, tools and methods of working with metal for scenery construction
PREREQ: THEA 674

THEA 677  Properties: Upholstery and Drapery 1
Tools, materials and methods for upholstery and drapery
PREREQ: THEA 675

UNIVERSITY OF DELAWARE 1996-97 CATALOG / PAGE 319
THEATRE

THEA 678 Properties: Casting and Mold-making 1
Tools, materials and methods of sculpting, casting and mold-making techniques
PREREQ: THEA675

THEA 679 Scenery: Stage Rigging 1
Tools, hardware and methods of rigging scenery. Emphasis on standard theatre rigging systems
PREREQ: THEA674

THEA 680 Lighting Production 1
Electrical theory and practice as applied to theatre production. Emphasis on current lighting production practice, systems and equipment
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Technical Production

THEA 681 Audio Production 1
Sound theory and practice as applied to contemporary theatre production. Emphasis placed on utilizing current systems, equipment and technology for audio production
RESTRICTIONS: Requires enrollment in Professional Theatre Training Program/Technical Production

THEA 682 Lighting Design 1
Essential skills and procedures for creating, documenting and realizing a lighting design for a theatrical production
PREREQ: THEA680

THEA 683 Electrics and Audio Production IIIB 1
Continuation of THEA682, with emphasis on electrical distribution systems and sound reinforcement techniques
PREREQ: THEA682

THEA 684 Electrics and Audio Production IIIC 1
Continuation of THEA683, with emphasis on maintenance and repair of electrical and audio equipment
PREREQ: THEA683

THEA 685 Electrics and Audio Production IIID 1
Continuation of THEA684, with emphasis on advanced mixing and editing techniques and advanced electrical control techniques
PREREQ: THEA684

THEA 686 Information Technologies for Theatre 1
Application of computer software to theatrical production practice. Emphasis is placed on CAD (drafting) techniques for theatre production
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Technical Production

THEA 687 Scenery Painting 1
Painting tools, materials, color theory and scenery painting techniques for theatrical production
RESTRICTIONS: Requires enrollment in Professional Theatre Training Program/Technical Production

THEA 688 CAD and Scenery Construction 1
Continued work on CAD (drafting) with emphasis on construction work drawings for scenery construction. Further study of standard and specialized scenery construction methods
PREREQ: THEA686

THEA 689 Advanced Scenery Painting 1
Continuation of THEA 687, with emphasis on wood and marble techniques, columns and other three-dimensional forms, and stenciling techniques for painting wallpaper
PREREQ: THEA687

THEA 690 Advanced CAD 1
Techniques for solving advanced problems in analytical geometry with 2D and 3D CAD
PREREQ: THEA688

THEA 691 Painting, Graphics and Design for Production IIIB 1
Continuation of THEA690, with emphasis on advanced work in scene painting and drafting
PREREQ: THEA690

THEA 692 Production and Performance/Technical 1-4
Practical instruction and assignments in the technical preparation and production of Professional Theatre Training Program public performances. Assignments include but are not limited to: Master Carpenter, Master Electrician, Property Master, Audio Engineer, Scene Artist and Technical Director
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program/Technical Production. May be repeated for up to 20 credit hours

THEA 693 Production Coordination 1
Development of management and communication techniques for effective interaction among stage management, costume production and technical production areas of theatre
RESTRICTIONS: Requires enrollment in the Professional Theatre Training Program. May be repeated for up to 6 credit hours

THEA 694 Special Topics in Theatre Production 1-3
Multiple units on advanced topics in theatre production and management. Students select topics from a list of 5-6 available topics offered by PTTP production faculty
RESTRICTIONS: Requires enrollment in the Professional Theatre training Program. May be repeated for up to 9 credit hours

UNIVERSITY COURSE

UNIV 120 University Forum 1 PF
Course taught in conjunction with the University Forum Lecture Series. Students attend all Forum lectures approximately ten, read selected texts and/or journal essays designed to supplement the lecture series, and take a final exam

