

NUTR 455/ KIN 424. Theories and Practices of Weight**Management.** 3 credits. *Offered spring.*

An examination of the physiological, psychological and environmental theories of obesity. Current trends in obesity research are emphasized. A case study and laboratories are used to provide students with practical experience in constructing a weight management program. *Prerequisite: BIO 270, BIO 290, NUTR 280 or permission of the instructor.*

NUTR 460. Computer Systems for Foods and Nutrition. 3 credits. *Offered spring.*

Introduction to food and nutrition computer systems. Emphasis is placed on the role of computers in nutritional assessment, food service administration, nutrition education and food technology. *Prerequisites: NUTR 360 and successful completion of the Tech Level I test.*

NUTR 482. Nutrition and Metabolism (2, 2). 3 credits. *Offered fall.*

A study of the nutrients, their roles in intermediary metabolism, the effects of genetic errors in metabolism, nutritional deficiencies and means of assessing nutritional status. Agencies and programs concerned with nutrition and health and current trends in nutrition research are emphasized. *Prerequisites: NUTR 280, physiology, biochemistry, statistics, and previous or concurrent anatomy.*

NUTR 484. Clinical Nutrition II (2, 2). 3 credits. *Offered spring.*

A study of the use of diet in preventing illness and as a means of treating disease. Emphasis is given to patient education. *Prerequisites: NUTR 384 and NUTR 482.*

NUTR 490. Field Experience in Dietetics. 3 credits. *Offered summer.*

Students participate in field experience relating to their major area of dietetics and their career goals under the coordination of a dietetics faculty member. On-the-job supervision will be provided by the participating hospital dietitians. *Prerequisites: NUTR 384, NUTR 395. Application for enrollment must be completed through the course instructor in the fall semester prior to the summer in which it will be taken. Cumulative GPA of 2.0 required.*

NUTR 495. Senior Seminar in Dietetics. 2 credits. *Offered fall.*

Students will be introduced to research in dietetics and conduct a senior research project. The Code of Ethics and Standards of Practice of the American Dietetic Association will be investigated, and students will prepare for their postgraduate dietetic internship.

NUTR 496. Special Studies in Nutrition/Dietetics. 1-3 credits. *Offered fall and spring.*

This course is designed to give the student in dietetics an opportunity to complete independent study, professional conference participation and/or research under faculty supervision. *Prerequisite: Permission of the coordinator of the dietetics program.*

NUTR 499. Honors. 6 credits. *Offered fall and spring.*

Year course.

Philosophy

Department of Philosophy and Religion**GPHIL 101. Introduction to Philosophy.** 3 credits. *Offered fall and spring.*

An introduction to the basic problems and concepts of philosophy – the nature of man and the self, ethics, theories of knowledge, philosophy of religion, etc. as revealed in the writings of major philosophers.

GPHIL 120. Critical Thinking. 3 credits. *Offered fall and spring.*

An introduction to the techniques for analyzing and evaluating information in everyday experience. The functions of language will be discussed. Techniques for judging the strengths of arguments and the probable truth of the arguments' premises will be examined.

PHIL 210. Philosophy Through Film. 3 credits. *Offered summer.*

This course combines feature length films and classic philosophical writings as points of departure for considering perennial philosophical questions such as: What is real? (Metaphysics) How can I know? (Epistemology) What is of value? (Morality).

PHIL/REL 218. Philosophy of Religion. 3 credits. *Offered spring.*

An intensive examination of religion from the standpoint of philosophical thinking with particular emphasis on the way philosophers view such problems as the existence of God, evil, immortality, religious language, etc.

PHIL 250. Introduction to Symbolic Logic. 3 credits. *Offered fall and spring.*

An introduction to the languages and techniques of propositional logic and first-order quantification theory.

PHIL 262. Problems in Applied Ethics. 3 credits.

Ethical theories are used to analyze contemporary moral issues in areas such as business and health care. Course content varies.

PHIL 270. Introduction to Ethics. 3 credits.

An introductory study of the basic ethical theories past and present with some application to moral problems.

PHIL 285. Philosophy, Art and Literature. 3 credits.

This course will study artistic works (literary or otherwise) for their philosophical content. Related issues in the philosophy of art for example, the nature of tragedy, theories of interpretation may also be considered.

PHIL 300. Knowledge and Belief. 3 credits.

An extensive examination of theories of knowledge and philosophical problems concerning knowledge and belief. *Prerequisite: GPHIL 101 or permission of the instructor.*

PHIL/ART 305. Seminar in Aesthetics. 3 credits. *Offered fall and spring.*

Readings and discussions in the persistent philosophical problems of the arts, centering on consideration of the work of art, the artist and the audience. *Prerequisite: GART 200, GARTH 205, GARTH 206 or GPHIL 101.*

PHIL 310. Symbolic Logic. 3 credits.

The study and application of the principles and techniques of modern deductive logic to natural language. Also, examination of the properties of formal systems and of the logical implications and paradoxes of language. *Prerequisite: PHIL 250 or consent of the instructor.*

PHIL 311. Metaphysics. 3 credits.

Examination of central questions regarding the fundamental nature of reality. Possible topics: universals and particulars, possibility and necessity, mind and body, identity over time, free will causality, time and God. *Prerequisite: At least one other philosophy course or approval of the instructor.*

PHIL/IA 312. Causal Analysis. 3 credits.

Examines causal analysis in national, military, counter-, and competitive intelligence. By assessing a factor's amount and kind of efficacy, students will learn the most reliable methods for distinguishing between relevant/irrelevant events and factors, identifying and excluding pseudo-causes, and anticipating higher order effects of a causal process. *Prerequisite: IA 261 or permission of instructor.*

PHIL/IA 313. Counterfactual Reasoning. 3 credits.

Examines counterfactual reasoning in national, military, counter-, and competitive intelligence. By analyzing alternate scenarios and their consequences, students will learn the most relevant methods for employing creative thinking in generating, developing, and assessing possibilities; substantiating after-action reports, and structuring futures analysis. *Prerequisite: IA 261 or permission of instructor.*

PHIL 314. Rational Decision Theory. 3 credits.

Explores the fundamental principles of making reasonable choices. The course considers both the conceptual, epistemological and logical insights of these principles, as well as applies them to numerous real-world cases faced by recent decision-makers in areas such as intelligence, information analysis, business or politics. *Prerequisite: GPHIL 120 or instructor consent.*

PHIL 315. Logic and Legal Reasoning. 3 credits.

Application of symbolic logic (first-order logic with identity) to legal language and deductive legal argument. Will include close logical analysis of at least one of the following: Supreme Court brief, Supreme Court decision, Supreme Court oral argument. *Prerequisite: PHIL 250 or instructor consent.*

PHIL 320. Inductive Logic. 3 credits.

Introduction to inductive logic and philosophical problems it raises. Topics discussed: the traditional problem of induction, the Goodman paradox and the new riddle of induction, the probability calculus and kinds of probability, Mill's methods of experimental inquiry and the nature of causality, abduction (inference to the best explanation) and confirmation theory.

PHIL 325. Crime, Punishment and Justice. 3 credits.

Theories of criminal punishment are examined in the context of philosophical theories of justice and in conjunction with material from the social sciences on crime, criminal offenders and the effects of penal sanctions.

PHIL 330. Moral Theory. 3 credits. *Offered fall and spring.*

An examination, at the intermediate level, of both classical and contemporary moral theories. Critical analysis of the normative and meta-ethical issues these theories raise.

PHIL 335. The Individual, the State and Justice. 3 credits. *Offered fall.*

Mid-level class in political philosophy. Will read classic and/or contemporary texts in philosophy influential on political thought. Focus may be on views of the justification for and role of the state. Consideration may also be given to the proper relationship of individuals and the state, political freedom autonomy. *Prerequisite: GPHIL 101 or approval of the instructor.*

PHIL 340. Ancient Greek Philosophy. 3 credits. *Offered fall and spring.*

This course traces philosophical problems raised by the pre-Socratics, Parmenides, Heraclitus, Pythagoras and the Sophists through their treatment by Plato and Aristotle. Emphasis is placed on selected writings of Plato and Aristotle. *Prerequisites: GPHIL 101 and junior standing or permission of the instructor.*

PHIL 341. Modern Philosophy. 3 credits. *Offered fall and spring.*

A selective survey of major issues and thinkers in Western philosophy from Descartes to Kant.

PHIL 342. Medieval Philosophy. 3 credits.

A survey of the major issues and thinkers of medieval philosophical world with emphasis on the philosophical writings of those within the Western tradition, such as Augustine, Anselm, Aquinas and Scotus. *Prerequisite: One other philosophy course or approval of the instructor.*

PHIL 344. Existentialism. 3 credits.

An examination of existentialism and its major spokesmen including such authors as Kierkegaard, Nietzsche, Sartre, Camus, Marcel and Heidegger. *Prerequisite: GPHIL 101 or permission of the instructor.*

PHIL/WMST 350. The Philosophy of Feminism. 3 credits.

