

PHARMACOLOGY AND TOXICOLOGY

841*. **Advanced Endocrine Physiology and Pharmacology**
 Fall of odd-numbered years. 4(04-00)
 Interdepartmental with the Department(s) of Physiology, Psychology.
 P: PSL 431, PSL 432, BCH 451, BCH 452

R: Graduate Students
 Basic and advanced concepts of endocrine and reproductive physiology and pharmacology
 QA: PHM841

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

Limited amounts of individual work on selected research problems for first-year graduate students in the Dept of PHM/TOX
 QA: PHM 870

899*. **Master's Thesis Research**
 Fall, Spring, Summer. 1 to 3 credits.
 May reenroll for a maximum of 6 credits.
 R: Graduate Students Pharmacology and Toxicology Approval of Department

QA: PHM 899

910*. **Seminar**
 Fall, Spring. 1(01-00) May reenroll for a maximum of 3 credits.
 R: Graduate students Approval of Department

Discussion of recent topics in pharmacology and toxicology by department or invited outside speakers, or reporting on research by department students
 QA: PHM 910

980*. **Problems**
 Fall, Spring, Summer. 2 to 5 credits.
 May reenroll for a maximum of 20 credits.
 R: Graduate students Approval of department

Limited work in selected research projects
 QA: PHM 980

999*. **Doctoral Dissertation Research**
 Fall, Spring, Summer. 1 to 24 credits.
 May reenroll for a maximum of 99 credits.
 R: Graduate Students Pharmacology and Toxicology Approval of department

Individual work on research problems for the doctoral degree in pharmacology
 QA: PHM 999

PHILOSOPHY PHL

130. **Logic and Reasoning**
 Fall, Spring, Summer. 3(3-0)
 R: Not open to students with credit in PHL

330.
 Deductive and inductive reasoning. Topics such as rational argumentation, fallacies, definition, meaning, truth and evidence. Techniques for critical reading and thinking.
 QA: PHL 103

200. **Introduction to Philosophy**
 Fall, Spring. 3(3-0)

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 300

210. **History of Western Philosophy: Ancient and Medieval**
 Fall. 3(3-0)

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: PHL312

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: PHL323

330*. **Formal Reasoning I**
 Fall, Spring. 4(4-0)

Formal methods in deductive reasoning. Logic of connectives and quantifiers, including identity, functions, and descriptions.
 QA: PHL337 PHL338

331*. **Formal Reasoning II**
 Fall, Spring. 4(4-0)
 P: PHL 330. Axiomatic method. Informal axiomatizations of set theory and probability theory. Metatheory of elementary logic.
 QP: PHL337 QA: PHL338

340*. **Ethics**
 Fall, Spring. 3(3-0)
 P: One PHL course.

Inquiry through the writings of some important theorists, their critics and their contemporary followers. Aristotle, Hume, Kant, Mill, Sidgwick.
 QA: PHL330 PHL431

344*. **Ethical Issues in Health Care**
 Fall, Spring. 4(4-0)
 R: Not open to freshmen and sophomores.

Termination of treatment, truth-telling, informed consent, human experimentation, reproductive issues, allocation of scarce resources, justice and the health care system.
 QA: PHL340

345*. **Business Ethics**
 Fall. 4(4-0) Interdepartmental with the Department(s) of General Business and Business Law.
 R: Juniors and above.

Ethical dimensions of the relationships between a business and employees, consumers, other businesses, society, government, and the law. Readings from philosophical and business sources.
 QA: PHL345

347*. **Aesthetics**
 Fall. 3(3-0)

General introduction to theories of aesthetic value, the nature of art, and the works of such aestheticians as Plato, Hume, Kant, Hegel, Tolstoy, Santayana, Wittgenstein, Iserberg, Langer, Murdoch.
 QA: PHL350

350*. **Moral and Political Issues**
 Fall. 3(3-0)
 P: One PHL course.
 Justice, rights and responsibilities. Topics such as equality of opportunity, justice for the aged and future generations, and abortion.
 QA: PHL460

354*. **Philosophy of Law**
 Fall, Spring. 3(3-0)
 P: One PHL course or two PLS courses.
 Legal concepts such as punishment, responsibility, rights and duties, and judicial decisions. Legal theories such as natural law, positivism and realism.
 QA: PHL360

356*. **Philosophical Aspects of Feminism**
 Fall, Spring. 4(4-0)

Conceptual and normative issues in feminist theory, such as sexism, oppression, coercion, control, power, equality, personhood, respect and self-respect, rape, separatism, community, intimacy and autonomy.
 QA: PHL341

357*. **Philosophy of Karl Marx**
 Spring. 3(3-0)
 P: One PHL course.