UNIV 320 Contemporary Issues for Resident Assistants 1
Introduces new Resident Assistants to issues affecting college students. All topics covered in the course focus on the needs of the new resident assistant in the Office of Housing and Residence Life
RESTRICTIONS: Must be a resident assistant

UNIV 330 Del Central Year Abroad 0 NR
UNIV 350 National Student Exchange Program 0 NR
UNIV 351 Semester in Copenhagen 0 NR
UNIV 354 Semester in London 0 NR
UNIV 368 Honors Workshop: Advanced Topics 1
Multidisciplinary seminar with emphasis on discussion of state-of-the-art research topics by Accounting/Business/Economics faculty. New topic each semester. Includes assessment of the research approach, substantive findings, related research and possible extensions
PREREQ: BUAD301 and BUAD311
RESTRICTIONS: Requires GPA of 3.0 or higher and Junior or Senior status

UNIV 369 Honors: Undergraduate Research Sustaining 0 PF
Research apprenticeship with faculty mentor
RESTRICTIONS: Limited to those appointed as Undergraduate Research Scholars in the Undergraduate Research Program. Must have approval of the Coordinator of Undergraduate Research, University Honors Program

UNIV 401 Senior Thesis 2-4
Senior thesis for students working toward a degree with distinction
RESTRICTIONS: Total credit for UNIV401 and UNIV402 not to exceed six

UNIV 402 Senior Thesis 2-4
Continuation of UNIV401
RESTRICTIONS: Total credit for UNIV401 and UNIV402 not to exceed six

UNIV 490 Honors Tutorial: Humanities 3
Designated faculty direct the studies of up to three students per semester. Readings of classical works in the humanities described. Group as well as individual discussions
RESTRICTIONS: Requires 3.4 GPA, Sophomore standing or above, and permission of the Honors Program

UNIV 491 Honors Tutorial: Natural/Social Science 3
Designated faculty direct the studies of up to three students per semester. Reading of classical works in the social and natural sciences described. Group as well as independent discussions
RESTRICTIONS: Requires 3.4 GPA, Sophomore standing or above and permission of the Honors Program

UNIV 495 Honors Seminar 3
Topics vary; usually interdisciplinary
RESTRICTIONS: Requires 3.0 GPA, Junior status or above, and permission of the Honors Program. May be repeated for credit with a different topic and instructor

UNIV 500 Leave of Absence 0 NR

URBAN AFFAIRS

URAF 605 Topics in Urban Affairs 3
Focuses on selected topics in urban affairs such as urban politics and government, urban education and neighborhood analysis
RESTRICTIONS: May be repeated for up to nine credits when topics vary

URAF 606 Local Economic Development: Policy and Practice 3
Examines theory and contemporary practice for promoting the economic development of local communities. Reviews alternative ways of understanding the dynamics of local economic development and devising strategies that will benefit local communities