An intermediate-level examination of philosophical problems in feminist theory and feminist contributions to philosophy.

PHIL 367. Topics in Philosophy of Law. 3 credits.

Examination of the philosophical issues raised by the law, including the nature, foundations and limits of the law, theories of its interpretation and the fundamental interest it aims to protect. *Prerequisite: PHIL 270, PHIL 262, PHIL 330 or PHIL 335.*

PHIL 370. American Philosophy. 3 credits.

A study of the main philosophical ideas in America, especially pragmatism, with particular emphasis being given to Pierce, James, Royce, Dewey and Whitehead. *Prerequisite: GPHIL 101 or permission of the instructor.*

PHIL/REL 375. Nineteenth Century Philosophy and Theology. 3 credits.

A selected study of 19th-century thought, with emphasis on controversies concerning the nature and limits of reason, the ultimate meaning of history, and the inner meaning and social significance of religion. Pertinent thinkers include Hegel, Marx, Schleiermacher, Kierkegaard, Nietzsche and others.

PHIL/REL 377. Hermeneutics. 3 credits. *Offered every two years.*

This course will examine the main features of hermeneutics with particular emphasis on its contemporary perspectives. Discussion will focus on such themes as human understanding and human finitude, the nature of history and tradition, linguisticality and textuality of experience. Readings may address Gadamer, Ricoeur, Schleiermacher, and Dilthey. *Prerequisite: GPHIL 101 or permission of the instructor.*

PHIL/REL 385. Buddhist Thought. 3 credits.

Buddhist thought from its origins to the contemporary world in South Asia and East Asia. Emphasis on the understanding of the human condition; analysis of the mind and of the nature of the cosmos; and the expression of Buddhist thought in the fine arts and social activism.

PHIL 390. Special Topics in Philosophy. 3 credits. *Offered fall and spring.*

Topics for this intermediate-level course may be drawn from any area or period of philosophy chosen by the instructor. The course is designed primarily for Philosophy majors and minors, but any suitably prepared student may take the course with the permission of the instructor. *Prerequisite: GPHIL 101 or instructor consent.*

PHIL 392. Philosophy of Mind. 3 credits.

An examination of competing theories of the intrinsic nature of mental states and mental processes, including careful consideration of questions concerning the relation between the mind and the physical world. *Prerequisite: GPHIL 101 or approval of the instructor.*

PHIL 394. Self and Identity. 3 credits. *Offered once every two years.*

This course will explore the philosophical aspects of personal identity, with particular emphasis on the metaphysics of the self. Other issues considered may include the nature of the soul, the status of self-knowledge, and the ethical aspects of personhood. *Prerequisites: GPHIL 101 or permission of instructor.*

PHIL 395. Philosophy and Scientific Inquiry. 3 credits.

An analysis of philosophical problems in science, such as the nature of scientific explanation, theory formation and confirmation of scientific hypotheses. Issues discussed include the role of models in theory formation, the relationships between experience and reasoning in theory construction and confirmation and the roles of paradigms in scientific thought. *Prerequisite: GPHIL 101 or permission of the instructor.*

PHIL 420. Philosophy of Language. 3 credits.

An examination of the central issues in contemporary (mainly 20th century) philosophy of language. Potential topics to be covered include meaning, reference, the nature of language and the nature of truth. Potential philosophers to be examined include Mill, Frege, Russell, Kripke, Lewis and Grice. *Prerequisite: GPHIL 101 or GPHIL 120 or permission of the instructor.*

PHIL 430. Analytic Philosophy. 3 credits.

An examination of the origins and development of contemporary philosophical analysis with special attention given to the nature and uses of language as well as logical structures of confirmation and explanation. *Prerequisite: GPHIL 101, GPHIL 250 or permission of the instructor.*

PHIL 440. Advanced Moral Philosophy. 3 credits.

Class will closely examine recent or historical work in (largely normative) moral philosophy, including at least two of the following: teleology (e.g., virtue theory), deontology, (e.g., Kantianism) and consequentialism (e.g., utilitarianism). *Prerequisite: GPHIL 101, PHIL 330 or approval of the instructor.*

PHIL 445. Advanced Political Philosophy. 3 credits.

In a seminar format we will examine, in depth, questions of political philosophy. These may include: autonomy, democracy, freedom, impartiality, universalism, toleration and the normative priority of individuals and communities. *Prerequisite: GPHIL 101, PHIL 335 or approval of the instructor.*

PHIL 460. Topics in Classical Philosophy. 3 credits.

An advanced study of major issues in or the writings of one or more thinkers in ancient Greece through the Western medieval period. May be repeated for credit with change of topics. *Prerequisite: PHIL 340 or permission of instructor.*

PHIL 465. Topics in Modern Philosophy. 3 credits.

An advanced study of some of the major issues in or the writings of one or more 17th-, 18th- or 19th-century philosophers. *Prerequisite: PHIL 101, PHIL 341, PHIL 375 or permission of instructor. May be repeated for credit when topics vary.*

PHIL 466. Kant. 3 credits. *Offered every two years.*

An examination of the theory of knowledge and the critique of traditional metaphysics set forth in Kant's *Critique of Pure Reason*, and of the ethical theory and the moral metaphysics defended in his *Groundwork to the Metaphysics of Morals* and *Critique of Practical Reason*. The course may also more briefly explore some related topics, such as Kant's views on aesthetics and teleology, or the key ideas of important post-Kantian philosophers like Fichte, Schelling or Hegel. *Prerequisite: PHIL 341, PHIL/REL 375 or permission of the instructor.*

PHIL 468. Phenomenology. 3 credits. *Offered once every two years.*

A study of phenomenological investigation into the fundamental structures and conditions of conscious experience--meaning-laden, first person experience of objects, of events, of one's self, of other persons, of one's world, and so forth. The course will devote special attention to the work of Husserl and of Heidegger. Additional authors may be studied, such as Sartre, Merleau-Ponty or Levinas. *Prerequisites: PHIL 341 or PHIL 344 or PHIL 466 or permission of the instructor.*

PHIL 470. Topics in Contemporary Continental Philosophy. 3 credits.

Intensive study of one or two major thinkers or themes in 20th-century European philosophy. Possible topics include figures such as Heidegger, Habermas, Foucault or Derrida; or themes such as phenomenology, critical theory, post-structuralism or the critique of Enlightenment ideals. May be repeated for credit. *Prerequisite: PHIL 341, PHIL/REL 375 or permission of the instructor.*

PHIL 475. Philosophy Seminar. 3 credits. *Offered fall and spring.*

Seminar topics may be drawn from any area or period of philosophy chosen by the instructor. The course is designed primarily for seniors majoring in Philosophy, but any suitably prepared student may take this course with the permission of the instructor. *Prerequisite: Senior philosophy major or permission of instructor. May be repeated for credit.*

PHIL 476. Advanced Seminar in Critical Reasoning. 3 credits.

Offers intensive investigation of a more specialized or newer topic in critical thinking. Studies might provide an extended consideration of a

particularly significant real-life example, apply analytic reasoning tools to a new problem not typically considered or further develop those tools themselves. *Prerequisite: GPHIL 120 or instructor consent.*

PHIL 490. Special Studies in Philosophy. 3 credits. *Offered fall and spring.* Designed to give capable students an opportunity to complete independent study in philosophy under faculty supervision.

PHIL 491. Special Studies in Critical Reasoning. 3 credits. Provides students with an opportunity to individually initiate and undertake, under faculty supervision and direction, an advanced research project in the application or theory of critical reasoning. *Prerequisite: Instructor consent required for all students.*

PHIL 495. Philosophy Course Assistantship. 1-6 credits. *Offered fall and spring.* Students participate as course assistants in philosophy. Assistantships provide students with a sense of what it is like to teach a philosophy course by allowing them to work closely with faculty members through different phases of course preparation, presentation and evaluation. Assistantships may also provide opportunities for student assistants to lead discussion and to help their peers review the material outside of the classroom. *Prerequisites: May be repeated once if assisting a different course, with 6 maximum total credit hours for both courses combined. Only three credit hours can apply to the major or minor.*

PHIL 499. Honors. 6 credits. *Offered fall and spring.* Year course.

Physics

Department of Physics and Astronomy

PHYS 105. Foundations of Physics. 1 credit. *Offered once a year.*

An introduction to the study of physics and the physics department. Presentations are given by faculty and students to acquaint the students with current research opportunities in the department and the application of physics to broad spectrum of topics.