Marx's philosophical thought and its bearing on science, religion, art and politics.
 QA: PHL366

360*. **Philosophy of Language**
 Spring. 3(3-0)
 P: One course in Philosophy.

Elementary topics in semantics, linguistic pragmatics, and philosophy of language. Meaning, denotation, speech acts, and linguistic relativity.
 QA: PHL370

380*. **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; science and decision making.
 QA: PHL380

410*. **Plato**
 Fall. 4(4-0)
 P: PHL 210 or two other Philosophy courses.

Development of Platonic philosophy from the early Socratic Academy. Emphasis on the middle dialogues, especially the 'Republic'.
 QP: PHL211 QA: PHLA10

411*. **Aristotle**
 Spring. 4(4-0)
 P: PHL 210 or PHL 410 or two other Philosophy courses. R: Not open to freshmen and sophomores.

Aristotle's, major works and his major contributions to the sciences, metaphysics, ethics, and politics.
 QP: PHL 211 ORPHL 410 QA: PHLA11 PHLA12

412*. **Medieval Philosophy**
 Fall of even-numbered years. 3(3-0)
 P: PHL 210 or two other Philosophy courses. R: Not open to freshmen and sophomores.

Medieval philosophy from the fourth to the sixteenth centuries, emphasizing the contributions of Augustine and Aquinas.
 QP: PHL211 ORPHL212ORPHL411 QA: PHLA14

