PHARMACOLOGY AND TOXICOLOGY  PHM

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

550. Introductory Human Pharmacology
Fall, Spring. 3(3-0)

450. Introduction to Chemical Toxicology
Spring. 3(3-0)
P: RS 110, RS 111, CRM 251. Not open to freshmen. Mamalian toxicology. Disposition of chemicals in the body, detoxification, elimination, and mechanisms of toxicity in major organ systems. Selected toxic agents. QA: PHM 450

480. Special Problems
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Approval of department. Not open to students with credit in PHM 450 or PHM 480. Individual work on selected research problems. QA: PHM 450, PHM 480 QA: PHM 480

554. Veterinary Pharmacology and Toxicology I
Fall, Spring. 3(3-0)
P: P: PHM 810. R: Completion of the first year of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in PHM 554 or PHM 555. Drug absorption, disposition, biotransformation, excretion, pharmacokinetics. Pharmacologic agents of the autonomic nervous, cardiovascular, renal, central nervous, endocrine, and gastrointestinal systems. QA: PHM 554

555. Veterinary Pharmacology and Toxicology II
Spring. 4(4-0)
P: PHM 820. R: Completion of the first year of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in PHM 555. Endocrine, autonomic and central nervous system pharmacology. Chemical pathology, endocrinology, anesthesia, autonomic nervous, endocrine, and autonomic pharmacology. Temporary approval effective from Fall Semester 1992 through Spring Semester 1993. QA: PHM 555

556. Veterinary Pharmacology
Fall. 5(5-0)
P: PHM 820. R: Completion of 2 semesters of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in PHM 554 or PHM 555. Drug absorption, disposition, biotransformation, excretion, pharmacokinetics. Pharmacologic agents of the autonomic nervous, cardiovascular, renal, central nervous, endocrine, and gastrointestinal systems. QA: PHM 554

557. Veterinary Toxicology
Spring. 2(2-0)
P: PHM 820. R: Completion of 2 semesters of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in PHM 554. Deterrents of toxic responses, analytical toxicology, genetic toxicology, and toxicity management. Diagnosis, prevention, and treatment of common toxicoses. QA: PHM 594

563. Medical Pharmacology
Summer, 3(3-0)
P: Graduate-professional students in colleges of Human and Osteopathic Medicine. General principles of pharmacology and selected drugs. Rational drug therapy. QA: PHM 594

594. Veterinary Toxicology
Spring. 3(3-0)
P: Completion of the second year of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in PHM 557. Pharmacological basis and pathological features of animal diseases caused by common toxic chemicals. Clinical manifestations, diagnosis, prevention, and treatment. Temporary approval effective from Fall Semester 1992 through Spring Semester 1993. QA: PHM 594

655. Research Problems in Pharmacology and Toxicology
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department. Selected research problems in pharmacology or toxicology. QA: PHM 565, PHM 555, PHM 594

810. Synaptic Transmission
Spring. 3(3-0)
P: PHM 910. R: Open only to graduate students. Approval of department. Chemical and electrical aspects of nerve impulse transmission at synaptic and neuroeffector junctions. Influence of drugs. QA: PHM 810

813. Cardiac Pharmacology
Spring. 3(3-0)
P: PHM 820. R: Open only to graduate students. Approval of department. Effects of drugs on normal physiological and biochemical processes in cardiac cells. QA: PHM 813

814. Advanced Principles of Toxicology
Spring. 3(3-0)
P: PHM 820. R: Open only to graduate students. Approval of department. Biochemical, molecular and physiological mechanisms of toxicity. Responses of major organ systems to chemical insult. Mechanisms of mutagenesis and carcinogenesis. QA: PHM 814

815. Concepts in Tumorigenesis
Spring. 2(2-0)
P: BCH 462, PSL 432, PSL 460. R: Approval of department. Examination and discussion of literature in tumorigenesis. QA: PSL 433, BCH 453 QA: PHM 815

819. Principle of Drug-Tissue Interactions
Summer. 3(3-0)
P: Open only to graduate students. Approval of department. General principles relevant to the interaction of chemicals with biological systems. QA: PHM 819

820. Drug Actions, Effects and Uses
Fall. 3(3-0)
P: PHM 819. R: Open only to graduate students. Approval of department. Major principles of physiological and biochemical actions of major drugs. QA: PHM 820, PHM 821

870. Research Rotation
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to first year graduate students in Pharmacology and Toxicology. Approval of department. Individual work on selected research problems. QA: PHM 870

889. Master's Thesis Research
Fall, Spring, Summer. 1 to 8 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to graduate students. Approval of department. Discussion of recent topics in pharmacology and toxicology by faculty or invited outside speakers. Students research reports. QA: PHM 889

