PHIL 3213 - Inductive Reasoning
An inquiry into such matters as probability, casual relationships, methods in formulating and verifying hypotheses, and related issues in inductive reasoning and investigation. Prerequisite(s): 3 hours of philosophy or junior standing.

PHIL 3223 - Criminal Justice Ethics
This course is an examination of ethical dilemmas which arise for criminal justice professionals. Prerequisite(s): Junior or senior standing.

PHIL 3303 - Metaphysics
This course is an examination of classic and contemporary metaphysics, including the nature of universals, identity, realism/antirealism, mild, causation, freedom and determinism, the nature of time, plus other topics to be determined by the instructor. Prerequisite(s): 6 hours of philosophy.

PHIL 3403 - Theory Of Knowledge
This course provides an overview of contemporary epistemology. Epistemology inquires into the nature of knowledge and the justification of belief. Topics to be covered include skepticism, perception, and priori knowledge, the foundationalism-coheretism debate, and the internalism-externalism controversy. Prerequisite(s): 3 hours of philosophy.

PHIL 3513 - Biomedical Ethics
An investigation of the ethical issues associated with the practice of medicine and the pursuit of medical research. Professional codes, euthanasia, confidentiality, and experimentation with human subjects are discussed. Prerequisite(s): 3 hours of humanities or philosophy, or sophomore standing.

PHIL 3533 - Dying And Death
The course inquiries into a variety of topics centrally related to death and dying as unavoidable aspects of the human condition. Attention is also given to questions of human value and meaning that arise from our attitudes and treatment of the dying as well as funeral customs and care for the "survivors" of another's death. Prerequisite(s): 3 hours of humanities or philosophy, or sophomore standing.

PHIL 3883 - Philosophy Of Mind
This course is a study of representative classic and contemporary topics in philosophy of mind, such as the mind-body problem, varieties of dualism and materialsm, epiphenomenalism, behaviorism and other forms of reductionism, as well as lasting puzzles about the mind pertaining to intentionality, artificial intelligence, qualia, and subjectivity. Prerequisite(s): 6 hours of philosophy.

PHIL 3990 - Advanced Topics In Philosophy
Credit will vary from 1 to 4 hours. Subject matter will vary within the department's field of study.

PHIL 4163 - Philosophy Of Science
Pursues the philosophical implications of various principles and ideas in the sciences, and raises critical questions regarding assumption, hypothesis, and scientific method. Prerequisite(s): 6 hours of philosophy or senior standing.

PHIL 4183 - Philosophical Issues In Social Science
An in-depth discussion of specific philosophical issues in some area of the social sciences such as the nature of psychological explanation or the covering law model of historical explanations. Specific topics may be changed, but the course will always spend the first half of the semester on the question of the science in social science. Prerequisite(s): 6 hours of philosophy or senior standing; 6 hours of social science; and written permission of instructor.

PHIL 4203 - Women And Values
This course focuses on philosophical and SOC-cultural perspectives on women and women's issues from the time of Plato to the present. Issues will be addressed from a standpoint that incorporates applied ethical analysis of justice, rights, and equality as these items have concerned women. Prerequisite(s): 3 hours of philosophy.

PHIL 4213 - Philosophy Of Fiction
This course familiarizes students with issues in the philosophy of literature (and, more broadly, fiction), including reader/viewer response, interpretation, evaluation, and the question of moral significance. Prerequisite(s): 6 hours of philosophy.

PHIL 4233 - Philosophy of Language
Philosophy of Language is a study of contemporary issues in the discipline, including the nature of truth and reference, the distinction between analytic and synthetic propositions, the verification principle, the epistemic status of linguistic knowledge, and the plausibility of skepticism about meaning and interpretation. Prerequisite(s): ENG 1213, six hours of philosophy and sophomore standing or above.

PHIL 4503 - Symbolic Logic
The course will begin with the logic of syntax, followed by an analysis of truth-functional compound statements and truth tables. A variety of proof procedures applicable to deductive arguments will be investigated and used, including formal and indirect proofs. Propositional functions and the use of quantifiers, the logic of relations, and finally, a study of the nature of deductive systems will complete the course.

PHIL 4900 - Practicum In Philosophy
Credit will vary from 1 to 4 hours. Subject matter will vary within the department's field of study.

PHIL 4910 - Seminar In Philosophy
Credit will vary from 1 to 4 hours. Subject matter will vary within the department's field of study.