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.
 QP: PHL212 QA: PHLA13

PHILOSOPHY

- 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 source in experience. Emphasis on the works of Locke, Berkeley, and Hume.
QP: PHL 212 ORPHL 213 QA: PHLA16
- 415*.** **Kant**
Spring. 4(4-0)
P: PHL 211 or two other Philosophy courses.
Kant's metaphysical and epistemological system, focusing on his 'Critique of Pure Reason'.
QP: PHL213 QA: PHLA23
- 416*.** **Hegel**
Spring of even-numbered years. 4(4-0)
P: PHL 211 or PHL 415 or three other Philosophy courses.
Hegel's dialectic and its bearing on both the history of philosophy and issues about science, politics, art and religion.
QP: PHL213 ORPHLA23 QA: PHLA27
- 417*.** **Nineteenth Century Philosophy**
Fall. 4(4-0)
P: PHL 210 or PHL 211.
Emphasis on attempts to overcome the Kantian limits on human knowledge postulated by Kant. Works by writers such as Fichte, Schopenhauer, Nietzsche, and James.
QP: PHL213 ORPHLA23 QA: PHLA19
- 418*.** **Topics in 20th-Century Analytical Philosophy**
Fall. 3(3-0) May reenroll for a maximum of 9 credits.
P: One Philosophy course at 300 level or above.
Issues in the works of such philosophers as Frege, Russell, Moore, Wittgenstein, Carnap, Quine, Austin, and Kripke.
QA: PHLA20
- 420*.** **Topics in 20th-Century Continental Philosophy**
Fall. 4(4-0) May reenroll for a maximum of 12 credits.
P: 3 credits in Philosophy at 300 level or above.
Recent European movements such as phenomenology, poststructuralism, critical theory, hermeneutics, and philosophical anthropology.
QA: PHLA24
- 421*.** **Topics in European Philosophy**
Spring. 3(3-0) May reenroll for a maximum of 9 credits.
P: PHL 320 or PHL 420.
A particular problem, topic, or author in nineteenth- and twentieth-century European philosophy, such as, Kierkegaard, Husserl, Heidegger, Lukacs, Marx vs. existentialism, and theories of interpretation.
QP: PHL323 QA: PHLA28
- 430*.** **Topics in Philosophical Logic**
Spring. 3(3-0) May reenroll for a maximum of 9 credits.
P: PHL 330.
Selected topics from metallic, model theory, artificial intelligence and deviant logics.
QP: PHL337 QA: PHLA36
- 440*.** **Central Issues in Ethics**
Spring. 4(4-0)
P: PHL 340 or PHL 350 or PHL 450.
Twentieth-century discussions of universalization, utilitarianism, nature of a moral theory, moral language, relativism, skepticism, theory and practice, weakness of will, moral education, and justification.
QP: PHL330 ORPHL360ORPHLA31 QA: PHLA32
- 447*.** **Advanced Aesthetics**
Fall of even-numbered years. 3(3-0)
P: PHL 347 or graduate student.
Aesthetic theory. Philosophies of architecture, literature, and music. Nature of criticism. Classification of arts. Postmodernism. Close examination of particular authors.
QP: PHL350
- 448*.** **Aesthetic Theory and Modernism**
Fall. 4(4-0) Interdepartmental with the Department(s) of English, Linguistics, Romance Language Courses, History.
R: Juniors and above
Problems, assumptions, and arguments of modern aesthetic theory examined in the context of debates over modernity and modernist artistic practice.
QA: PHL434 ENG434 ROM434 HA434 LOA434
- 450*.** **Topics in Social and Political Philosophy**
Fall, Spring. 3(3-0) May reenroll for a maximum of 9 credits.
P: PHL 340 or PHL 350 or PHL 440.
Political authority, individual liberty, aspects of social justice. Authors such as Plato, Hobbes, Locke, and Rawls.
QP: PHL330 QA: PHL365
- 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: PHL440
- 461*.** **Metaphysics**
Spring. 3(3-0)
R: One Philosophy course at the 300 level or above or two other Philosophy courses.
Basic concepts employed in trying to understand the nature of things. Concepts include universals, particulars, things, kinds, properties, events, persons, change, causality, chance, existence, possibility, necessity, space, and time.
QA: PHL445
- 462*.** **Philosophy of Mind**
Fall. 3(3-0)
R: One philosophy course at the 300 level or above or two other Philosophy courses.
Modern theories of the mind, other minds, and the mind's relation to the body. Theories include dualism, behaviorism, criteriology, reductive and eliminative materialism, and functionalism.
QA: PHL447
- 463*.** **Introduction to Cognitive Science**
Spring. 3(3-0) Interdepartmental with the Department(s) of Linguistics, Psychology.
P: PHL 447 or PSY 300 or LIN 401 or CPS 441.
The cognitive processing of information by animals, humans, and computers. Relevant issues in philosophy, linguistics, psychology, neuropsychology, and artificial intelligence.
QP: PHL 447 ORPSY 300ORLIN 401 QA: PHL450 LIN450 PSY450
- 480*.** **Philosophy of Science**
Fall. 4(4-0)
P: PHL 130 or PHL 330 or a 200 level math or stat course or instruc. appr
Structure of scientific theories and explanation; causation, prediction, induction, confirmation, discovery, and scientific progress.
QP: PHL337 QA: PHLA80 PHLA81
- 481*.** **Topics in Science Studies**
Spring. 3(3-0)
P: Three science courses or two philosophy courses or instructor approval
Converging trends in philosophy, history, and sociology of science. Such topics as: scientific rationality and objectivity, evolutionary epistemology, continental approaches, feminist perspectives.
- 484*.** **Philosophy of Biological Science**
Spring. 3(3-0)
P: 3 courses in biological science or 2 courses in PHL or instruc. appr.
Philosophical and methodological issues in biology such as: functional explanation, classification, the structure of evolutionary theory reductionism, observation and measurement, value-neutrality.
QA: PHL484
- 485*.** **Philosophy of Social Science**
Spring. 3(3-0)
P: 3 Courses in Social Science or 2 courses in PHL or Instructor approval
Such topics as: explanations, theories and concepts in social science, historicism, reductionism, rationality and relativism, comparison of logical empiricist, interpretive, and critical theory approaches.
QA: PHL485
- 487*.** **Philosophy of Mathematics**
Fall of odd-numbered years. 3(3-0)
P: 3 courses in mathematics or PHL 330 or instructor approval
Analysis of the nature of mathematical truth and knowledge. Theses of logicism, formalism, intuitionism, and conventionalism are critically examined.
QP: PHL 337
- 488*.** **Philosophy of Physical Science**
Fall of even-numbered years. 3(3-0)
P: 3 courses in physical science or 2 courses in PHL or Instructor approval
Philosophical problems of the physical sciences. The topic will be taken from such areas as: quantum mechanics, space-time, classical mechanics, relativity.
- 490*.** **Independent Study**
Fall, Spring, Summer. 1 to 4 credits.
May reenroll for a maximum of 9 credits.
R: Approval of the Department
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
QA: PHL 490
- 491*.** **Special Topics in Philosophy**
Fall, Spring, Summer. 3 to 4 credits.
May reenroll for a maximum of 9 credits.
R: Approval of the Department
Special topics supplementing regular course offerings proposed by faculty on a group study basis.
QA: PHL 494
- 492*.** **Seminar for Majors**
Fall. 3(3-0) May reenroll for a maximum of 9 credits.
P: 16 credits in Philosophy. R: Open only to majors in Philosophy or approval of department.
Advanced, variable topic seminar for undergraduate majors. Seminar presentations. Substantial paper.
- 499*.** **Senior Thesis Research**
Fall, Spring, Summer. 3(-)
R: Approval of the Department
An individual research project supervised by a faculty member that demonstrates the student's ability to do independent research and submit or present a major paper.