910. Seminar
Fall, Spring, 1.5(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to graduate students. Approval of department. Discussion of recent topics in pharmacology and toxicology by faculty or invited outside speakers. Students research reports. QA: PHM 889

999. Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open only to graduate students in Pharmacology and Toxicology. Approval of department. QA: PHM 999

PHILosophy  PHL

Department of Philosophy
College of Arts and Letters

130. Logic and Reasoning
Fall, Spring. 3(3-0)
P: Open only to students with credit in PHL 330. Deductive and inductive reasoning. Topics such as natural argumentation, fallacies, definition, meaning, truth and evidence. Techniques for critical reading and thinking. QA: PHL 183

200. Introduction to Philosophy
Fall, Spring. 3(3-0)
P: Open only to students with credit in PHL 330. Theories of knowledge, values, and reality. Topics such as objectivity, relativism and cultural diversity, moral responsibility, aesthetic values, the self, existence of God, free will, minds and machines. QA: PHL 101, PHL 102, PHL 330

210. History of Western Philosophy: Ancient and Medieval
Fall, 3(3-0)
P: Open only to students with credit in PHL 330. Greek philosophy with emphasis on Plato and Aristotle; Roman philosophy; and medieval philosophy. QA: PHL 211
211. History of Western Philosophy: Modern
Spring. 3(3-0)
P: PHL 210 recommended.
Philosophy from the Renaissance through the nineteenth century, with emphasis on such philosophers as Descartes, Spinoza, Locke, Hume, Kant, Hegel, Kierkegaard and Nietzsche.
QA: PHL 213

312. Chinese Philosophy
Spring. 3(3-0)
R: Not open to freshmen and sophomores.
Central traditions in the history of Chinese philosophy: Confucianism, Taoism, Chan Buddhism, Neo-Confucianism.
QA: PHL 312

320. Existentialism
Fall. 3(3-0)
P: One PHL course.
Husserl, Jaspers, Kierkegaard, Marcel, Nietzsche, Sartre, and de Beauvoir. Topics such as hope, anxiety, bad faith, subjectivity, freedom, social being, phenomenological method.
QA: PHL 323

330. Formal Reasoning I
Fall, Spring. 1(1-0)

Formal methods in deductive reasoning. Logic of connectives and quantifiers, including identity, conjunctions, and descriptions.
P: PHL 330.

337. Philosophy of Language
Spring. 3(3-0)
P: One course in Philosophy.
Elementary topics in semantics, linguistic pragmatics, meaning, denotation, speech acts, and linguistic relativity.
QA: PHL 337

350. Nature of Science
Fall, Spring. 3(3-0)
P: One course in the biological, physical, or mathematical sciences.
Conflicting views about science and values. Such topics as scientific methodology; the objectivity and value-neutrality of science; the presuppositions, goals, and limits of science; and science and decision making.
QA: PHL 350

410. Plato
Fall. 4(4-0)
P: PHL 210 or other Philosophy courses.
Development of Platonic philosophy from the early Sociatic Academy. Emphasis on the middle dialogues, especially the 'Republic'.
QA: PHL 411

411. Aristotle
Spring. 4(4-0)
P: PHL 210 or PHL 410 or two other Philosophy courses.
Aristotle's major works and his major contributions to the sciences, metaphysics, ethics, and politics.
QA: PHL 411, PHL 412

412. Medieval Philosophy
Fall of even numbered years. 3(3-0)
P: PHL 210 or two other Philosophy courses.
Medieval philosophy from the fourth to the sixteenth centuries, emphasizing the contributions of Augustine and Aquinas.
QA: PHL 412

413. Continental Rationalism
Fall of odd numbered years. 4(4-0)
P: PHL 211 or two other Philosophy courses.
The rationalists of the seventeenth century, with emphasis on Descartes, Spinoza and Leibniz.
QA: PHL 412

414. British Empiricism
Fall of even numbered years. 3(3-0)
P: PHL 211 or two other Philosophy courses.
The philosophy that strives to trace all our ideas and beliefs, whether in science, morality, or religion, back to their sources in experience. Emphasis on the works of Locke, Berkeley, and Hume.
QA: PHL 413

415. Kant
Spring. 4(4-0)
P: PHL 211 or two other Philosophy courses.
Kant's metaphysical and epistemological system, especially his 'Critique of Pure Reason'.
QA: PHL 415

416. Hegel
Spring of odd numbered years. 4(4-0)
P: PHL 211 or PHL 415 or three other Philosophy courses.
Hegel's dialectic and his bearing on both the history of philosophy and issues about science, politics, art and religion.
QA: PHL 416