URAF 607 Community Analysis and Development Seminar 3
Examines the complex ways in which the concepts of community analysis and development are used and understood. Students connect the concepts to issues, problems or policy alternatives affecting local communities by participating in applied projects
URALF 608  POVERTY, NEIGHBORHOODS AND COMMUNITY DEVELOPMENT  3
Examines social science literature through which multidisciplinary analysts have
described and explained poverty, analyzed neighborhoods, and categorized community
development efforts. Focusing on the United States, particular attention is paid to analy-
ses from 1960 to the present.
URALF 610  URBAN LAND USE PLANNING AND ADMINISTRATION  3
Interaction of political, economic and social forces in the planning and land use control
process. Emphasis on planning agency administration and current policies impacting
the planning process, including recently enacted environmental and community development
legislation. Concern for the role of the planner, the planning agency and the planning
function as it relates to economic and community development.
URALF 611  HISTORY OF THEORIES IN MATERIAL CULTURE  3
See EAMC605 for course description.
URALF 612  URBAN HOUSING POLICY AND ADMINISTRATION  3
Problems associated with providing adequate and affordable housing in the U.S. The
structure and dynamics of the housing market; demand and supply factors; market fail-
ure, financing methods; and federal, state and local public policy affecting housing,
including taxation, regulation, subsidy programs, and land use controls.
URALF 613  PLANNING THEORY AND URBAN POLICY  3
Provides an overview of the development and current conceptual normative and method-
ological issues in planning theory as applied to urban regions.
URALF 614  THE AMERICAN SUBURB  3
An examination of the historical and geographical origins of the American suburb and
its role in metropolitan development and larger society. Includes the evolution of the
streetcar and automobile suburbs with special emphasis on the post World War II subur-
ban boom and contemporary post-suburban trends. May be cross-listed with GEOG614
and/or HIST614.
URALF 615  URBAN AND REGIONAL PLANNING  3
Provides an introduction to urban planning. Focuses mainly on U.S., but some compar-
isons made with Britain and Canada. Topics covered include: zoning, urban growth mis-
agement, land policies, regional policies and urban policy. May be cross-listed with
GEOG615.
URALF 616  URBAN COMMUNITY ORGANIZATION SEMINAR  3
Studies the varied community organization concepts, methods and models, and analyzes
the organizational structure and service delivery systems of selected social agencies that
sponsor community organization and social action activities.
URALF 618  HUMAN SERVICE SYSTEMS: POLICY, PRACTICES, ADMINISTRATION  3
Covers current policy issues for energy conservation, energy efficiency, and renewable
energy sources. Some prior background in energy policy is assumed, and the course will
go into substantial depth. The course will include environmental impacts, utility programs,
and international comparisons. May be cross-listed with MAST622 and/or POSC626.
PREREQ: URCAF625 and POSC624.
URALF 627  COMPARATIVE ENVIRONMENTAL POLITICS  3
Examines the effect of institutional and systemic factors in the formulation and implemen-
tation of environmental policy in several developed and developing countries. Considers
the impact of modes of political participation, level of development, and type of political
economy on policy. May be cross-listed with MAST626 and/or POSC626.
URALF 628  ISSUES IN LAND USE AND ENVIRONMENTAL PLANNING  3
See GEOG628 for course description.
URALF 629  SEMINAR IN HISTORIC PRESERVATION  3
Survey of historic preservation and management of cultural resources examining cultural
contexts and public policy. Covers techniques of preservation, legal and legislative basis
of preservation programs, with particular attention to National Register of Historic Places.
May be cross-listed with ARTH628, HIST625 and/or MAST629.
URALF 630  HISTORIC PRESERVATION STUDIO  3
Upper level field research seminar concentrating on developing graphic, photographic
and narrative skills for architectural documentation. Involves classroom and field ses-
sions. May be cross-listed with ARTH634.
URALF 632  MAKING THE AMERICAN CITY  3
Advanced research and reading seminar on the material organization of early American
cities. Examination of historical and cultural issues related to housing, consumerism, gen-
der, ethnicity, craft, poverty and wealth as a means of interpreting the city as artifact
and symbolic setting. Includes field trips to cities in the region. Students will work with