PHYS 125. Principles of Physics With Biological Applications I (3, 2). 4 credits. *Offered once a year.*

A study of fundamental physical principles covering areas of mechanics, thermal energy and fluids, emphasizing topics pertinent to life processes. Realistic biological examples are used to illustrate the relationship between physics and the life sciences. Laboratory exercises explore the application of physics to living systems. *Prerequisite: MATH 135 or equivalent.*

PHYS 126. Principles of Physics With Biological Applications II (3, 2). 4 credits. *Offered once a year.*

The second semester is a study of physical principles. Topics include elasticity, wave motion, sound, electricity and magnetism, geometrical and physical optics, and electromagnetic radiation and radioactivity. *Prerequisite: PHYS 125.*

***PHYS 140. College Physics I.** 3 credits. *Offered once a year.*

The first semester of a non-calculus sequence in general physics. Topics include principles of mechanics, thermal properties of matter, wave motion and sound. A working knowledge of algebra and trigonometry is required.

PHYS 150. College Physics II. 3 credits. *Offered once a year.*

The second semester of a non-calculus sequence in general physics. Topics include electric charges, circuits, magnetism, optics, atomic and nuclear physics. *Prerequisite: PHYS 140.*

PHYS 140L*-150L. General Physics Laboratories. 1 credit each semester. These laboratory courses are designed to complement and supplement the PHYS 140-150 and PHYS 240-250 lecture courses. *Prerequisite or corequisite for PHYS 140L: PHYS 140 or PHYS 240. Prerequisite for PHYS 150L: PHYS 140L or either PHYS 140 or PHYS 240. Prerequisite or corequisite for PHYS 150L: PHYS 150 or PHYS 250.*

PHYS 215. Energy and the Environment. 3 credits. *Offered once a year.*

Energy use, sources and trends; fossil fuels, heat-work conversions, thermodynamic restrictions and electric power production; nuclear fission reactors and fusion energy; solar energy and technologies; alternative energy sources; energy storage; energy conservation; issues of waste and safety. Environmental, social and economic aspects will be discussed. Not open to ISAT majors scheduled to take ISAT 212 as part of their degree requirements. *Prerequisites: One college course in science and one in mathematics.*

***PHYS 240. University Physics I.** 3 credits. *Offered once a year.*

Kinematics, dynamics, energy and momentum conservation, oscillatory motion, fluid mechanics and waves. *Corequisite: MATH 232 or MATH 235.*

PHYS 247. Data Acquisition and Analysis Techniques in Physics. 2 credits.

This laboratory supplements the PHYS 240/250 lecture courses. Topics covered include: conception, design and performance of experiments in physics, as well as the analysis of data and handling of experimental uncertainties. *Corequisite: PHYS 250.*

PHYS 250. University Physics II. 3 credits. *Offered once a year.*

Electric forces, fields and potentials; capacitance, dielectrics, resistance and DC circuits; magnetic fields, induced electric fields, inductance and AC circuits; geometrical optics, interference, diffraction and polarization. *Prerequisite: PHYS 240. Corequisite: MATH 236.*

PHYS 260. University Physics III. 4 credits. *Offered once a year.*

Rotational kinematics and rotational dynamics; static equilibrium and elasticity; universal gravitation and orbital mechanics; temperature, heat, heat engines, entropy and kinetic theory; Gauss' law, electric potential and capacitance; magnetic fields, induced electric fields and inductance; displacement current and electromagnetic waves; and the special theory of relativity. *Prerequisite: "C" or better in PHYS 250 or PHYS 150. Corequisites: MATH 237 and PHYS 247 or PHYS 150L.*

PHYS/MATH 265. Introduction to Fluid Mechanics. 4 credits. *Offered once a year.*

Introduces the student to the application of vector calculus to the description of fluids. The Euler equation, viscosity and the Navier-Stokes equation will be covered. *Prerequisites: MATH 237 and PHYS 260.*

PHYS 270. Modern Physics. 4 credits. *Offered once a year.*

A course in modern physics, consisting of a discussion of the experimental basis for and fundamental principles of quantum physics, with applications to atomic structure and nuclear physics. *Prerequisite: PHYS 260 or consent of instructor.*

PHYS/CHEM/MATS 275. An Introduction to Materials Science. 3 credits. *Offered once a year.*

An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials. *Prerequisite: CHEM 131, PHYS 150, PHYS 250, ISAT 212 or permission of the instructor.*

PHYS 295. Laboratory Apparatus Design and Construction. 1 credit. *Offered on demand.*

An introduction to the design and fabrication of laboratory apparatus using machine tools. *Prerequisites: PHYS 250 and permission of the instructor.*

PHYS 297. Topics in Physics. 1-4 credits each semester. *Offered on demand.*

Topics in physics at the second year level. May be repeated for credit when course content changes. Topics selected may dictate prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

PHYS 335. Modern Physics II. 4 credits. *Offered on demand.*

A continuation of PHYS 270, with applications to molecules, the physics of condensed matter and nuclear physics. *Prerequisite: PHYS 270.*

PHYS/MATS 337. Solid State Physics. 3 credits. *Offered once a year.*

A study of the forces between atoms, crystal structure, lattice vibrations and thermal properties of solids, free electron theory of metals, band theory of solids, semiconductors and dielectrics. *Prerequisite: PHYS 270 or consent of instructor.*

PHYS 338. Nuclear Physics. 3 credits. *Offered fall.*

An introduction to the study of the atomic nucleus. Topics covered include static nuclear properties and movements, the force between nucleons, the deuteron, nucleon scattering, isospin, nuclear structure, radioactivity, decay kinematics and selection rules, fission, and fusion. *Prerequisite: PHYS 270.*

PHYS 340. Mechanics. 3 credits. *Offered once a year.*

Application of fundamental laws of mechanics to particles and rigid bodies. Topics include statics, dynamics, central forces, oscillatory motion and generalized coordinates. *Prerequisites: PHYS 260 and MATH 238.*

PHYS/MATH 341. Nonlinear Dynamics and Chaos. 3 credits. *Offered spring.*

Introductory study of nonlinear dynamics and chaos intended primarily for upper-level undergraduates in science or mathematics. Topics include stability, bifurcations, phase portraits, strange attractors, fractals and selected applications of nonlinear dynamics in pure and applied science. Computers may be utilized for simulations and graphics. *Prerequisites: MATH 238 and MATH 248.*

PHYS 342. Mechanics II. 3 credits. *Offered on demand.*

A continuation of PHYS 340 including Lagrangian dynamics, rigid body motion and the theory of small oscillations. *Prerequisite: PHYS 340.*

PHYS 347. Advanced Physics Laboratory (0, 6). 3 credits. *Offered once a year.*

An advanced laboratory in which students are introduced to experimentation in several areas of physics while gaining experience in experiment design, data analysis, formal report writing and presentations. *Prerequisite: PHYS 270.*

PHYS 350. Electricity and Magnetism. 3 credits. *Offered once a year.*

A study of the electrostatic field, the magnetic field, direct and alternating currents and electromagnetic waves. *Prerequisites: PHYS 260 and MATH 238.*

PHYS 360. Analog Electronics (2, 4). 4 credits. *Offered once a year.*

DC and AC circuits, spectral and pulse circuit response, semiconductor physics and simple amplifier and oscillator circuits. *Prerequisite: PHYS 250 or permission of the instructor.*

PHYS/MATH 365. Computational Fluid Mechanics. 3 credits. *Offered once a year.*

Applications of computer models to the understanding of both compressible and incompressible fluid flows. *Prerequisites: MATH 248, either MATH 238 or MATH 336, MATH/PHYS 265, and PHYS 340.*

PHYS/MATH 366E. Computational Solid Mechanics. 3 credits. *Offered once a year.*

Development and application of mathematical models and computer simulations to investigate problems in solid mechanics, with emphasis on numerical solution of associated boundary value problems. *Prerequisites: MATH/PHYS 266, MATH 238 and MATH 248, or consent of instructor.*

PHYS 371. Introductory Digital Electronics (2, 4). 2 credits. *Offered once a year.*

Transistors, integrated circuits, logic families, gates, latches, decoders, multiplexers, multivibrators, counters and displays. *Prerequisite: A grade of "C" in PHYS 150 or PHYS 250 or permission of instructor.*

PHYS 372. Microcontrollers and Their Applications (2, 4). 2 credits.

Offered once a year.

Microcontrollers, their instructions, architecture and applications. *Prerequisite: PHYS 371 or consent of instructor.*

PHYS 373. Interfacing Microcomputers (2, 4). 2 credits. *Offered once a year.*

A study of the personal computer and its input/output bus, input/output functions, commercially available devices, proto-typing circuit boards and programs for device control. *Prerequisite: PHYS 371.*

PHYS 380. Thermodynamics and Statistical Mechanics. 3 credits.

Offered once a year.