440. Central Issues in Ethics
Spring. 4(4-0)
P: PHL 340 or PHL 350 or PHL 450.
Twentieth-century discussions of universalism, utilitarianism, nature of a moral theory, moral language, relativism, skepticism, theory and practice, weakness of will, moral education, and justification.
QA: PHL 450 or PHL 390 or PHL 451 or PHL 452

447. Advanced Aesthetics
Fall of even numbered years. 3(3-0)
P: PHL 347 or graduate student in Philosophy.
QA: PHL 350

450. Topics in Social and Political Philosophy
Spring. 3(3-0)
P: PHL 240 or PHL 350 or PHL 440.
Political authority, individual liberty, aspects of social justice. Authors such as Plato, Hobbes, Locke, and Rawls.
QA: PHL 350 or PHL 365

460. Epistemology
Fall. 3(3-0)
P: One Philosophy course at the 300 level or above.
Theories and concepts of knowledge, belief, epistemic justification, certainty, and reason.
QA: PHL 440
461. Metaphysics
Spring. 3(3-0)
R: Open only to graduate students in Philosophy.

462. Philosophy of Mind
Fall. 3(3-0)
R: Open only to graduate students in Philosophy.

463. Introduction to Cognitive Science
Spring. 3(3-0) Interdepartmental with Linguistics and Psychology.
P: PHL 462 or PSY 200 or LIN 401 or CPS 440.
Cognitive processing of information by animals, humans, and computers. Relevant issues in philosophy, linguistics, psychology, neurophysiology, and artificial intelligence.

464. Aesthetic Theory and Modernism
Fall. 4(4-0) Interdepartmental with History of Art, English, Linguistics and Languages, Music, and Romance Language Courses.
R: Not open to freshmen and sophomores. Problems, assumptions, and arguments of modern aesthetic theory examined in the context of debates over modernity and modernist artistic practice.

480. Philosophy of Science
Fall. 4(4-0)
P: PHL 130 or PHL 330 or a 200 level mathematics or statistics course or approval of department.
Structure of scientific theories and explanation. Causation, prediction, induction, confirmation, discovery, and scientific progress.

481. Topics in Science Studies
Spring. 3(3-0)
P: Three courses in science or two philosophy courses or approval of department.
Converging trends in philosophy, history, and sociocultural studies of science. Such topics as scientific rationality and objectivity, evolutionary epistemology, continental approaches, or feminist perspectives.

484. Philosophy of Biological Science
Spring. 3(3-0)
P: Three courses in biological science or two courses in PHL or approval of department.
Philosophical and methodological issues in biology. Topics such as scientific rationality and objectivity, evolutionary epistemology, continental approaches, or feminist perspectives.

485. Philosophy of Social Science
Spring. 3(3-0)
P: Three courses in social science or two courses in PHL or approval of department.
Explanations, theories, and concepts in social science. Such topics as historicism; reductionism; rationality and relativism; comparison of logical empiricism, interpretive, and critical theory approaches.

487. Philosophy of Mathematics
Fall of odd-numbered years. 3(3-0)
P: Three courses in mathematics or PHL 330 or approval of department.
Nature of mathematical truth and knowledge. Themes of logicism, formalism, intuitionism, and conventionalism.

493. Philosophy of Physical Science
Fall of even-numbered years. 3(3-0)
P: Three courses in physical science or this course in PHL or approval of department.
Philosophical problems of the physical sciences. Topics from such areas as quantum mechanics, space-time, classical mechanics, or relativity.

499. Seminar in Logic and the Philosophy of Language
Fall of odd-numbered years. 2 to 4 credits.
A student may earn a maximum of 10 credits in all enrollments for this course.
R: Open only to graduate students in Philosophy or approval of department.

800. Seminar in Metaphysics and Epistemology
Fall. 2 to 4 credits. A student may earn a maximum of 15 credits in all enrollments for this course.
R: Open only to graduate students in Philosophy or approval of department.

805. Seminar in Social and Political Philosophy
Spring. 2 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course.
R: Open only to graduate students in Philosophy.

860. Seminar in Physical Philosophy
Spring. 2 to 4 credits. A student may earn a maximum of 10 credits in all enrollments for this course.
R: Open only to graduate students in Philosophy or approval of department.

PHYSICAL EDUCATION AND EXERCISE SCIENCE PES

Department of Physical Education and Exercise Science
College of Education

Instructional Courses

Physical education instructional courses (PES 101-108) are offered every semester to give students an opportunity to become involved in physical activities that will benefit them, not only in attaining physical well-being, but in acquiring a sense of personal achievement and self-esteem. SEMINARS (PES 101-104) are offered to provide an opportunity for students to become involved in physical activities that will benefit them, not only in attaining physical well-being, but in acquiring a sense of personal achievement and self-esteem.