primary sources including architectural materials, architecture and documentary evi-
dence. May be cross-listed with ARTH632 and/or HIST632.
URALF 634  HOUSING FINANCE AND DEVELOPMENT  3
Fundamentals of real estate and housing finance. Various methods available to finance
the development of real estate. Financial instruments and institutions involved in each
phase. Relevant tax laws and likely tax consequences. Development of public policy as it
affects the availability of housing credit. The function, operation and regulation of financ-
ial and related institutions, including FHA, FNMA, GNMA, FHBB and FHMUC.
URALF 635  THE EVOLUTION OF THE AMERICAN URBAN LANDSCAPE  3
Reading and research seminar on the evolution of the American Urban landscape from
approximately 1850 to the present. Examination of historical, cultural and geographical
issues and processes related to industrialism and capitalism, technology, gender and eth-
nicly, housing, poverty and wealth as a means of understanding the evolution of the his-
toric American urban landscape. Includes field trips to cities in the region. May be
cross-listed with GEOG635 and/or HIST635.
URALF 636  RESEARCH TOPICS IN HISTORIC PRESERVATION  3
Seminar that addresses a specific research issue within historic preservation including
hypothesis construction, design of research methodology and evaluation of results.
Emphasis on the use of primary sources and application of data-base techniques. May
be cross-listed with ARTH622, GEOG636 and/or HIST636.
URALF 637  PERSONNEL SELECTION AND EVALUATION  3
Review of the varied legal issues, federal agency guidelines, court decisions and research-
psychometric principles that influence the practice of employee selection and evaluation.
URALF 640  INTERNATIONAL AND DEVELOPMENT ADMINISTRATION  3
See POSC640 for course description.
URALF 645  PUBLIC SECTOR LABOR RELATIONS  3
An overview of employer-employee relations in state and local governments. Emphasis
on the economic and political environment, institutional responses to collective bargain-
ing, and economic and political outcomes of the bargaining process. Some emphasis on
development of skills in grievance handling and arbitration.
URALF 647  PHILOSOPHY OF TECHNOLOGY  3
See PHIL647 for course description.
URALF 648  ENVIRONMENTAL ETHICS  3
See PHIL648 for course description.
URALF 654  VERNACCULAR ARCHITECTURE  3
See HIST654 for course description.
URALF 655  SOCIAL ENVIRONMENT AND HEALTH  3
Examines the relation between socioeconomic structure and health as a descriptive and
conceptual framework for health policy analyses at national and local levels. Views rela-
tions between health levels and socioeconomic structure, and changes in socioeconomic
structure from spatial and historical perspectives. Dimensions of socioeconomic structure
include income, education, occupation, industry, employment and ethnicity.
URALF 659  TOPICS IN PUBLIC ADMINISTRATION  3
Focuses on micro and macro Public Administration issues, i.e., privatization, health care
cost containment, flex benefits packages, ethics, organizational productivity, concession
and productivity bargaining. May be cross-listed with POSC659.
URALF 660  SEMINAR IN URBAN MANAGEMENT  3
Provides a theoretical and conceptual orientation to urban management, perspectives on
the development of urban management as a profession, a description of the intergovern-
mental, sociopolitical and economic environment of urban management, and analyses of
current issues in the area.
URALF 662  MUNICIPAL MANAGEMENT  3
Surveys the major operational functions of local government with emphasis on the practi-
cial elements and problems in the management of these functions. Functions include solid
waste disposal, economic development, planning and land use control, water supply,
police and emergency services; and cultural, social and recreational services. Emphasis
on innovative approaches to the provision of services.
URALF 664  CASE STUDIES IN STATE AND LOCAL MANAGEMENT  3
Uses analyses of cases in state and local decision making to enable students to improve
their communication, decision making and management skills. Cases deal with a broad
range of subject areas [e.g., health and recreation] and problems [e.g., facility location
and personnel].
URALF 678  ADMIRALTY AND MARITIME LAW  3
See MAST678 for course description.
URAF 681 Metropolitan Infrastructure and Transportation 3
Movement is essential for metropolitan area performance. Roads and water systems are infrastructure components that impact where houses, stores, and jobs are located, which in turn links into movement, pollution and congestion. This course means infrastructure decision making using approaches from public economics. May be cross-listed with POSC681. PREREQ: URAF834 or microeconomics