PHIL 4920 - Workshop In Philosophy
Credit will vary from 1 to 9 hours. Subject matter will vary within the department's field of study. Normally involves lecture, films, guest speaker, etc. A grade of "P" or "F" is given. No more than 6 hours of workshop may be counted toward a bachelor's degree.

PHIL 4930 - Individual Study In Philosophy
Credit will vary from 1 to 4 hours. Subject matter will vary within the department's field of study.

PHIL 4940 - Field Study In Philosophy
Credit will vary from 1 to 6 hours. Subject matter will vary within the department's field of study.

PHIL 4950 - Internship In Philosophy
Credit will vary from 1 to 8 hours.

PHIL 4960 - Institute In Philosophy
Credit will vary from 1 to 8 hours. Subject matter will vary within the department's field of study.

PHIL 4970 - Study Tour In Philosophy
Credit will vary. Subject matter will vary within the department's field of study.

PHYSICS (PHY)
Department of Engineering and Physics

PHY 1003 - Introduction To Physics
This is a survey course in the fundamentals of mechanics, thermophysics, electricity, magnetism, sound and optics for students who desire a one semester course in physics. The course is not in the physics major sequence. Prerequisite(s): 2 years of high school algebra.

PHY 1011 - University Physical Science Lab
This laboratory accompanies University Physical Science.

PHY 1014 - University Physical Science
This lecture-demonstration course is designed to assist students to interpret their physical environment through the study of important topics in astronomy, chemistry, geology, physics. The course is not acceptable for the Engineering Physics major or minor and is not designed for the teaching certificate. Credit may not be earned for both PHY 1014 and PHY 1024.

PHY 1024 - University Physical Science w/Lab
This lecture-laboratory course is designed to assist students to interpret their physical environment through the study of important topics in astronomy, chemistry, geology, and physics. The course is not acceptable for the Engineering Physics major or minor and is not designed for the teaching certificate. Credit may not be earned for both PHY 1014 and PHY 1024. PHY 1024L must be taken concurrently.

PHY 1024L - University Physical Science Lab
This laboratory accompanies University Physical Science, PHY 1024.

PHY 1101 - General Physics I Laboratory
This laboratory accompanies PHY 1113 and includes selected experiments in mechanics, waves, heat, and thermodynamics. Prerequisite(s): MATH 1593, PHY 1113 or concurrent enrollment in PHY 1113. This course will be replaced by PHY 1114L.

PHY 1114 - General Physics I & Lab
This course is the first in a two-semester introduction to physics. This course covers the fundamentals of mechanics, waves, heat, and thermodynamics. Laboratory experience is a principal component of this course. Prerequisite(s): MATH 1593 and concurrent enrollment in PHY 1114L.

PHY 1114L - General Physics I Laboratory
This is the laboratory to accompany PHY 1114. Prerequisite(s): MATH 1593 and concurrent enrollment in PHY 1114.

PHY 1201 - General Physics II Laboratory
This laboratory accompanies PHY 1213 and includes selected physics experiments in electricity, magnetism, and optics. Prerequisite(s): PHY 1213 or concurrent enrollment in PHY 1213. This course will be replaced by PHY 1214L.

PHY 1214 - General Physics II & Lab
This course is the second in a two-semester introduction to physics. The course covers the fundamentals of electricity, magnetism, electromagnetic waves and optics. Laboratory experience is a principal component of this course. Prerequisite(s): PHY 1114 &1114L and concurrent enrollment in PHY 1214L.

PHY 1214L - General Physics II Laboratory
This course is a laboratory to accompany PHY 1214. Prerequisite(s): PHY 1114, 1114L and concurrent enrollment in PHY 1214.

PHY 1304 - Descriptive Astronomy
Descriptive Astronomy is a beginning course in astronomy. Included are topics such as historical astronomy, laws of motion, gravitation, the nature of light, stars, H-R diagrams, galaxies, the solar system, and cosmology with emphasis on why we believe what we think we know about the universe.

PHY 2000 - Topics In Physics
Credit will vary from 1 to 4 hours. A general survey of select scientific topics.

PHY 2014 - Physics For Science & Engineering I & Lab
This course is the first in a two-semester calculus-based introduction to physics, and covers the fundamentals of mechanics, waves, heat, and thermodynamics. Laboratory experience is a principal component of this course. Prerequisite(s): PHY 1003 or High School Physics and departmental permission; MATH 2323 (or concurrent enrollment; or MATH 2305 (or concurrent enrollment). Concurrent enrollment in PHY 2014L and PHY 2014D are required.