A treatment of the thermal properties of matter from both macroscopic and microscopic viewpoints. Topics include the laws of thermodynamics, heat, work, internal energy, entropy, elementary statistical concepts, ensembles, classical and quantum statistics and kinetic theory. Approximately equal attention will be given to thermodynamics and statistical mechanics. *Prerequisites: PHYS 270.*

PHYS/MATS 381. Materials Characterization (Lecture/Lab course). 3 credits. *Offered once a year.*

A review of the common analytical techniques used in materials science related industries today, including the evaluation of electrical, optical, structural and mechanical properties. Typical techniques may include Hall Effect, scanning probe microscopy, scanning electron microscopy, ellipsometry and x-ray diffraction. *Prerequisite: PHYS/MATS 275, ISAT/MATS 431 or GEOL/MATS 395.*

PHYS 390. Computer Applications in Physics. 3 credits. *Offered once a year.*

Applications of automatic computation in the study of various physical systems. Problems are taken from mechanics of particles and continua, electromagnetism, optics, quantum physics, thermodynamics and transport physics. *Prerequisites: MATH/CS 248, PHYS 240, PHYS 250 and six additional credit hours in major courses in physics, excluding PHYS 360, PHYS 371 and PHYS 372.*

PHYS 391-392. Seminar. 1 credit per year. *Offered once a year.*

Participation in the department seminar program. *Prerequisites: Junior or senior standing and permission of the instructor.*

PHYS 397. Topics in Physics. 1-4 credits each semester. *Offered on demand.*

Topics in physics at intermediate level. May be repeated for credit when course content changes. Topics selected may dictate prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

PHYS/ASTR 398. Independent Study in Physics or Astronomy.

1-3 credits, repeatable to 4 credits. *Offered on demand.*

An individual project related to some aspect of physics or astronomy. Must be under the guidance of a faculty adviser. A student may not earn more than a total of four credits for PHYS 398 and ASTR 398.

PHYS 420. Modern Optics. 3 credits. *Offered on demand.*

A study of the kinematic properties and physical nature of light including reflection, refraction, interference, diffraction, polarization, coherence and holography. *Prerequisites: PHYS 260, PHYS 270 and MATH 237.*

PHYS 446. Electricity and Magnetism II. 3 credits. *Offered on demand.*

A continuation of PHYS 350. Emphasis will be placed on the solutions of Maxwell's equations in the presence of matter, on solving boundary-value problems and on the theory of electromagnetic radiation. *Prerequisite: PHYS 350.*

PHYS/CHEM 455. Lasers and Their Applications to Physical Sciences (2, 3). 3 credits. *Offered once a year.*

An introduction to both the theoretical and practical aspects of lasers and their applications in the physical sciences. *Prerequisite: PHYS 270, CHEM 331 or permission of the instructor.*

PHYS 460. Quantum Mechanics. 3 credits. *Offered once a year.*

Principles and applications of quantum mechanics. Topics include wave packets and the uncertainty principle, the Schrodinger equation, one-dimensional potentials, operators and eigenvectors, three-dimensional motion and angular momentum and the hydrogen atom. *Prerequisite: PHYS 340.*

PHYS 491-492. Physics Assessment and Seminar. 1 credit per year.

Offered once a year.

Principal course activities are participation in the departmental assessment program and attendance at departmental seminars. *Prerequisite: PHYS 392.*

PHYS 494. Internship in Physics. 1-6 credits. *Offered on demand.*

Students participate in research or applied physics outside of the university. A proposal must be approved prior to registration, and a final paper will be completed. *Prerequisites: Physics major with a minimum of 12 physics credit hours and permission of the department head and the instructor.*

PHYS 497. Topics in Physics. 1-4 credits each semester. *Offered on demand.*

Topics in physics at the advanced level. May be repeated for credit when course content changes. Topics selected may determine prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

PHYS/ASTR 498R. Undergraduate Research in Physics or

Astronomy. 1-4 credits, repeatable to 6 credits. *Offered on demand.*

Research in a selected area of physics as arranged with a faculty research adviser. A student may not earn more than a total of six credits for PHYS 498R and ASTR 498R. *Prerequisite: Proposal for study must be approved prior to registration.*

PHYS 499. Honors. 6 credits. (Year course, 3 credits each semester.)

Offered on demand.

Participation in this course must be approved during the second semester of the junior year. For details, see catalog section entitled "Graduation with Distinction."

Political Science

Department of Political Science

GPOSC 200. Global Politics. 3 credits. *Offered fall and spring.*

An exploration of political, social and economic issues and structures existing within and between states in the contemporary global community. Students are introduced to alternative approaches to analyzing these issues in diverse cultures and political settings.

POSC 201. Introduction to Western Political Theory. 3 credits. *Offered fall and spring.*

A general survey of Western political theory from Plato to Marx, order and freedom.

GPOSC 225. U.S. Government. 4 credits. *Offered fall and spring.*

An examination of institutions, processes and intellectual concepts which structure American political activity. The interaction of the political system with the changing American society and America's changing role in world affairs are also treated. The course provides an introduction to quantitative methodology.

POSC 230. International Relations. 3 credits. *Offered fall and spring.*

A survey of the field of international relations including consideration of the elements of national power, foreign policy, diplomacy, propaganda, foreign aid, war, international law and international organization.

POSC 240. Comparative Politics. 3 credits. *Offered fall and spring.*

A comparative study of selected political systems. Emphasis is on the structure of government, the political process and the conditions which either promote or constrain political change and stability.

POSC 295. Research Methods. 4 credits. *Offered fall and spring.*

Students learn how to conduct original research from theory formulation through data collection and hypothesis testing. Special emphasis on research and computer literacy. *Prerequisite: MATH 220.*

POSC 300. Politics and Film. 3 credits. *Offered summer.*

This course examines the relationship between politics and film, broadly construed. The ability of film to inform and promote agendas on key political issues, and the way in which films reflect the world of ideas and political culture in which they are created will be explored in substantive areas that may include: social and political change, human rights and justice, the portrayal of political processes and institutions, and foreign policy.

POSC 301W. The Washington Semester Experience. 3 credits.

Offered fall and spring.

A study of the manner in which the policy making process is conducted on the federal level. The function of political and governmental institutions in establishing public policy is examined through readings and observation. *Prerequisite: Enrollment in the Washington Semester program.*

POSC 302. State and Local Government. 3 credits. *Offered fall and spring.*

A study of state and local government in the United States with particular focus on Virginia. Emphasis is placed on an understanding of the framework, functions and problems of state and local governments.

POSC 310. Political Theory: Ancient to Early Modern. 3 credits.

A study of political theory from Plato and Aristotle through Machiavelli with analysis of such political concepts as the nature of the state, political obligation, natural law and Utopian societies.

POSC 315. Political Theory: Early Modern to the 19th Century. 3 credits.

A study of political theory from Hobbes and Locke to Hegel, Green and other 19th-century thinkers. The course will examine such ideas as freedom, political obligation, justice, progress, ethics, and politics and the relationship between the individual and the human polity.

POSC 316. Contemporary Political Theory. 3 credits.

An examination of political thinkers and their ideas from the end of the 19th century to the present. Special emphasis will be placed on the writings of Hannah Arendt, Jurgen Habermas, John Rawls and other contemporary thinkers who continue to engage in the pursuit of political inquiry.

POSC 321. Political Theory and Ideology. 3 credits.

A study of the relationship between normative political theory and ideology, emphasizing the philosophic foundations of modern political thought and its relationship to the emergence of various ideological positions in the 19th and 20th centuries. Includes a study of liberalism, conservatism, socialism, anarchism, nationalism, fascism, feminism, environmentalism and others.

POSC 325. Constitutional Law. 3 credits.

A study of the legal aspects of the American democratic system. The development of the Constitution will be explored and case studies used to portray important events and changes.

POSC 326. Civil Rights. 3 credits.

An examination of the judicial interpretation of civil rights in America with emphasis on freedom of speech, due process of law and equal protection under the 14th Amendment.

POSC 330. American Political Thought. 3 credits. *Offered fall and spring.*

A study of the development and significance of political ideas that have influenced American society and government.

POSC/JUST 331. Human Rights in Theory and Practice. 3 credits.

Offered once a year.

This course will explore the nature and value of human rights by investigating some major debates over their status and meaning and by examining some of the ways people have tried to secure human rights in practice. *Prerequisites: JUST, POSC and INTA majors only. For JUST majors, completion of JUST 200 is a prerequisite.*

POSC 337. Politics of Russia and the Former Soviet Union. 3 credits.

The course involves comparative analysis of the development and dynamics of political regimes in Russia and the Former Soviet Union. Attention is given to pre-communist, communist and post-communist politics and to explaining political and economic trends since 1991.

POSC 340. Political Development in the Third World. 3 credits.

A comparative study of the processes of political development in the developing nations of the Middle East, Africa, Asia and Latin America. Attention is given to the special problems confronting these nations and their implications for the global systems.

POSC 344. Politics of the European Union. 3 credits.

The course offers an in-depth consideration of the political development of the European Union, the EU policy-making process and contemporary issues that confront European leaders and citizens.

POSC 345. Politics of Western Europe. 3 credits.

This course involves comparative analysis of the development and dynamics of political regimes in western Europe. Attention is given to political institutions, political participation, public policy, and political and economic trends since 1945.