PHILOSOPHY

810*. **Seminar in the History of Philosophy**
 Fall. 2 to 4 credits. May reenroll for a maximum of 10 credits.
 R: Graduate standing or approval of the department.
 Major thinkers, themes, periods, or movements in the history of Philosophy.
 QA: PHL825

820*. **Seminar in Continental Philosophy**
 Fall of even-numbered years. 2 to 4 credits. May reenroll for a maximum of 10 credits.
 R: Graduate standing or approval of department.
 Major figures or themes in 19th and 20th century continental philosophy.
 QA: PHL825 PHL841 PHL860

830*. **Seminar in Logic and the Philosophy of Language**
 Fall of odd-numbered years. 2 to 4 credits. May reenroll for a maximum of 10 credits.
 R: Graduate standing or approval of department.
 Selected topic in Philosophy of Language, Philosophical Logic, and Metatheory.
 QA: PHL837 PHL870

840*. **Seminar in Value Theory**
 Fall. 2 to 4 credits. May reenroll for a maximum of 10 credits.
 R: Graduate standing or approval of department.
 Major figures, themes, or periods in ethics or aesthetics.
 QA: PHL830

845*. **Seminar in Business Ethics**
 Spring. 3(3-0) Interdepartmental with the Department(s) of General Business and Business Law.
 R: Graduate standing or approval of department.
 Ethical dimensions of such issues as corporate responsibility, preferential hiring, advertising, government regulation.
 QA: PHL805

850*. **Seminar in Social and Political Philosophy**
 Spring of even-numbered years. 2 to 4 credits. May reenroll for a maximum of 10 credits.
 R: Graduate standing or approval of department.
 Major figures, themes, or periods in social and political philosophy.
 QA: PHL860

860*. **Seminar in Metaphysics and Epistemology**
 Fall. 2 to 4 credits. May reenroll for a maximum of 15 credits.
 R: Graduate standing or approval of department.
 Selected topics in metaphysics, epistemology, and philosophy of mind.
 QA: PHL841 PHL845

870*. **Seminar in Philosophy of Health Care**
 Fall. 2 to 4 credits. May reenroll for a maximum of 15 credits.
 R: Graduate standing or approval of department.
 Ethical, political, theoretical, and methodological issues in medicine and health care.