URAF 683 REGIONAL POLICY ANALYSIS 3
Why do some regions/states grow and change? Course presents theoretical perspectives of regional development, methods of inter-regional analysis, as well as internal-regional topics such as land use, migration, city-suburban shifts, and neighborhoods. Various kinds of regional policies are analyzed. May be cross-listed with POSC683. PREREQ: URAF834 or microeconomics

URAF 685 PERSONNEL AND HUMAN RESOURCE ISSUES: CURRENT TOPICS 3
Analysis of selected policies, practices, and issues currently important in the field of public personnel/human resources. Topics vary depending on instructor (illustrations: EEO developments, "Glass Ceiling" issues, ADA, benefits/cost containment, labor negotiation trends, the changing workforce and workplace). Seminar with individually-taught projects. May be cross-listed with POSC685. PREREQ: URAF837

RESTRICTIONS: Based on prior coursework and professional experience, may be waived with instructor approval

URAF 686 STATE AND LOCAL GOVERNMENT: CONCEPT AND ISSUES 3
Explores the state and local government context in which public managers work. Examines the organizational, administrative, and economic forces shaping state and local public action, as well as the political decision making apparatus used by subnational governments. Assesses the contemporary role in the federal system. May be cross-listed with POSC686

URAF 687 STATE GOVERNMENT POLICY AND MANAGEMENT 3
Focusses on roles and functions of state government in the United States. Topics to be covered will include legislative policy making and operations, executive branch organization and functions, the structure and role of state courts, the role of the governor and the role of the states in intergovernmental policy making. State government in the Middle Atlantic region will receive special attention. May be cross-listed with POSC687

URAF 688 TOPICS IN STATE AND LOCAL MANAGEMENT 3
Focusses on selected topics in state and local management and policymaking. May include in-depth exploration of management processes/instruments (e.g., budgeting) and/or contemporary policy issues (e.g., educational reform, environmental crisis) within state and local government with which public managers must contend. May be cross-listed with POSC688

WOMEN'S STUDIES

WOMS 100 PHILOSOPHIES OF LIFE 3
See PHIL100 for course description

WOMS 201 INTRODUCTION TO WOMEN'S STUDIES 3
Study of the causes and conditions determining women's status in society, as evidenced in institutional structures and personal relations between men and women. Taught from multidisciplinary perspectives.

WOMS 202 INTRODUCTION TO INTERNATIONAL WOMEN'S STUDIES 3
Examines how public policies and traditional customs affect women's lives around the world. Focuses on the effects of political and economic status, social norms and institutional structures on women's conditions in family life, education and employment.

WOMS 203 CONTEMPORARY MORAL PROBLEMS 3
See PHIL202 for course description

WOMS 204 GENDER AND KNOWLEDGE 3
Women have been largely absent from the historical record and from the traditional liberal arts curriculum. Introduces, via guest lecturers, the new scholarship on women in disciplines from English literature to biology to the social sciences

WOMS 205 WOMEN IN THE ARTS AND HUMANITIES 3
Interdisciplinary survey of women's contributions to the arts and humanities, also including literary/artistic images of women, contributions of minority and non-Western women, and study of the relationship between women's social-economic roles and cultural expressions.

WOMS 206 WOMEN AND WORK 3
Covers a variety of topics including women in traditional and non-traditional occupations, gender-based discrimination (wage inequities, sexual harassment, exclusionary policies), the contributions of women to the economy and the role of law in shaping conditions for women in the workplace. May be cross-listed with SOCI206

WOMS 207 WOMEN, POWER AND SUCCESS 3
Research, theory and possible strategies related to expanding the horizons in achieving "power" and "success" in women's lives. Topics include socializing girls to be successful, evaluating personal strengths and goals, and a new model of women and power

WOMS 208 INTRODUCTION TO DRAMA 3
See ENG1208 for course description

WOMS 209 INTRODUCTION TO THE NOVEL 3
See ENG1209 for course description

WOMS 210 WOMEN AND RELIGION 3
Examines the impact of Near Eastern and Judeo-Christian scriptures on women in the family and society, especially focusing on women's roles as mystics and leaders, within and outside of institutional religion. Also covers recent feminist approaches to religion. May be cross-listed with PHIL210