POSC 346. Politics of Central and Eastern Europe. 3 credits.

This course involves comparative analysis of the development and dynamics of political regimes in central and eastern Europe. Attention is given to pre-communist, communist, and post-communist politics and to explaining political and economic trends since 1989.

POSC 347. Comparative Public Policy. 3 credits.

A study of public policy formation and implementation in selected advanced industrial and Third World nations.

POSC 348. The Politics of Cultural Pluralism. 3 credits.

This course examines the various manifestations of cultural pluralism, a situation that occurs when multiple ethnic, religious, and/or linguistic groups coexist within a single state. The course considers different institutional and policy approaches to coping with cultural pluralism.

POSC 349. Comparative Political Behavior. 3 credits.

This course familiarizes students with the theoretical and empirical study of political behavior cross-nationally.

POSC 350. Latin American Politics. 3 credits.

A comparative study of the political institutions, processes and current issues in the Latin American states and an analysis of their importance in regional and global relations.

POSC 351. Topics in American Politics. 3 credits.

In-depth exploration of specialized topics in the area of American politics. The topic for each semester will be announced on e-campus.

POSC 353. African Politics. 3 credits.

A comparative study of the institutions and social, economic, and global processes that affect contemporary African states. Political developments explored include the construction and transformation of post-colonial states, ethnic conflict, economic crisis and reform, and regime change.

POSC 354. Politics of the Middle East. 3 credits.

This course involves comparative analysis of political institutions, social dynamics and economic processes in the contemporary Middle East. The course also focuses on the ways that global developments affect and are affected by Middle Eastern states and peoples.

POSC 355. East Asian Politics. 3 credits.

A study of the political systems of the major countries of East Asia, including Japan, China and Korea. Issues discussed include political development and democratization movements in the People's Republic of China, the Republic of China and the Republic of Korea.

POSC 358. Public Policymaking. 3 credits.

Study of policymaking institutions and policy processes that convert societal demands through policy into benefits. By considering the impact of institutional and ideational arrangements on policy outcomes, the course provides a framework with which to analyze public policy formation in contemporary America. *Prerequisites: GPOSC 225 or permission of instructor.*

POSC 360. Urban Politics. 3 credits.

A study of the functions and role of local government in urban America with emphasis on the social, economic and governmental problems of cities and metropolitan areas.

POSC 361. Topics in International Relations. 3 credits.

In-depth exploration of specialized topics in the area of international relations. The topic for each semester will be announced on e-campus.

POSC 362. Political Behavior. 3 credits.

A study of how citizens acquire politically relevant attitudes and how these attitudes influence their political behavior. The effects of the mass media on voting behavior are also considered. Emphasis is placed on U.S. voting behavior, but behavior in other nations is also covered. *Prerequisites: GPOSC 225.*

POSC 365. American Political Campaigning. 3 credits.

Study of modern day political campaigning with emphasis on campaign structure, strategy and the relationship between candidates and political consultants. The course assesses the consequences of the changing nature of political campaigns for democracy in the United States. *Prerequisite: GPOSC 225.*

POSC 368. Interest Groups and Public Policy. 3 credits.

An analysis of the activities of interest groups in the American system of government with emphasis on their goals and effectiveness in shaping public policy. *Prerequisite: GPOSC 225.*

POSC 369. Political Parties and Elections. 3 credits.

A study of national political parties and elections. Attention is given to the origin and evolution of the major and important minor parties, nomination and election process, presidential campaign, role and practical working of political parties, influence of public opinion and pressure groups and responsibilities of the individual voter. *Prerequisites: GPOSC 225.*

POSC 370. U.S. Foreign Policy. 3 credits.

An investigation of the processes for making foreign policy, underlying premises influencing specific policies and substance of American foreign policy. *Prerequisite: POSC 230.*

POSC 371. Topics in Comparative Politics. 3 credits.

In-depth exploration of specialized topics in the area of comparative politics. The topic for each semester will be announced on e-campus.

POSC/JUST 372. Ethics and International Politics. 3 credits. *Offered fall.*

This course investigates the significance of ethical questions in the theory and practice of contemporary international politics, introducing a variety of normative approaches that shape the issues of peace and conflict, morality and justice in global affairs. Practical case studies will also be used to address issues of policy relevance, with particular attention paid to the American experience. *Prerequisites: JUST, POSC and INTA majors only. For JUST majors, the completion of JUST 235 is a prerequisite.*

POSC 380. The U.S. Presidency. 3 credits.

A study of the institution of the American presidency focusing on the sources, bases and character of the power required by the president for effective executive action. Relationships of the presidency to foreign affairs, Congress, the public, party structure and the administrative establishment will also be considered. *Prerequisite: GPOSC 225.*

POSC 381. Topics in Political Theory. 3 credits.

In-depth exploration of specialized topics in the area of political theory. The topic for each semester will be announced on e-campus.

POSC 383. Women and Politics. 3 credits.

A study of the role and impact of women in United States politics and society, with emphasis on political movements, electoral politics and public policy.

POSC 384. Minority Group Politics. 3 credits.

This course examines the role of minority groups in American politics. Attention is given to five groups (African Americans, Asian Americans, Native Americans, Latinos and women) that for reasons of race or gender have faced institutional discrimination and political domination in the United States.

POSC 385. The U.S. Congress. 3 credits.

Study of the legislative process will concentrate on the operation of Congress with regard to such matters as its rules and procedure; relationships to the presidency, the bureaucracy, pressure groups and the courts; and a discussion of its current problems. *Prerequisite: GPOSC 225.*

POSC 386. The U.S. Judiciary. 3 credits.

An investigation of the American court system. The course focuses on the role of the judiciary in American politics, the difference between judicial and other political and bureaucratic decision-making processes, the selection of judges, the decisions made by judges and other actors interacting with the courts, and the impact of court decisions on American society.

POSC 391. Topics in Public Policy. 3 credits.

In-depth exploration of specialized topics in the area of public policy. The topic for each semester will be announced on e-campus.

POSC/JUST 392. Peace Studies. 3 credits.

A study of the evolution, theory and practice of peace studies. The course focuses on how we wage and resolve conflict, affect social change, and provide security through nonviolent means.

POSC 395. International Law. 3 credits.

Examination of the role of international law in world politics. Particular attention will be given to the effects of international law on patterns of international exchange and interaction. Case study and other forms of political analysis will be used.

POSC 396. International Organizations. 3 credits.

Study of the evolution and role of contemporary international organizations in the larger context of world politics. Emphasis on the ways in which the changing patterns of political power influence the processes and effectiveness of such organizations.

POSC 397. The Politics of International Economic Relations. 3 credits.

A study of the political dynamics and implications of international economic relations.

POSC 398. Simulations. 3 credits.

Application of concepts and insights learned in the classroom to contemporary policy problems and practical activities. The topic of this course will vary from offering to offering. The exact courses required will vary with the subject matter of the simulation.

POSC 430. International Security in the Post-Cold War World. 3 credits.

This course examines major threats to international security in the post-Cold War world. Topics include the changing global security environment, proliferation of weapons of mass destruction, terrorism and ethnic conflict. The effectiveness of economic sanctions, deterrence, international organizations, preventative war and other tools in dealing with these threats in critically examined.

POSC 435. Seminar in International Terrorism. 3 credits.

Systematic study of political terrorism with emphasis upon the destabilizing effect that it has upon the international community.

POSC 458. International Political Analysis. 3 credits.

An examination of techniques and principles for the analysis of future political conditions and future government decisions.

POSC/SCOM/SMAD 472. Media and Politics. 3 credits.

A study of the media's role in political campaigns, concentrating on past/present election, the media's role in covering political parties and coverage of the governing process. Discussion of electronic and print will occur. Topics to be examined include campaign videos, CSPAN, political ads, editorial cartoons, TV debates, convention coverage and radio talk show commentary.

POSC 490. Senior Tutorial in Political Science. 4 credits each semester.

A research-oriented tutorial designed to integrate student's prior knowledge and strengthen lifelong learning skills. Course may be offered in multiple sessions (POSC 490A, POSC 490B, etc.). *Prerequisites: Senior standing and permission of the instructor.*

POSC 492. Senior Seminar in Political Science. 4 credits. *Offered fall and spring.*

This research-oriented senior seminar provides an overview of the discipline of political science and the different approaches to research in the field. A major research project will strengthen the research, information access and lifelong learning capacities of the student. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisites: Senior standing and POSC 295.*

POSC 495.* Internship in Political Science. 4 credits. *Offered fall and spring.* Provides students with opportunities for experiential learning in a legislative, policy making, campaign, constituency, interest group or criminal justice organization. A research paper related to the internship and a presentation based on the experience are required. *Prerequisites: Junior or senior standing, 15 credits of political science, public administration or political communication and permission of the instructor.*

POSC 495W.* Washington Semester Internship in Political Science. 6 credits. *Offered fall and spring.*

Provides Washington Semester participants with opportunities for experiential learning in a Washington, D.C., based legislative, policy making, campaign, constituency, interest group or criminal justice organization. Requirements include 360 work hours, a research paper related to the internship, a career report, a daily log and regular meetings with faculty-in residence. *Prerequisites: Junior or senior standing, 15 credits of political science, public administration or political communication, and successful application to Washington Semester program.*

POSC 498. Research in Political Science. 1 credit.