880*. **Seminar in Philosophy of Science**
 Spring. 2 to 4 credits. May reenroll for a maximum of 10 credits.
 R: Graduate standing or approval of department.
 Selected topics in the philosophy of the special sciences, in the metatheory of science, and in the social studies of science.
 QA: PHL880

890*. **Independent Study**
 Fall, Spring, Summer. 1 to 10 credits. May reenroll for a maximum of 20 credits.
 R: Approval of the Department
 Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.
 QA: PHL 890

894*. **Practicum in Philosophy of Health Care**
 Spring. 4 to 6 credits.
 P: PHL 344 R: Doctoral Standing or approval of department.
 Study of ethical and policy issues in hospital and governmental agency settings.

899*. **Master's Thesis Research-Plan A**
 Fall, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits.
 R: Approval of the Department
 Directed research leading to a master's thesis, used in partial fulfillment of plan A master's degree requirements.
 QA: PHL 899

999*. **Doctoral Dissertation Research**
 Fall, Spring, Summer. 1 to 12 credits. May reenroll for a maximum of 50 credits.
 R: Approval of the Department
 QA: PHL 999

PHYSICAL EDUCATION AND EXERCISE SCIENCE PES

101*. **Aquatics**
 Fall, Spring, Summer. 1(0-3)
 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in PES 101 through PES 108.
 Skill and knowledge development in water-related activities. Separate course sections in activities such as swimming, diving, lifeguarding, water polo, and sailing.
 QA: HCP 109

102*. **Combative Sports**
 Fall, Spring, Summer. 1(0-3)
 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in PES 101 through PES 108.
 Skill and knowledge development in the art or sport of physical training. Separate course sections in activities such as judo, karate, aikido, and fencing.

103*. **Conditioning**
 Fall, Spring, Summer. 1(0-3)
 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in PES 101 through PES 108.
 Knowledge and competency in physical fitness activities that emphasize cardiovascular and muscular training. Separate course sections in activities such as aerobic exercise, power walking, swim conditioning, and weight training.

104*. **Dance**
 Fall, Spring, Summer. 1(0-3)
 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in PES 101 through PES 108.
 Skill and knowledge development in dance activities. Separate course sections in dance styles such as ballet, modern, jazz, Latin, and social.
 QA: HCP 211 HCP 111

105*. **Gymnastics**
 Fall, Spring, Summer. 1(0-3)
 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in PES 101 through PES 108.
 Skill and knowledge development in gymnastics. Separate sections in activities such as apparatus, tumbling, and floor exercise.
 QA: HCP 110

106*. **Individual Sports**
 Fall, Spring, Summer. 1(0-3)
 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in PES 101 through PES 108.
 Skill and knowledge development in individual sports. Separate course sections in activities such as bowling, golf, skating, self defense, and track and field.
 QA: HCP 104 HCP 105

107*. **Racquet Sports**
 Fall, Spring, Summer. 1(0-3)
 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in PES 101 through PES 108.
 Skill and knowledge development in racquet sports. Separate course sections in sports such as badminton, racquetball, and tennis.
 QA: HCP 106 HCP 107

108*. **Team Sports**
 Fall, Spring, Summer. 1(0-3)
 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Student are limited to a combined total of 8 credits in PES 101 through PES 108.
 Skill and knowledge development in team sports. Separate course sections in sports such as basketball, ice hockey, lacrosse, soccer, softball, and volleyball.
 QA: HCP 108

120. **Personal Health**
 Fall, Spring, Summer. 3(3-0)
 Physical, mental, emotional, social, and spiritual domains of health. Alternative health values and behaviors. Developing healthy lifestyles.
 QA: HCP 120

121. **The Healthy Lifestyle**
 Fall, Spring, Summer. 3(2-2)
 Cardiovascular risk factors, lifestyle habits, and aerobic capacities and their relationship to optimal health and longevity. Individual physical activity required as part of the course.
 QA: HCP 270

125. **First Aid and Personal Safety**
 Fall, Spring, Summer. 3(3-0)
 Knowledge and application of first aid concepts relating to respiratory and cardiopulmonary disorders, shock, wounds, burns, fractures, drug poisoning, childbirth, litigation. Preventing trauma by recognizing and avoiding safety hazards.
 QA: HCP 125