820. Oncology  
Spring. 3(0-6) 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 postmortem diagnosis.

980. Histopathologic Diagnosis  
Fall, Winter, Spring, Summer. 3(0-9) May re-enroll for a maximum of 6 credits. 893, 830.  
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; approval of department. Survey of pharmacology including general principles, central nervous system drugs, autonomic nervous system drugs, cardiovascular actions, drugs of abuse, anti-infective, pain relief, and other basic related topics.

430. Drug Abuse  
Fall. 3(0-0) 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 3 credits. Approval of department.

520A. Principles of Pharmacology  
(520.) Fall. 4(4-0) PSL 502. Primarily for students of Veterinary 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.

520B. Principles of Pharmacology  
Winter. 4(4-0) PSL 503. 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.

520C. Principles of Pharmacology—Independent Study  
Summer. 4(1-0) Approval of department. Primarily for students of Human and Osteopathic Medicine. Independent study of pharmacology principles, including absorption, distribution, biotransformation, drug antagonism, receptor theory and pharmacogenetics; literature data analysis; adverse drug reactions. Chemistry involving anti-neoplastic, anti-viral and anti-microbial agents; endocrine and emergency therapies.

521A. Pharmacodynamics  
(521.) Winter 5(4-4) 590A. Primarily for students of Veterinary Medicine. Pharmacology of the nervous systems (central, peripheral and autonomic); cardiovascular, renal, gastrointestinal drugs.

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.

521C. Pharmacodynamics—Independent Study  
Summer. 5(1-1) 530B or 520C. Primarily for students of Human and Osteopathic Medicine. Independent study of 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, industrial solvents, pesticides and pollutants.

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 the synapse and the influence of drugs upon these processes.

811. Organ System Pharmacology  
Fall of odd-numbered years. 4(2-3) 521 and approval of department. Current concepts and recent advances in the areas of cardiovascular, renal and nervous systems of smooth muscle pharmacology.

812. Advanced Principles of Pharmacology and Toxicology  
Spring of odd-numbered years. 4(4-0) 529 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.

570. Problems  
Fall, Winter, Spring, Summer. Variable credit. May be enrolled for a maximum of 5 credits. Approval of department. Limited amounts of individual work on selected research problems.

599. 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 be enrolled 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

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 200. 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 6 credits. Approval of department.

211. Introduction to the History of Philosophy, Part I  
Fall, Winter. 3(3-0) The Greek and Roman period with emphasis on Plato and Aristotle.