Research in a selected area of political science as arranged with a faculty sponsor. Research outline must be approved by faculty sponsor and department head the semester before registration. Course may be repeated. *Prerequisites: a Political Science, International Affairs, or Public Policy and Administration G.P.A. of 2.5 or greater.*

POSC 499. Honors. 6 credits. *Offered fall and spring.*
Year course.

*No more than four credit hours can be counted toward the political science major.

Psychology

Department of Psychology

PSYC 100. Interpersonal Skills for Resident Advisers. 1 credit.

Designed to give resident adviser trainees understanding of interpersonal relations. Cannot be used as a psychology major elective. *Prerequisite: Limited to students selected as resident advisers.*

GPSYC 101. General Psychology. 3 credits. *Offered fall and spring.*

A study of the nervous system, sensation, perception, consciousness, learning, memory, language, intelligence, motivation, emotion, life span development, personality, psychopathology, psychotherapy, social psychology and the scientific method.

GPSYC 122. The Science of Vision and Audition. 3 credits.

A study of human interaction with light and sound waves. Topics include physiological and perceptual mechanisms for processing light and sound, along with connections to real-world applications (e.g., human factors and careers within vision science and audition). Includes activities designed to provide students with in-depth, hands-on experience with course topics.

GPSYC 160. Life Span Human Development. 3 credits. *Offered fall and spring.*

An introduction to human development. Emphasis is on life span processes within physical, emotional, cognitive, psychosexual, social, personality and moral development.

PSYC 180. Introduction to Behavior Analysis. 3 credits.

Students will learn the fundamental principles, procedures and concepts of behavior analysis, how they can be used to explain behavior and how interventions based on these principles can be used to improve their own lives and the lives of others. This course cannot be taken by students who have already completed either PSYC 390 or PSYC 480.

PSYC 200. Topics in Psychology. 3 credits.

Exploration of an important psychological topic. The topics for each semester will be announced on e-campus and the departmental Web site. *Prerequisite: GPSYC 101.*

PSYC 210. Psychological Measurement and Statistics. 4 credits.

Offered fall and spring.

This course provides an introduction to statistical techniques used by psychologists in measuring behavior. Fundamental measures and theory of descriptive and inferential statistics will be discussed. The use of computers for data analysis will be introduced. *Prerequisites: GPSYC 101 and MATH 205, MATH 220, MATH 231, or MATH 235 with a grade of "C-" or better.*

PSYC 211. Psychological Research Methods (3,2). 4 credits. *Offered fall and spring.*

This course provides an introduction to the application of scientific methodology to investigate psychological phenomenon. Through lecture and laboratory, attention is given to choosing research questions, developing hypotheses, designing and conducting research, describing, analyzing and evaluating data and effectively communicating research findings. *Prerequisites: GPSYC 101 and PSYC 210.*

PSYC 212-213. Psychological Research Design and Data Analysis I-II. 4 credits each semester.

The PSYC 212-213 course sequence introduces the logic of pursuing a scientific approach in psychology and covers descriptive, correlational, experimental and quasi-experimental approaches. It also covers the statistical tools associated with these methods (namely, descriptive statistics, correlation, regression, t-tests and ANOVA), and it introduces the basics of inferential statistics and hypothesis testing. *Prerequisite for PSYC 212: GPSYC 101 and MATH 205, MATH 220, MATH 231, or MATH 235 with a grade of "C-" or better. Prerequisite for PSYC 213: PSYC 212 with a grade of "C-" or better.*

PSYC 220. Psychology and Culture. 3 credits.

The study of human psychology is incomplete without taking into account the cultural, historical and social factors involved in human functioning. This course considers the ethnic and cultural variations that exist in human behavior, thought and action. *Prerequisite: GPSYC 101.*

PSYC 235. Psychology of Adjustment. 3 credits.

A study of the process and dynamics of the well-integrated personality and the practical application of adjustment theories and behavior change techniques to enhance personal awareness and self-development.

PSYC 250. Introduction to Abnormal Psychology. 3 credits. *Offered fall and spring.*

An introduction to the field of abnormal psychology for the non-psychology major. This course will examine methods of defining psychological normality and abnormality and the classification, causes and treatment of abnormal behavior. This course cannot be used for psychology major credit. Students may not earn credit for both PSYC 250 and 335. *Prerequisite: GPSYC 101 or GPSYC 160.*

PSYC/JUST 255. Abnormal Psychology for Law Enforcement Personnel. 3 credits.

This course for students interested in becoming law enforcement professionals critically examines psychological normality and abnormality. The course focuses on description and causes of abnormal behavior likely to be encountered by law enforcement professionals, and on intervention options for police officers. May not be taken by psychology majors or students who have completed PSYC 250 or PSYC 335. *Prerequisites: GPSYC 101 and JUST 200.*

PSYC 275. Psychology of Human Intimacy. 3 credits.

Theoretical and applied study of human relationships through case analysis and role play.

PSYC 285. Drugs and Behavior. 3 credits.

An introduction to the pharmacological effects of psychoactive drugs. This course will examine the neural mechanisms and behavioral effects of common substances such as caffeine and nicotine, drugs of abuse, and pharmaceuticals that are used to treat mental disorders. *Prerequisite: GPSYC 101.*

PSYC 290. Directed Studies in Psychology. 1-3 credits. *Offered fall and spring.*

Designed to give capable students an opportunity to complete directed study in an area of psychology under faculty guidance. Not to be used for psychology major credit. *Prerequisites: GPSYC 101 and a written plan for the directed study must be submitted to the department head for approval one week prior to registration.*

PSYC 301. Peer Advising Training I. 2 credits. *Offered fall.*

Introductory training in academic advising, career development and counseling techniques. Not to be used for psychology major credit. *Prerequisites: GPSYC 101, junior-level status, and approval from adviser and course coordinator one month prior to registration.*

PSYC 302. Peer Advising Training II. 2 credits. *Offered spring.*

Continued training and supervised experiences in academic advising, career development and counseling techniques. Not to be used for psychology major credit. *Prerequisites: PSYC 301, PSYC 211 or PSYC 213, and permission of the course coordinator.*

PSYC 304. Death and Dying: Thanatology. 3 credits.

Psychological theories about death including ways in which individuals and society deal with death. *Prerequisites: GPSYC 101 and junior status.*

PSYC 308. Health Psychology. 3 credits.

This course deals with personality and its relation to health and illness behaviors. Topics include psychological factors involved in control and helplessness, conflict management, cardiovascular disorders, cancer, pain, substance abuse and other psychophysiological related factors. *Prerequisites: GPSYC 101 and junior status.*

PSYC 310. The Psychology of Women and Gender. 3 credits.

An examination of research and theory regarding the abilities and behaviors of women and the changing roles of women. Consideration is given to biological, developmental and societal determinants of sex and gender. *Prerequisites: GPSYC 101 and junior status.*

PSYC 312. Forensic Psychology. 3 credits.

The application of psychological principles and techniques to the law, the criminal justice system, law enforcement and criminal behavior. *Prerequisite: GPSYC 101 or GPSYC 160.*

PSYC/JUST 314. Police Psychology. 3 credits.

This course explores the role of psychology in various aspects of police work and examines how psychological research and methods can assist police departments and police officers in reaching law-enforcement goals. *Prerequisites: GPSYC 101 and JUST 200.*

PSYC/JUST 316. Human Development and Crime. 3 credits.

This course examines how psychological research and theory shed light on the development of criminal careers, the factors that protect children and adolescents from becoming criminals, how being a victim of crime influences well being, and the efficacy of rehabilitation. Special attention will be paid to the knowledge base on delinquency and childhood/adolescent victimization. *Prerequisite: GPSYC 101.*

PSYC 320. Diversity Issues in Psychology. 3 credits.

This course addresses issues of diversity and neglected populations in psychology with attention to gender, sexual orientation, race, ethnicity, disability, chronic illness, SES, age and level of indigenous influence. Particular cultural stressors associated with each group or demographic are discussed and attention is given to the issue of privilege. *Prerequisites: GPSYC 101 and junior status.*

PSYC 328. The Psychology of Leadership. 3 credits.

This course focuses on psychological components of leadership behavior and its importance to various situations in culture and society. Students will explore the potential impact of leaders and their influence on individuals and society. Various existential, behavioral and motivational topics related to leadership studies will be explored. Service learning will also be a core component of the course. *Prerequisites: GPSYC 101 and junior standing.*

PSYC/SOC/KIN 329. Psychological and Sociological Aspects of Sport. 3 credits.