PHY 2014D - Physics for Science & Engineering I Drill
This drill session accompanies PHY 2014 and provides directed problem solving in mechanics, waves, heat, and thermodynamics. Prerequisite(s): Concurrent enrollment in PHY 2014 is required.

PHY 2014L - Physics For Science & Engineering I Lab
This laboratory course accompanies PHY 2014 and provides experiments in mechanics, waves, heat, and thermodynamics. Concurrent enrollment in PHY 2014 is required.

PHY 2114 - Physics For Science & Engineering II & Lab
This course is the second in a two-semester calculus-based introduction to physics, and covers the fundamentals of electricity, magnetism, and optics. Laboratory experience is a principal component of this course. Prerequisite(s): PHY 2014, MATH 2333 or concurrent enrollment in MATH 2333. Concurrent enrollment in PHY 2114L and PHY 2114D are required.

PHY 2114D - Physics for Science & Engineering II Drill
This drill session accompanies PHY 2114 and provides directed problem solving in electricity, magnetism, and optics. Prerequisite(s): Concurrent enrollment in PHY 2114 is required.

PHY 2114L - Physics For Science & Engineering II Lab
This laboratory course accompanies PHY 2114 and provides experiments in electricity, magnetism, and optics. Concurrent enrollment in PHY 2114 is required.

PHY 3000 - Workshop In Physics
Credit will vary from 1 to 6 hours. Subject matter will vary within the department's field of study. Normally involves lecture, films, guest speaker, etc. A grade of "P" or "F" is given. No more than 6 hours of workshop may be counted toward a bachelor's degree.

PHY 3014 - Earth Science
Earth science is a lecture course emphasizing the new geology with the theory of plate tectonics as the central theme in the explanation of the traditional topics of the earth sciences. Prerequisite(s): GENS 1104 or 1204 or a course in physics or chemistry.

PHY 3044 - Medical Physics And Laboratory
The application of physics to the field of medicine is presented. Topics covered will include mechanics of anatomical structure, optics of the eye, acoustics of hearing, electromagnetism and neurology, fluid flow within the heart and circulatory system, applications of radiation to medical diagnosis and therapy, and radiation safety. Concurrent enrollment in PHY 3044L is required. Prerequisite(s): PHY 1214 (previously 1213 &1201).

PHY 3044L - Medical Physics Laboratory
This is a laboratory that accompanies PHY 3044.

PHY 3054 - Introduction To Modern Physics & Lab
This course provides an introduction to areas in physics beyond those covered in General Physics I and II focusing primarily on the fields of relativity and quantum theory. Topics in relativity include aspects of the special theory and an introduction to space-time curvature and blackholes. Topics in quantum theory include atoms, molecules, solids, nuclei, elementary particles and radioactivity. A laboratory experience is a principal component of this course. The course is not intended for students majoring in Physics or Engineering. Prerequisite(s): PHY 1214. Concurrent enrollment in PHY 3054L is required.

PHY 3054L - Introduction To Modern Physics Lab
This course comprises the laboratory component of PHY 3054. Concurrent enrollment in PHY 3054 is required.

PHY 3103 - Modern Physics
This course presents an introduction to topics in physics which have developed primarily since about 1900. These topics include special relativity, quantum mechanics, and the physics of atoms, molecules, solids, and nuclei. Prerequisite(s): PHY 2114 and MATH 2343 or concurrent enrollment in MATH 2343. Sophomore standing or above.

PHY 3503 - Elementary Meteorology
The elements and principles of meteorology as related to weather are presented. The course employs the principles of physics for the interpretation of weather along with charts, instruments, etc., for weather observation and forecast. Prerequisite(s): GENS 1104 or 1204 or PHY 1114 (previously 1113 and 1101).

PHY 3883 - Mathematical Physics I
This course applies higher-level mathematics to problems in physics and engineering. Applications of vector analysis, multivariable calculus, matrix algebra, complex numbers, Fourier series, and differential equations are presented. Prerequisite(s): PHY 2114 and MATH 2343.

PHY 3990 - Advanced Topics In Physics
Credit will vary from 1 to 4 hours. Subject matter will vary within the department's field of study.

