

**Descriptions – Pediatrics and Human Development  
of  
Courses**

**607. Ambulatory Care Clerkship**  
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. H M 602. Interdepartmental with the departments of Community Health Science, Family Practice, and Medicine. Administered by the Department of Family Practice.

Outpatient experience, lasting an equivalent of 48 half days over a period of six months or more, emphasizing continuous and comprehensive patient care under the supervision of appropriate physicians.

**608. Pediatric Specialty Clerkship**  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 43 credits. H M 602; primary clerkship.

Clinical experience with pediatric patients under the direction of members of the faculty of the Department of Human Development and community pediatricians. Fall, Saginaw. Winter, Lansing, Spring, Grand Rapids. Summer, Flint.

**609. Human Development and Pediatric Sub-Specialties**  
Fall, Winter, Spring, Summer. 1 to 17 credits. May reenroll for a maximum of 34 credits. H M 602.

Elected experiences in selected clinical and basic sciences related to pediatrics and human development.

**610. Ambulatory Pediatrics**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits. PHD 608.

Clinical experience in outpatient and community settings involving ongoing child health care including chronic medical illnesses and common behavioral problems.

**611. Infectious Diseases**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits. PHD 608.

Combined office or clinic and inpatient experience in evaluating and managing pediatric patients with infectious diseases.

**612. Neonatology**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits. PHD 608.

Clinical experience involving modern neonatal techniques and care patterns for the sick neonate.

**613. Pediatric Cardiology**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits. PHD 608.

Office, clinic and hospital experience in diagnostic and therapeutic pediatric cardiology including special diagnostic procedures.

**614. Pediatric Endocrinology and Metabolism**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits. PHD 608.

Clinic and hospital experience in evaluating patients with endocrine and metabolic disorders.

**615. Pediatric Hematology and Oncology**  
Fall, Winter, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits. PHD 608.

Clinical experience in evaluating and managing pediatric patients with common hematologic and oncologic disorders.

**PHARMACOLOGY AND TOXICOLOGY PHM**

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

**350. Introductory Human Pharmacology**  
Spring. 3(3-0) PSL 432 or PSL 241 or concurrently; or approval of department.

General principles; central nervous system, autonomic nervous system, cardiovascular and renal drugs; chemotherapy; and other selected basic topics.

**430. Drug Abuse**  
Fall of odd-numbered years. 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.

**450. Introduction to Chemical Toxicology**  
Spring. 3(3-0) B S 210, B S 211, B S 212, CEM 242.

Potential risk of environmental chemicals to animal and human health.

**480. Special Problems**  
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. Approval of department.

Limited amounts of individual work on selected research problems for undergraduate students.

**503. Cell Biology**  
Fall. 5(5-0) Admission to the College of Human Medicine. Interdepartmental with the departments of Biochemistry, Microbiology and Public Health, and Physiology. Administered by the Department of Microbiology and Public Health.

Principles of cell biology for medical students.

**520. Medical Pharmacology I**  
(520B.) Winter. 4(4-0) PSL 500A or PSL 500E; BCH 501 or BCH 512.

Drug absorption, distribution, biotransformation, elimination, antagonism; receptor theory and pharmacogenetics. Chemotherapy: antineoplastic, antiviral and antimicrobial agents. Toxicology and emergency therapies. Pharmacology related to the autonomic nervous system.

**521. Medical Pharmacology II**  
(521B.) Spring. 4(4-0) PHM 520.

Pharmacology of the central and peripheral nervous systems. Cardiovascular, renal and gastrointestinal drugs. Endocrine and autacoid pharmacology.

**554. Veterinary Pharmacology and Toxicology I**  
(520A.) Fall. 4(4-0) PSL 500B, PSL 500C.

Drug absorption, distribution, biotransformation, elimination, receptor theory and pharmacogenetics; chemical toxicity; autonomic nervous system, cardiovascular and renal pharmacology.

**555. Veterinary Pharmacology and Toxicology II**  
(521A.) Winter. 5(4-2) PHM 554.

Endocrine, autacoid and central nervous system pharmacology; chemotherapy; antimicrobials, antihelminthics, antineoplastics.

**810. Synaptic Transmission**  
Winter of odd-numbered years. 4(4-0) Approval of department.

Chemical and electrical aspects of nervous impulse transmission at synaptic and neuroeffector junctions and influences of drugs upon these processes. Intrinsic neuronal circuitry; reticular formation; thalamus; neocortex; cerebellum.

**811. Advanced Renal and Autacoid Pharmacology**  
Spring of even-numbered years. 4(4-0) PHM 521 or PHM 555, approval of department.

Advanced concepts and current topics in renal and autacoid pharmacology.

**812. Advanced Principles of Pharmacology**  
Fall. 2(2-0) PHM 521 or PHM 555.

Pharmacodynamics, drug-receptor interactions, computer modeling, drug metabolism.

**813. Cardiac Pharmacology**  
Winter of even-numbered years. 4(4-0) PHM 555 or PHM 521; PSL 801, PSL 802, PSL 803; approval of department.

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

**814. Advanced Principles of Toxicology**  
Spring of even-numbered years. 4(4-0) PHM 812.

Current biochemical and physiological mechanisms of toxicity on major organ systems. Mechanisms of mutagenicity, carcinogenicity and teratology.

**820. Advanced General Pharmacology**  
Winter. 3(2-2) PHM 520 or concurrently.

Discussions, demonstrations and laboratories designed to supplement information provided in PHM 520 on the pharmacokinetics and actions of drugs that influence the autonomic and cardiovascular systems.