A study of the psychological and sociological implications of sport and the effect of sport on the United States and other cultures.

PSYC 330. Psychology of Personality. 3 credits.

Essential elements of leading theories of personality with an emphasis on implications of these theories for human behavior. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC 335. Abnormal Psychology. 3 credits. *Offered fall and spring.*

This course for the psychology major critically examines psychological normality and abnormality and the classification, causes and treatment of abnormal behavior. Students learn classification and diagnosis, explore social and multicultural issues relating to diagnosis and discuss research in the field. Students may not earn credit for both PSYC 250 and PSYC 335. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC 345. Social Psychology. 3 credits. *Offered fall and spring.*

The study of how an individual's behavior, feelings and thoughts are influenced by other people. Topics include attitude formation and change, social perception, attraction, altruistic and antisocial behavior, conformity, leadership and group dynamics, and applications of social psychology to other fields. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC 365. Developmental Psychology. 3 credits. *Offered fall and spring.*

Psychological aspects of growth, development and behavior from birth through adolescence. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC 375. Sensation and Perception. 3 credits. *Offered fall and spring.*

Explores the nature and development of human sensory capabilities and processing, and how these affect perception of the environment. A potential list of the variety of systems reviewed includes hearing, vision, smell, taste, and touch/pain, as well as phenomena such as the perception of balance. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC 380. Cognitive Psychology. 3 credits. *Offered fall and spring.*

This course explores the nature and development of human attention, memory, language and thinking processes. An information processing approach to the study of human cognition is emphasized. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC 385. Biopsychology. 3 credits. *Offered fall and spring.*

A survey of the neurological and chemical mechanisms which control behavior. This course examines the brain and how it processes sensation, perception, cognition, movement, motivation, learning, memory and other behavioral processes of interest to psychologists. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC 390. Psychology of Learning. 3 credits. *Offered fall and spring.*

Basic principles of learning and conditioning with a consideration of extinction, reinforcement, generalization, discrimination, transfer, concept formation and verbal learning. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC/BIO 395. Comparative Animal Behavior. 3 credits.

This course covers aspects of the development, function and evolution of the behavior of nonhuman animals. Topics include intraspecies communication, feeding, aggression, territoriality, reproductive behavior and social behavior. *Prerequisite: PSYC 211 or PSYC 213.*

PSYC 400. Advanced Topics in Psychology. 1-3 credits.

Exploration of a significant psychological topic in depth. The topics for each semester will be announced on e-campus and on the departmental Web site. *Prerequisites: At least one SS content course and one NS content course.*

PSYC 401. Peer Advising. 2 credits. *Offered fall and spring.*

Supervised practicum in academic and career development and peer counseling. May be taken twice for up to four credit hours toward the psychology major. *Prerequisites: PSYC 302, at least one SS content course and one NS content course, and permission of the course coordinator.*

PSYC 402. Independent Study in Psychology. 1-4 credits. *Offered fall and spring.*

An opportunity to apply classroom learning to practical problems and to expand the scope of knowledge in psychology to areas not emphasized in the course work we offer. May include research, service learning, internship, directed readings, serving as a teaching assistant or a combination of these activities. *Prerequisites: PSYC 211 or PSYC 213. A written plan approved by the project supervisor and department head must be submitted prior to registration.*

PSYC 410. Industrial/Organizational Psychology. 3 credits.

This course is a survey of the applications of psychological principles in business and industry. Emphasis is on topics such as research and methods, personnel decisions and training, satisfaction, motivation, leadership, communication and organizational influences on behavior. Other topics of current interest will also be covered. *Prerequisites: At least one SS content course and one NS content course.*

PSYC 412. Psychology of Motivation. 3 credits.

This course is an advanced study of the motives that underlie behavior. Students explore pertinent theories representative of the biological, behavioral, cognitive and social perspectives on motivation. Includes an examination of historical context as well as a study of applied motivational approaches. *Prerequisites: At least one SS content course and one NS content course.*

PSYC 420. Advanced Psychological Statistics. 3 credits.

This course presents advanced univariate and multivariate statistical techniques that psychology students need for reading research articles and conducting psychological research. *Prerequisites: At least one SS content course and one NS content course.*

PSYC 425. School Psychology. 3 credits.

Applications of psychological principles in school settings, including roles and activities of school psychologists, standards, trends and issues of treatment and evaluation. *Prerequisites: At least one SS content course and one NS content course.*

PSYC 427. Tests and Measurements. 3 credits.

Standardized psychological tests of mental ability, achievement, aptitude and personality with a review of statistical procedures necessary for interpretation of test results. *Prerequisites: At least one SS content course and one NS content course.*

PSYC 428. Educational Psychology. 3 credits.

The application of the basic psychological principles of development, learning, cognition, measurement and social interactions to education settings. This course examines how psychological theory and research impacts the teaching of reading, writing, science and mathematics. Students may not count both PSYC 270 and PSYC 428 for psychology major credit. *Prerequisites:* At least one SS content course and one NS content course.

PSYC 430. Clinical Psychology. 3 credits. Offered fall.

An introduction to the field of clinical psychology including a review of the major theoretical models, psychometrics, psychiatric diagnosis and treatment strategies. *Prerequisites:* PSYC 335 and one NS content course.

PSYC 435. Community Psychology. 3 credits. Offered spring.

Focus on emerging trends and models in the application of psychology to community, stress prevention programs, human resources and change. *Prerequisites:* At least one SS content course and one NS content course.

PSYC 440. Counseling Psychology. 3 credits. Offered fall and spring.

A basic counseling skills course designed for students interested in human service and mental health fields and for students from related disciplines who want to acquire counseling skills. *Prerequisites:* At least one SS content course and one NS content course.

PSYC 442. Introduction to Small Group Process. 3 credits.

This course is designed to acquaint students with the theories, ethics, skills and processes of small groups. A major requirement will be participation in a group experience. *Prerequisites:* At least one SS content course and one NS content course.

PSYC 450. Psychology of Child Abuse and Neglect. 3 credits. Offered fall and spring.

Review of current psychological literature on child abuse and neglect including identification, etiology, treatment, prevention and legal aspects. Family violence issues are also discussed. *Prerequisites:* At least one SS content course and one NS content course.

PSYC 452. Child Psychopathology. 3 credits. Offered fall and spring.

The causes, symptoms and classification of childhood psychological disorders. *Prerequisite:* PSYC 335 or PSYC 365 (both recommended).

PSYC 460. Community Psychology within Developing Societies. 3 credits.

This course will apply psychology to a critical examination of developing societies around the world. Topics include sociocultural and international contexts, privilege, power, oppression, terrorism, population growth and diversity. Consideration is given to developmental and societal determinants of prejudice, discrimination and inequity. *Prerequisites:* At least one SS content course and one NS content course.

PSYC 465. Black/African Psychology. 3 credits.

This course will help students view psychology and psychological research from a different viewpoint. Students will study Afrocentric theories of development and pathology as well as methodologies emerging from these theories and philosophies. This course will facilitate student understanding of the psychology of Americans of African descent. *Prerequisites:* At least one SS content course and one NS content course.

PSYC 475. Psychology of Adulthood. 3 credits.

The physical, social and psychological factors faced by adults and their progression through the life span. *Prerequisites:* At least one SS content course and one NS content course.

PSYC 480. Applied Behavior Analysis. 3 credits.

This course focuses on how environmental events influence behavior, and behavior analytic strategies by which behavior may be changed. The emphasis of the course is on the knowledge and skills necessary to plan, develop and implement interventions for behavior problems in a variety of settings including, but not limited to, business and industry, education, and health and human services. *Prerequisite:* PSYC 390.

PSYC 492. History of Psychology. 3 credits.

The history of psychology as reflected through the individuals, theories and experimental investigation of the discipline. Special emphasis is placed upon relating the current state of psychology to its historical development. *Prerequisites:* At least two SS content courses and two NS content courses. May be taken as a capstone course or psychology elective.

PSYC 493. Laboratory in Psychology. 3 credits.

A research course designed by a faculty member that studies a particular topic. Topics will change from semester to semester. Students will be guided in a group through a research experience that would include library research of the topic, design of an experiment, gathering and analyzing

the data, and writing the results. The course meets the requirement as a capstone course or as a psychology elective. Only three credit hours of the course can be used for the psychology major. *Prerequisites:* At least two SS content courses and two NS content courses.

PSYC 495. Field Placement in Psychology. 4 credits. Offered fall and spring.

Supervised practicum in a counseling, industrial or human service agency. Orientation to agency's service, policies, personnel and professional ethics is provided. The course meets the requirement as a capstone course or as a psychology elective. *Prerequisites:* At least two SS content courses and two NS content courses. Guidelines available in the department office.

PSYC 497. Senior Seminar in Psychology. 3 credits. Offered fall and spring.