PHY 4003 - Mathematical Physics II
A continuation of PHY 3883, this course discusses in more depth the mathematical preparation required for solutions to boundary value problems found in electrostatics, mechanics, heat transfer, quantum mechanics, and acoustics. The mathematical topics may include curvilinear coordinates, Fourier analysis, Fourier transforms, partial differential equations, Green's functions, and excursions into tensor analysis, and group theory. Prerequisite(s): PHY 3883 and MATH 3103.

PHY 4101 - Nuclear Radiation Laboratory
The equipment and techniques of nuclear radiation detection and measurement are presented. Radiation experiments basic to radioisotope chemistry, radiation biology, nuclear medicine, and health physics are emphasized. This course is designed for students in chemistry, biology, and medicine, as well as those in engineering and physics. Prerequisite(s): PHY 3104 or concurrent enrollment.

PHY 4163 - Analytical Mechanics
This course provides an introduction to particle dynamics in one, two, and three dimensions. Analytic and numerical problem solving techniques are applied to the study of time - and velocity-dependent forces, harmonic oscillators, oscillating systems, and central forces. Prerequisite(s): PHY 3884.

PHY 4173 - Classical Mechanics
In this course variational formulations of mechanics including Lagrangian and Hamiltonian methods will be introduced and applied to classical systems. Topics covered will include small oscillations and normal modes, rotation of rigid bodies, non-inertial reference frames, Poisson brackets, Kepler problem and scattering theory. Prerequisite(s): PHY 4163.

PHY 4203 - Quantum Mechanics
A rigorous introduction to the fundamental theory and calculation techniques of quantum mechanics is presented. The Schrodinger wave equatin formulation wil be emphasized and used to solve the harmonic oscillator, hydrogen atom, quantum well, and other potentials. Prerequisite(s): PHY 3104 and nine additional hours of Physics 3000 level or above, and MATH 3103.

PHY 4303 - Nuclear Physics
An introduction to the physics of the nucleus and elementary particles is presented. Basic models of nuclear structure, nuclear interactions, and nuclear reactions will be emphasized. The families of elementary particles and their interactions along with the quark model will be introduced. Prerequisite(s): 9 hours above PHY 2114.

PHY 4403 - Solid State Physics
The purpose of this course is to acquaint the students with the fundamental physics of solids. Emphasis is placed on crystal lattices, elastic scattering of waves, bonding, atomic vibrations, electron states, dielectric and optical properties, and semiconductors. Prerequisite(s): 9 hours above PHY 2114.

PHY 4801 - Physics Capstone
This course provides a capstone experience in physics. Students will complete a number of projects designed to integrate the sum of their physics knowledge. Prerequisite(s): Written permission required.

PHY 4900 - Practicum In Physics
Credit will vary from 1 to 4 hours. Subject matter will vary within the department's field of study.

PHY 4910 - Seminar In Physics
Credit will vary from 1 to 4 hours. Advanced semi-independent study of selected problems from one of the various fields of physics. May be repeated for credit to a total of 4 hours. Emphasized for students planning graduate study.

PHY 4920 - Workshop In Physics
Credit will vary from 1 to 9 hours. Subject matter will vary within the department's field of study. Normally involves lecture, films, guest speaker, etc. A grade of "P" or "F" is given. No more than 6 hours of workshop may be counted toward a bachelor's degree.

PHY 4930 - Individual Study In Physics
Credit will vary from 1 to 4 hours. Subject matter will vary within the department's field of study.

PHY 4950 - Internship In Physics
Credit will vary from 1 to 8 hours.

PHY 4960 - Institute In Physics
Credit will vary from 1 to 8 hours. Subject matter will vary within the department's field of study.

PHY 4970 - Study Tour In Physics
Credit will vary. Subject matter will vary within the department's field of study.

POLITICAL SCIENCE (POL)
Department of Political Science

POL 1113 - American National Government
An introductory analysis of the origin, structure, and functions of the United States national government.

POL 1203 - State And Local Government
This course is an introductory study of the governmental system and political environment of the American state and its subdivisions with emphasis on Oklahoma state government.

POL 1303 - Contemporary Political Issues
This course is a study of significant contemporary political issues emphasizing events occurring at the time the course is offered.

POL 2000 - Topics In Political Science
Credit will vary from 1 to 4 hours. Subject matter will vary within the department's field of study.

POL 2013 - Information Management - Politicial Science
A basic introduction into microcomputer-based applications and methodological techniques relevant to political science. No prior knowledge of computing or statistics is required.