

**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.

**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. 4(4-0) Juniors or 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.

**520A. Principles of Pharmacology**

(520.) Fall. 4(4-0) PSL 500B, 500C. Primarily for students of Veterinary Medicine.

Drug absorption, distribution, biotransformation, antagonism; receptor-theory and pharmacogenetics; adverse drug reactions, chemical toxicity. Chemotherapy (antimicrobial, antihelminthic, anti-neoplastic agents). Pharmacology of the autonomic nervous system.

**520B. Principles of Pharmacology**

Winter. 4(4-0) PSL 500A, or 801, 802, 803. Primarily for students of Human and Osteopathic Medicine.

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

**521A. Pharmacodynamics**

(521.) Winter. 5(4-2) 520A. Primarily for students of Veterinary Medicine.

Pharmacology of drugs that affect the heart, kidney, central nervous system and non-vascular smooth muscle. Endocrine and autocoid pharmacology.

**521B. Pharmacodynamics**

Spring. 4(4-0) 520B. Primarily for students of Human and Osteopathic Medicine.

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

**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. Advanced Renal and Autocoid Pharmacology**

Spring of even-numbered years. 4(4-0) 521A or B and approval of department.

Advanced renal, endocrine and autocoid pharmacology.

**812. Advanced Principles of Pharmacology and Toxicology**

Spring of odd-numbered years. 5(5-0) 521A or 521B.

Kinetics of drug absorption, elimination and metabolism; drug receptor interactions, toxicology of metals, pesticides, industrial and inhalation toxicology; developmental toxicology, teratogenesis, mutagenesis, and carcinogenesis.

**813. Cardiac Pharmacology**

Winter of even-numbered years. 4(4-0) 520A, 521A or 520B, 521B; PSL 801, 802, 803; or approval of instructor.

Effects of drugs on normal physiological and biochemical processes in cardiac cells are studied. Emphasis is placed on mechanisms of drug action.

**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.

**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(2-0) to 6(6-0) 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.