A seminar course that will require students to integrate theories, research and/or methods from several areas of psychology and/or related disciplines. Topics will vary from semester to semester. May be taken as a capstone course or psychology elective. Up to six credit hours can be used in the psychology major. Topics for each semester are announced on e-campus and on the departmental Web site. *Prerequisites:* At least two SS content courses and two NS content courses.

PSYC 499. Honors. 6 credits. Offered fall and spring.

See catalog sections entitled "Graduation with Distinction" and "Graduation with Honors." *Prerequisites:* At least two SS content courses and two NS content courses.

Public Policy and Administration

*Department of Political Science***PPA 200. Introduction to Public Policy.** 3 credits.

This course introduces students to the nature, dynamics and substance of public policy. Selected policy issues in the United States will be examined through the use of case studies. Foreign and global influences on U.S. policy-making will also be analyzed. Issues will vary across course sections and over time.

PPA 265. Public Administration. 3 credits.

An introductory survey of the principles, functions and processes of public administration with specific emphasis on the political aspects and environment of bureaucracies and the how and why of policy-making within an administrative system. Organizational structure, personnel, budgeting, public relations and government values, traditions and objectives are analyzed. *Prerequisite:* GPOSC 225.

PPA 325. Regional Planning and Organization. 3 credits.

Study of trends and issues in the public planning process with focus on regional planning and organization; the relationship of planners and the planning board to their committees.

PPA 359. Policy Analysis. 3 credits.

Study of public policy analysis. Delivers to students rational and alternative techniques for analyzing public policy while providing them opportunities to develop analytical skills.

PPA 381. Budgetary Process. 3 credits.

An examination of the political planning and strategies of Congress and federal agencies in the budgetary process; politics of budgetary reform; state and local budgetary politics; and intergovernmental impacts on budgeting. *Prerequisite:* Junior standing.

PPA 412. Seminar in Intergovernmental Relations. 3 credits.

Study of the relations between the several levels of government in the United States. Political, fiscal, legal, regulatory and administrative relations as they have evolved within federal and state constitutional frameworks will be examined. *Prerequisite:* Junior standing.

PPA 415. Legal Environment of Public Administration. 3 credits.

Examination of the basic constitutional framework of American public administration. Examines legal constraints imposed on public administrators by law and judicial oversight. Emphasis placed on legal issues affecting public employees. Also examines the basics of public procurement law.

PPA 420. Public Management. 3 credits.

Study of the management of public agencies from the executive viewpoint. Management control of public agencies will be explored including establishment of goals, policies, organizational structure and output of services. Case studies illustrate administrative behavior and managerial operations in local, regional, state and federal agencies. Does not count as part of the political science major. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite:* Junior standing.

PPA 483. Emerging Issues in Public Policy and Administration. 3 credits.
The course will examine an area of new or emerging interest in the profession of public administration. The course may be repeated for credit with a change in the subject matter. *Prerequisite: Permission of the instructor.*

PPA 490. Special Studies in Public Policy and Administration. 3 credits.
Designed to give capable students in public administration an opportunity to complete independent study under faculty supervision. *Prerequisites: Permission of the instructor and department head.*

PPA 492. Senior Seminar in Public Policy. 4 credits.
This research-oriented seminar provides an overview of public policy studies and the different approaches to research in the field. A major research project will strengthen the research, information access and lifelong learning capacities of the students. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisites: Senior standing, POSC 295 and PPA 359.*

PPA 496.* Internship in Public Management. 4 credits.
Provides students with opportunities for experiential learning in a governmental or nonprofit organization. A research paper and a presentation based on the experience are required. *Prerequisites: Junior or senior standing, 15 hours of public policy and administration and permission of the instructor.*

* No more than four semester hours (in any combination of internships) can be counted toward the major.

Reading Education

College of Education

READ 240. Children's Literature. 3 credits.

The study of a variety of children's literature and the practices, principles and procedures for selecting and evaluating works for children, giving consideration to their motivational and developmental effects. *Prerequisite: Completion of Cluster One.*

READ 254. Literature for Adolescents. 3 credits.

A study of literature which has been written for or appeals to young adults and adolescents, including practices, principles and procedures for evaluating and making literary materials appealing to adolescents. *Prerequisite: Completion of Cluster One.*

READ 312. Reading and Writing Across the Curriculum in the Middle Grades. 3 credits.

An introduction for preservice teachers to the foundations of reading and writing development and the elements of balanced literacy instruction in the middle grades. Through reading, writing and field applications across content areas, preservice teachers explore literacy engagement, diversity and special needs. *Corequisites: EDUC 310, EDUC 311 and Practicum.*

READ 366. Early Literacy Development and Acquisition. 3 credits.

This course provides preservice teachers an understanding of the foundations of early literacy development and instructional strategies and assessment techniques that support the acquisition of literacy.

READ 414. Reading and Writing in the Content Areas. 1 credit.

Study of how to use print and media resources to support the acquisition of knowledge and the development of reading and writing skills in all content areas. This course may not be used for credit in minor programs in early and middle education.

READ 420. Content Area Literacy, K-12. 2 credits.

This course is designed for preservice teachers and will provide an introduction to the foundations of reading and balanced literacy instruction for students in kindergarten through grade 12. Through reading and writing across content areas, preservice teachers will explore literacy engagement, diversity and special needs.

READ 430. Development, Assessment and Instruction of Literacy, K-12. 3 credits.

This course is designed to provide preservice teachers with a foundation of literacy development. Instructional strategies and assessment techniques, which support the acquisition and development of literacy in diverse classrooms across the curriculum in grades K-12. *Prerequisite: CSD 300. Corequisite: SPED 410.*

READ 436. Literacy Learning in the Elementary Grades. 3 credits.

This course will provide preservice teachers with an understanding developmentally appropriate instructional strategies and assessment

techniques to help all students in elementary grades become literate using reading, writing, listening and speaking in strategic and authentic ways. *Prerequisite: Grade of "C" or better in READ 366.*

READ 440. Literacy-Based Learning in Secondary Education. 3 credits.

This course will provide preservice teachers in secondary education with an understanding of how to create productive contexts for literacy-based learning. Particular areas of emphasis include selecting reading materials, understanding literacy development, and facilitating individual student engagement.

READ 472. Literacy Assessment and Instruction in the Content Areas for the Middle Grades. 3 credits.

The course will introduce preservice teachers to the relationship between literacy assessment practices and instructional design for teaching reading and writing in content area classrooms. Using case study methodology, preservice teachers will explore individual students' literacy strengths, areas that need development and specific instructional strategies. *Prerequisite: READ 312. Corequisites: MSSE 370, MSSE 371 and Practicum.*

READ 490. Special Studies in Reading Education. 1-3 credits.

Designed to give capable students, under faculty guidance, an opportunity to engage in the independent study of educational problems. *Prerequisite: Plan for the study must be approved by the faculty adviser and the coordinator of the program in which the student is enrolled.*

Religion

Department of Philosophy and Religion

GREL 101. Religions of the World. 3 credits. *Offered fall and spring.*

An investigation of the world's major religions which will give attention to their origin, history, mythology and doctrines.

REL/HEBR 131-132. Elementary Biblical Hebrew. 4 credits each semester.

An introductory course for students who intend to acquire the ability to read the Massoretic text of the Bible. Systematic study of the fundamentals of grammar with emphasis on reading, pronunciation and translation.

REL/HEBR 231-232. Intermediate Biblical Hebrew. 3 credits each semester.

An intensive reading course. Selections from the Massoretic text of the Bible. An introduction to the critical apparatus used within the Massoretic text as well as the variant reading apparatus printed in the *Biblia Hebraica Stuttgartensia*. *Prerequisite: One year of college biblical Hebrew or equivalent.*

REL 200. Exploring Religion. 3 credits.

An examination of the various components in the study of religion including myths, rituals, mystical experiences, theologues, ethics and current issues. Examples will be taken from the sacred texts, rituals and the lives of religious personalities in traditions around the world.

REL 201. Introduction to Hebrew Bible/Old Testament. 3 credits.

Offered fall and spring.

A study of selected texts from the books of Genesis-Malachi that will examine their literary, historical and theological dimensions from the perspective of their ancient Israelite and Judahite contexts.

REL 202. Introduction to the New Testament. 3 credits.

This course discusses the literature of the New Testament in light of the historical, social and religious conditions from which it emerged. Particular attention is given to historical issues related to Jesus and the origins of Christianity.

REL/PHIL 218. Philosophy of Religion. 3 credits. *Offered fall 2006.*

An intensive examination of religion from the standpoint of philosophical thinking with particular emphasis on the way philosophers view such problems as the existence of God, evil, immortality, religious language, etc.

REL/HEBR 231-232. Intermediate Biblical Hebrew. 3 credits each semester.

An intensive reading course. Selections from the Massoretic text of the Bible. An introduction to the critical apparatus used within the Massoretic text as well as the variant reading apparatus printed in the *Biblia Hebraica Stuttgartensia*. *Prerequisite: One year of college biblical Hebrew or equivalent.*