WOMS 211 MEN, CONFLICT AND SOCIAL CHANGE 3
Examination of male roles and images in society, utilizing an interdisciplinary social science perspective. Topics include the family, work, military, violence and the implications of feminism for men. May be cross-listed with SOC111

WOMS 212 MOTHERHOOD IN CULTURE AND POLITICS 3
Examines contemporary cultural and political issues related to motherhood and mothering, including definitions and cultural significance of motherhood, experiences of childbirth, effects of new reproductive technologies, surrogate mothering and "maternal thinking," also efforts to avoid motherhood through contraception and abortion and related legal controversies

WOMS 213 MEN AND WOMEN IN AMERICAN SOCIETY 3
See SOCI113 for course description

WOMS 214 LITERATURE AND GENDER 3
See ENG1214 for course description

WOMS 216 INTRODUCTION TO FEMINIST THEORY 3
See PHIL1216 for course description

WOMS 222 LANGUAGE AND GENDER 3
See LNGU222 for course description

WOMS 223 WOMEN, BIOLOGY AND MEDICINE 3
See CSCC233 for course description

WOMS 240 WOMEN AND VIOLENCE 3
Analyzes a variety of issues and topics relating to women and violence, including rape, domestic violence, images of women in popular culture, incest and child abuse, pornography, sexual harassment and women who use violence. Presents descriptive materials, sociological analysis and strategies for change

WOMS 242 WOMEN IN ART 3
See ARTH240 for course description

WOMS 290 HISTORY OF WOMEN AND EDUCATION 3
See EDST290 for course description

WOMS 291 WOMEN'S HISTORY THROUGH FILM 1
Explores women's historical experiences through the medium of film. Students will view and discuss a variety of documentary films on women and read materials related to topics covered in the films. Films will deal with historical and contemporary issues in the United States and internationally. May be cross-listed with HIST291

WOMS 297 RESEARCH IN LESBIAN, GAY AND BISEXUAL STUDIES 1
PF lectures by social science, arts and humanities scholars and researchers on new issues raised by gays, lesbians and bisexuals; their social movements and history; history of their lives and achievements; heterosexism, homophobia and the social construction of sexuality in social relations, cross-culturally and historically.

WOMS 298 RACE, ETHNICITY AND CULTURE 1
PF lectures in which faculty and guest speakers discuss their research on contemporary and historical perspectives on race, ethnicity and culture. Research presented from several disciplines, including sociology, history, literature, anthropology and psychology, among others. May be cross-listed with BAMS298 and/or SOCI298

RESTRICTIONS: May be repeated for credit when topics vary

WOMS 299 RESEARCH ON WOMEN 1
PF Interdisciplinary lectures in which faculty, staff and advanced students share results of their research on women. Lectures cover issues in anthropology, sociology, political theory, psychology, philosophy, literature, history, theology, ethnic studies, music, art, math education, health, etc.

RESTRICTIONS: May be repeated for credit when topics vary

WOMS 300 WOMEN IN AMERICAN HISTORY 3
See HIST300 for course description

WOMS 303 THE EVOLUTION OF HUMAN SEX ROLES AND REPRODUCTION 3
See ANTH305 for course description

WOMS 318 STUDIES IN FILM 3
See ENG1218 for course description

WOMS 320 VARYING AUTHORS AND GENRES 3
See FIL1320 for course description
WOMS 323 INTRODUCTION TO WOMEN AND POLITICS 3
See POSC323 for course description.

WOMS 324 TOPICS: FRENCH LITERATURE IN TRANSLATION 3
See FLIT324 for course description.

WOMS 325 TOPICS: GERMAN LITERATURE IN TRANSLATION 3
See FLIT325 for course description.

WOMS 326 TOPICS: HISPANIC LITERATURE IN TRANSLATION 3
See FLIT326 for course description.

WOMS 328 TOPICS: JAPANESE LITERATURE IN TRANSLATION 3
See FLIT328 for course description.