**821. Advanced General Pharmacology**  
Spring. 3(2-2) PHM 520, PHM 820; PHM 521 or concurrently.

This course complements PHM 521 (Pharmacodynamics) with increased coverage of toxicology, chemotherapy (antibiotic, anticancer, and antiparasitic) and central nervous system drugs, including narcotic analgesics and psychoactive agents.

**870. Problems**  
Fall, Winter, Spring, Summer. 2 to 4 credits. May reenroll for a maximum of 12 credits. Approval of department.

Limited amounts of individual work on selected research problems for first year graduate students in the Department of Pharmacology and Toxicology.

**899. Master's Thesis Research**  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

Individual work on research problems for the master's degree in pharmacology.

**910. Seminar**

Fall, Winter, Spring. 1(1-0) May reenroll for a maximum of 3 credits. Approval of department.

Discussion of recent topics on pharmacology by departmental or outside speakers, or reporting of research efforts by graduate students of the Department of Pharmacology and Toxicology.

**980. Problems**

Fall, Winter, Spring, Summer. 2 to 5 credits. May reenroll for a maximum of 20 credits. Approval of department.

Limited work on selected research problems.

**999. Doctoral Dissertation Research**

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

Individual work on research problems for the doctoral degree in pharmacology.

**PHILOSOPHY PHL**

**College of Arts and Letters**

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

The courses may be taken independently and in any order.

**101. Introduction to Philosophy: Ethics and Value (A)**

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

Students may not receive credit for both PHL 101 and PHL 330.

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

**102. Introduction to Philosophy: Knowledge and Reality (A)**

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

An examination of such basic philosophical problems as free will and determinism, the existence of God, the relation of mind and body, and the scope and limits of human knowledge.

**103. Introduction to Philosophy: Logic**

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

An examination of deductive and inductive reasoning and of such topics as rational argumentation, fallacies, definition, meaning, truth, and evidence. Designed to improve students' capacities to read and think critically.

**120. Classics of Philosophical Literature (A)**

Fall, Winter, Spring. 4(4-0)

An introduction to contrasting classics of literary and philosophical importance. Primary texts from such philosophers as Plato, Lucretius, Descartes, Hume, Nietzsche, James, Russell and Sartre will be read and discussed.

**200H. Honors Work**

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

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Taken together, PHL 211, PHL 212 and PHL 213 provide a comprehensive introduction to the history of western philosophy. It is recommended that these courses be taken in sequence. However, if only one course is taken it may be any one of these, since each course is self-contained and may be taken independently of the others.

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**211. Ancient Philosophy (A)**

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

An introduction to the history of philosophy: the Greek and Roman periods, with emphasis on Plato and Aristotle.

**212. Medieval and Early Modern Philosophy (A)**

Winter, Spring. 3(3-0) PHL 211 recommended.

An introduction to the history of philosophy: the Middle Ages to the rise of modern science, with emphasis on Aquinas, Descartes, Spinoza and Leibniz.

**213. Modern Philosophy (A)**

Fall, Spring. 3(3-0) PHL 212 recommended.

An introduction to the history of philosophy: the Enlightenment to the nineteenth century, with emphasis on Hume and Kant and such other philosophers as Locke, Berkeley, Hegel, Kierkegaard and Nietzsche.

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**294. Special Topics**

Fall, Winter, Spring. 2(2-0) to 6(6-0)

May reenroll for a maximum of 12 credits if different topics are taken. 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)

Comparative moral philosophy of Confucianism, Taoism, and Buddhism and their metaphysical and cultural roots. Concepts of enlightenment and human nature.

**315. American Philosophy**

Spring of odd-numbered years. 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.

Such authors as Husserl, Jaspers, Kierkegaard, Marcel, Nietzsche, Sartre and such topics as hope, anxiety, bad faith, subjectivity, freedom, social being, and phenomenological method.

**330. Elements of Ethics**

Fall, Winter, Spring. 3(3-0) Juniors. Students may not receive credit for both PHL 101 and PHL 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. Logic I**

Fall, Winter, Spring. 4(4-0)

Modern symbolic methods in deductive reasoning. The logic of compound and general sentences.

**338. Logic II**

Winter, Spring. 4(4-0) PHL 337 or approval of department.

The logic of identity, functions and definitions. The axiomatic method and its applications.

**340. Moral Problems in Medicine and the Life Sciences**

Fall, Winter, Spring. 4(4-0) Juniors.

Philosophical aspects of euthanasia, allocation of scarce medical resources, experimentation and informed consent, truth-telling and the doctor-patient relationship, genetic counseling, genetic engineering, behavior control, and health care delivery.

**341. Philosophical Aspects of Feminism**

Fall, Winter, Spring. 4(4-0)

Conceptual issues in feminist theory. Such concepts as oppression, sexism and chauvinism, feminist separatism, rape, respect and self-respect, personhood, power and control and feminism will be analyzed and explored.

**342. Philosophy of the Counter Culture**

Fall. 3(3-0)

Students will examine counter cultural critiques of contemporary culture and values; and develop, articulate, defend their own views on such issues, especially as those issues immediately affect their own lives.

**343. Ethical Issues in the Social Sciences**

Winter. 3(3-0)

Philosophical treatment of ethical issues arising from the social scientists' conflicting obligations to their subjects, science, profession, career, personal values and society.

**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.