

848. Recreation Resource Law
Spring. 3(3-0)

Legal basis for public recreation. Methods of acquiring recreational resources, including contracts and condemnation procedures. Administrative problems, including zoning, liability, civil rights and law enforcement. Study of cases and statutes.

880. Special Problems

Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 10 credits. Approval of department.
Seminars on current problems. Supervised readings. Independent study of selected topics.

899. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

615. Diseases of Poultry

Winter, Summer. 4(4-0) Eighth-term Veterinary Medicine students.
Etiology, signs, lesions, differential diagnosis and control of infectious and noninfectious diseases of birds, with emphasis on domestic poultry.

620. Human Pathology I

Fall. 5(4-2) Medical school Sophomores or approval of department.
Recognition and classification of gross and microscopic structural changes in disease, analysis of functional consequences, and correlation with clinical manifestations.

621. Human Pathology II

Winter. 5(4-2) 620.
Continuation of 620.

622. Principles of Laboratory Medicine

Spring. 5(4-2) 621.
Study of diseases, the diagnosis and management of which rely on laboratory methods; hemologic, endocrine, metabolic, and infectious diseases are included.

800. Problems in Pathology

Fall, Winter, Spring, Summer. Variable credit. Approval of department.
Elective work for students in veterinary medicine interested in pathology as a speciality, or in the special pathology of diseases of a particular class or species, and for graduate minors and majors interested in pathological techniques or in non-thesis research.

801. Pathology Seminar

Fall, Winter, Spring, Summer. 1(1-0) May re-enroll for a maximum of 3 credits for M.S. candidates and 6 credits for Ph.D. candidates. Approval of department.
Seminar required of all majors in Pathology.

802. Advanced Histopathology

Fall. 5(6-0) Approval of department.
A relatively advanced and comprehensive study in the histopathologic aspects of systemic and special pathology; independent study in the field of pathogenesis and microscopic pathology.

803. Advanced Histopathology

Winter. 5(6-0) 802 and approval of department.
Continuation of 802.

804. Histopathologic Techniques

Fall. 3(1-6) Approval of department.
Theory and practice in preparation of tissues for examination with the light microscope; special stains and histochemical procedures included.

805. Pathology Proseminar

Fall. 2(2-0) Approval of department.
Philosophy and methods of research; theses and other research reports; literature review; illustration of research data; practical assignments.

810. Post-Mortem Diagnosis

Winter, Summer. 3(0-9) May re-enroll for a maximum of 6 credits. Approval of department. Required of majors.
Instruction and practice in diagnosis of animal diseases by means of necropsy and other laboratory techniques. Emphasis will be placed upon correlation and interpretation of gross and microscopic lesions and the results of other tests.

811. Advanced Clinical Pathology

Winter. 3(1-6) Approval of department.
Application of standard and newer techniques and instrumentations in hematology, biochemistry, parasitology, etc., to the diagnosis of disease.

812. Hematology

Winter. 5(3-4) 408 or 610 or approval of department.
Pathology of diseases of blood and an analysis of diagnostic laboratory procedures.

820. Oncology

Spring. 3(6-0) Approval of department.
A study of benign and malignant neoplasms with emphasis on gross and microscopic characteristics and diagnosis.

826. Laboratory Animal Pathology

Spring. 4(3-3) Graduate status and approval of department. Interdepartmental with and administered by Laboratory Animal Resources.
Macro and microscopic studies on the diseases of laboratory animals with special emphasis on naturally-occurring diseases which might interfere with the interpretation of experimental results.

899. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

910. Biology of Disease

Fall. 3(2-3) Approval of department. Primarily for students in the biological sciences.
Basic morphologic changes in disease with emphasis on the related physiologic pathology. Laboratory includes relevant problems in post-mortem diagnosis.

980. Histopathologic Diagnosis

Fall, Winter, Spring, Summer. 3(0-9) May re-enroll for a maximum of 6 credits. 803, 820.
Trimming, histopathologic examination, description, diagnosis and reporting of specimens from biopsy and necropsy.

990. Advanced Correlative Pathology

Fall, Winter, Spring, Summer. 5(0-15) May re-enroll for a maximum of 15 credits. Approval of department.
Experience in morphologic and clinical pathology and correlation of these with the clinical aspects of disease.

999. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

PATHOLOGY

PTH

College of Human Medicine
College of Osteopathic Medicine
College of Veterinary Medicine

404. General Pathology

Fall. 5(3-6) ANT 420, Junior Medical Technology majors, or approval of department.

407. Clinical Pathology

Winter. 5(3-4) 404 or approval of department.
Theory and technics in hematology, coagulation, blood banking, clinical microscopy and chemical pathology, including urinalysis, blood chemistry and continuous flow analysis.

408. Clinical Pathology

Spring. 5(3-4) 404 or approval of department.
Continuation of 407.

501. Pathology of Infancy and Childhood

Winter. 5(5-0) Year V Human Medicine Students.
An analysis of disease processes in the immature human between birth and puberty.

550. Veterinary Pathology I

Spring. 6(3-6) Admission to the professional veterinary program, or approval of department.
Principles of pathology, including causes of disease, disturbances of cell growth and metabolism, necrosis, circulatory changes, inflammation and neoplasms; introduction to clinical hematology.

560. Pathology II

Winter, Summer. 7(4-8) 550.
Continuation of 550, with coverage of the hematopoietic, cardiovascular, urinary, digestive, respiratory and reproductive systems; integration of principles of clinical pathology.

610. Veterinary Clinical Pathology

Fall, Spring. 3(2-3) 560.
Laboratory procedures in the diagnosis and prognosis of animal disease; examination of body tissues, fluids and excreta.

PHARMACOLOGY PHM

College of Human Medicine
College of Osteopathic Medicine
College of Veterinary Medicine

350. Introductory Human Pharmacology

Spring. 3(3-0) PSL 332 or concurrently; or approval of department.
Survey of pharmacology including general principles, central nervous system drugs, autonomic nervous system drugs, cardiovascular and renal drugs, endocrine drugs, anti-infectives, poisoning therapy, and other basic related topics.

430. Drug Abuse

Fall. 3(3-0) Juniors and approval of department. Biology and chemistry recommended.
Actions, mechanism of action, toxicity and uses of drugs of abuse. Sociological and psychological aspects of drug abuse and the legal aspects of the sale and distribution of drugs are considered.

480. Special Problems

Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 5 credits. Approval of department.

520. Principles of Pharmacology

Fall, Spring. 4(4-0) PSL 502.

Pharmacology principles, including absorption, distribution, biotransformation, drug antagonism, receptor theory and pharmacogenetics; literature data analysis; adverse drug reactions. Chemotherapy including anti-neoplastic, antiviral and anti-microbial agents; endocrine and emergency therapies.

521. Pharmacodynamics

Winter, Summer. 5(4-4) 520.

Pharmacology of the nervous systems (central, peripheral and autonomic); cardiovascular, renal, gastrointestinal drugs.

522. Toxicology

Spring. 3(3-0) 521.

Toxicology of economic and household poisons, noxious gases and vapors, minerals solvents, pesticides and pollutants.

610. Clinical Pharmacology

Spring. 4(4-0) 521.

Therapeutic efficacy, toxicity and optimal clinical usage of important drugs used in the treatment of disease.

810. Synaptic Transmission

Winter of odd-numbered years. 4(4-0) Approval of department.

Chemical and electrical aspects of the transmission of nervous impulses at synaptic and neuroeffector junctions and the influences of drugs upon these processes.

811. Organ System Pharmacology

Winter of even-numbered years. 4(3-3) Approval of department.

Current concepts and recent advances in the areas of cardiovascular, renal and syncytial smooth muscle pharmacology.

812. Advanced Principles of Pharmacology and Toxicology

Spring of odd-numbered years. 4(4-0) 522 and approval of department.

Kinetics of drug absorption, elimination and metabolism; drug-receptor interaction. Principles of drug toxicity in evaluation and treatment; includes problems of modern toxicology, i.e., teratogenesis, mutagenesis, carcinogenesis.

870. Problems

Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 5 credits. Approval of the department.

Limited amounts of individual work on selected research problems.

899. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

910. Seminar

Fall, Winter, Spring. 1(1-0) May re-enroll for a maximum of 3 credits.

911. Literature Critique

Fall. 1(1-0) Approval of department.

Seminar and discussion of current pharmacological literature.

980. Problems

Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 5 credits. Approval of department.

Limited amounts of individual work on selected research problems.

999. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

PHILOSOPHY

PHL

College of Arts and Letters

Each of the courses 101, 102, 103 is an independent gateway to an area of philosophy. Together they provide a comprehensive introduction to philosophical inquiry through contact with philosophical issues.

101. Introduction to Philosophy: Ethics and Value

Fall, Winter, Spring, Summer. 3(3-0)

Students may not receive credit for both 101 and 330.

Moral responsibility, praise and blame, good and evil, justice, law and morality, individual liberty and collective authority and contemporary moral issues are typical problems.

102. Introduction to Philosophy: Epistemology and Metaphysics

Fall, Winter, Spring, Summer. 3(3-0)

Skepticism and certainty, existence, matter and mind, God, space and time, knowledge and belief, perception, personal identity, causality, and free-will are typical problems.

103. Introduction to Philosophy: Logic

Fall, Winter, Spring, Summer. 3(3-0)

Deductive and inductive reasoning and such topics as rational argumentation, fallacies, definition, meaning, truth and evidence.

200H. Honors Work

Fall, Winter, Spring. 1 to 16 credits. Approval of department.

211. Introduction to the History of Philosophy, Part I

Fall, Winter, Spring. 3(3-0)

The Greek and Roman period with emphasis on Plato and Aristotle.

212. Introduction to the History of Philosophy, Part II

Winter, Spring. 3(3-0)

The Middle Ages and early modern periods, with emphasis on Aquinas, Descartes, Spinoza and Leibniz.

213. Introduction to the History of Philosophy, Part III

Fall, Spring. 3(3-0)

The eighteenth and nineteenth centuries with emphasis on British empiricism, Kant, and post-Kantian philosophy.

294. Special Topics

Fall, Winter, Spring, Summer. 2 to 6 credits. Approval of department.

Intensive study of some particular problem or author in philosophy.

311. Indian Philosophy

Fall, Winter. 3(3-0)

Metaphysical, ethical and social theories developed within major Indian philosophical systems; e.g., philosophical Buddhism, Vedantist transcendentalism, Samkya dualism, and the Realist schools.

312. Chinese Philosophy

Spring. 3(3-0)

Major cosmological and ethical doctrines of such Chinese authors and movements as Confucius, Mo Tzu, Lao Tzu, Taoism, Yin-Yang dualism, Buddhism, responses to Western influences, the new China.

315. American Philosophy

Spring, Summer. 3(3-0) Three credits in philosophy or approval of department.

Examination of such thinkers as Royce, Pierce, James, Dewey, Whitehead and Santayana, illustrating classic American contributions to philosophy.

323. Existentialism

Fall, Winter, Spring. 3(3-0) Three credits in philosophy or approval of department.

An examination of a major existentialist author (or authors), so designed as to place existentialist views in significant relation to the tradition of European thought.

330. Elements of Ethics

Fall, Winter, Spring, Summer. 3(3-0) Juniors. Students may not receive credit for both 101 and 330.

An inquiry into the nature of the right and the good, addressed to such fundamental problems as the objectivity of moral judgments, the criterion of right and wrong, and the grounds of moral responsibility.

337. Formal Logic, Part I

Fall, Winter. 3(3-0)

Presents contemporary "mathematical" logic as a unified formal discipline which generates symbolic systems that both permit rigorously exact expression of formal problems and provide powerful inferential techniques for treating them.

338. Formal Logic, Part II

Winter, Spring. 3(3-0) 337 or approval of department.

Continuation of 337, including study of quantification and theory of logical types.

339. Formal Logic, Part III

Spring. 3(3-0) 338 or approval of department. Continuation of 338.

350. Philosophy of Art

Fall, Winter, Spring. 3(3-0) Three credits in philosophy or 6 credits in art, music, or literature.

Inquiry into the principles of artistic activity made with a view to determining the conditions under which art is produced, the nature of its product, and the sources of its value.

351. Contemporary Esthetic Theory

Winter. 3(3-0) Three credits in philosophy or 6 credits in art, music, or literature.

Critical examination of contemporary theory in esthetics and the philosophy of art, in which the primary categories of reflection upon the arts have gained their currency. Readings from such authors as Tolstoy, Santayana, Croce, Bullough, Freud, Parker, Prall, Greene.

355. Philosophy of Religion

Winter, Spring. 3(3-0) Five credits in religion.

Alternative philosophical approaches to religion as a personal and/or social phenomenon. Con-