WOMS 330 VARYING AUTHORS, THEMES AND MOVEMENTS 3
See FLIT330 for course description.

WOMS 333 PSYCHOLOGY OF WOMEN 3
See PSYC333 for course description.

WOMS 335 WOMEN AND MENTAL HEALTH 3
Focuses on sociocultural dynamics influencing the psychological development of women, prevalent mental disorders among women and the common types of psychotherapeutic treatment of women.

WOMS 338 TOPICS IN PHILOSOPHY AND GENDER 3
See PHIL338 for course description.

WOMS 339 WOMEN AND MENTAL HEALTH 3
See PHIL339 for course description.

WOMS 350 WOMEN AND CRIMINAL JUSTICE 3
See CRJU350 for course description.

WOMS 353 TWENTIETH CENTURY BRITISH LITERATURE 3
See ENGL353 for course description.

WOMS 363 WOMEN IN CROSS-CULTURAL PERSPECTIVE 3
Social realities of women within the cultures of Asia, Africa and Latin American societies. How institutions such as motherhood, the family, sexuality and work structure women's lives within the dominant social ideologies. May be cross-listed with ANTH363.

WOMS 366 INDEPENDENT STUDY 1-6

WOMS 380 WOMEN WRITERS 3
See ENGL380 for course description.

WOMS 381 WOMEN IN LITERATURE 3
See ENGL381 for course description.

WOMS 382 STUDIES IN MULTICULTURAL LITERATURE IN ENGLISH 3
See ENGL382 for course description.

WOMS 389 TOPICS: WOMEN AND HEALTH ISSUES 3
Varying special topics related to women's health. Topics may include, but are not limited to: the relationship between women, health and development; theoretical contributions of feminism to thinking about relationship between gender and health; women's health conditions in various parts of the world. May be cross-listed with CSCC389 and/or PHIL389.

WOMS 390 HONORS COLLOQUIUM 3
See ARSC390 for description. May be cross-listed with PHIL390.

WOMS 392 HONORS COLLOQUIUM 3
See ARSC392 for course description. May be cross-listed with PHIL392.

WOMS 407 SOCIOLOGY OF SEX AND GENDER 3
See SOCI407 for course description.

WOMS 409 VARIETIES OF MODERN FEMINISM 3
See HIST409 for course description.

WOMS 413 PROBLEMS IN AMERICAN GOVERNMENT 3
See POSC413 for course description.

WOMS 415 RACE, CLASS AND GENDER 3
See POSC415 for course description.

WOMS 430 TEACHING FAMILY LIFE 3
See IFST430 for course description.

WOMS 436 POLITICS AND LITERATURE 3
See IFST436 for course description.

WOMS 460 WOMEN IN INTERNATIONAL DEVELOPMENT 3
See SOCI460 for course description.

WOMS 465 STUDIES IN LITERATURE GENRES, TYPES AND MOVEMENTS 3
See ENGL465 for course description.

WOMS 466 INDEPENDENT STUDY 1-6

WOMS 470 SEMINAR 3
Seminar course on special topics. PREREQ: WOMS201.

WOMS 471 ADVANCED PHILOSOPHICAL TOPICS 3
See PHIL470 for course description.

WOMS 473 STUDIES IN EARLY MODERN EUROPEAN HISTORY 3
See HIST473 for course description.

WOMS 475 TOPICS 1-4
Cross-listed on a term basis with courses in other areas of instruction. Course title, description, credit hours and grade type same as cross-listed course. May be repeated for credit when courses cross-listed with it are different.

WOMS 480 SEMINAR 3
See ENGL480 for course description.

WOMS 498 INTERNSHIP IN WOMEN’S STUDIES 3
Students work eight hours per week in an agency or program catering to women’s issues. Academic knowledge applied to actual working situations. Seminar discussions focus on internship experience in light of academic research and theory. PREREQ: Requires permission of instructor.

WOMS 607 SOCIOLOGY OF SEX AND GENDER 3
See SOCI607 for course description.