

PHILOSOPHY

PHL

Department of Philosophy
College of Arts and Letters**130 Logic and Reasoning**

Fall, Spring. 3(3-0) 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.

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.

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.

211 History of Western Philosophy: Modern

Spring. 3(3-0) P:NM: (PHL 210)

Philosophy from the Renaissance through the nineteenth century, with emphasis on such philosophers as Descartes, Spinoza, Locke, Hume, Kant, Hegel, Kierkegaard and Nietzsche.

312 Chinese Philosophy

Spring. 3(3-0) R: Not open to freshmen or sophomores.

Central traditions in the history of Chinese philosophy: Confucianism, Taoism, Chan Buddhism, Neo-Confucianism.

320 Existentialism

Fall. 3(3-0) P:NM: 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.

330 Formal Reasoning I

Fall, Spring. 4(4-0)

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

331 Formal Reasoning II

Spring. 4(4-0) P:M: (PHL 330)

Axiomatic method. Informal axiomatizations of set theory and probability theory. Metatheory of elementary logic.

340 Ethics

Fall, Spring. 3(3-0) P:NM: One PHL course.

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

344 Ethical Issues in Health Care

Fall, Spring. 4(4-0) R: Not open to freshmen or sophomores.

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

345 Business Ethics

Fall. 4(4-0) R: Not open to freshmen or sophomores.

Ethical dimensions of the relationships between a business and employees, consumers, other businesses, society, government, and the law.

347 Aesthetics

Fall. 3(3-0) P:NM: One course in art or literature or music or philosophy.

Theories of aesthetic value and the nature of art. Works of such aestheticians as Plato, Hume, Kant, Hegel, Tolstoy, Santayana, Wittgenstein, Isenberg, Langer, Murdoch.

350 Moral and Political Issues

Fall. 3(3-0) P:NM: One PHL course.

Justice, rights and responsibilities. Topics such as equality of opportunity, justice for the aged and future generations, and abortion.

354 Philosophy of Law

Fall, Spring. 3(3-0) P:NM: 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.

355 Philosophy of Technology

Spring. 4(4-0) Interdepartmental with Lyman Briggs School. Administered by Lyman Briggs School. P:M: Completion of Tier I writing requirement. R: Open only to sophomores or juniors or seniors in Lyman Briggs School or the Department of Philosophy.

Examination of the desirability of technology, its social forms, and its alternatives. Conventional productivist, ecological progressive, and radical humanist outlooks.

356 Philosophical Aspects of Feminism

Fall, Spring. 4(4-0) P:NM: One PHL course.

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

357 Philosophy of Karl Marx

Spring. 3(3-0) P:NM: One PHL course.

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

360 Philosophy of Language

Spring. 3(3-0) P:NM: One PHL course.

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

380 Nature of Science

Fall, Spring. 3(3-0) P:NM: 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.

410 Plato

Fall. 4(4-0) P:NM: (PHL 210) or two other PHL courses.

Development of Platonic philosophy from the early Socratic Academy. Emphasis on the middle dialogues, especially the 'Republic'.

411 Aristotle

Spring. 4(4-0) P:NM: (PHL 210 or PHL 410) or two other PHL courses.

Aristotle's major works and his major contributions to the sciences, metaphysics, ethics, and politics.

413 Continental Rationalism

Fall of odd years. 4(4-0) P:NM: (PHL 211) or two other PHL courses.

Rationalists of the seventeenth century, with emphasis on Descartes, Spinoza and Leibniz.

414 British Empiricism

Fall of even years. 3(3-0) P:NM: (PHL 211) or two other PHL 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.

415 Kant

Spring. 4(4-0) P:NM: (PHL 211) or two other PHL courses.

Kant's metaphysical and epistemological system, focusing on his 'Critique of Pure Reason'.

416 Hegel

Spring of even years. 4(4-0) P:NM: (PHL 211 or PHL 415) or two other PHL courses.

Hegel's dialectic and its bearing on both the history of philosophy and issues about science, politics, art and religion.

417 19th Century Philosophy

Fall. 4(4-0) P:NM: (PHL 210 or PHL 211) or two other PHL courses.

Emphasis on attempts to overcome the limits on human knowledge postulated by Kant. Works by writers such as Fichte, Schopenhauer, Nietzsche, and James.

418 Topics in 20th-Century Analytical Philosophy

Fall. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P:NM: One PHL course at the 300 level or above.

Issues in the works of such philosophers as Frege, Russell, Moore, Wittgenstein, Carnap, Quine, Austin, and Kripke.

420 Topics in 20th-Century Continental Philosophy

Fall. 4(4-0) A student may earn a maximum of 12 credits in all enrollments for this course. P:NM: One PHL course at the 300 level or above.

Recent European movements such as phenomenology, poststructuralism, critical theory, hermeneutics, and philosophical anthropology.

421 Topics in European Philosophy

Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P:NM: One PHL course at the 300 level or above.

A particular problem, topic, or author in nineteenth- and twentieth-century European philosophy, such as Kierkegaard, Husserl, Heidegger, Lukacs, Marxism vs. existentialism, and theories of interpretation.

430 Topics in Philosophical Logic

Spring of even years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P:NM: (PHL 330 or MTH 472)

Selected topics from metalogic, model theory, artificial intelligence and deviant logics.

Philosophy–PHL

- 440 Central Issues in Ethics**
Spring. 4(4-0) P:NM: (PHL 340 or PHL 350)
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.
- 450 Topics in Social and Political Philosophy**
Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P:NM: (PHL 340 or PHL 350)
Political authority, individual liberty, aspects of social justice. Authors such as Plato, Hobbes, Locke, and Rawls.
- 460 Epistemology**
Fall. 3(3-0) P:NM: One PHL course at the 300 level or above.
Theories and concepts of knowledge, belief, epistemic justification, certainty, and reason.
- 461 Metaphysics**
Spring. 3(3-0) P:NM: One PHL course at the 300 level or above.
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.
- 462 Philosophy of Mind**
Fall. 3(3-0) P:NM: One PHL course at the 300 level or above.
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.
- 463 Introduction to Cognitive Science**
Spring. 3(3-0) Interdepartmental with Linguistics; Psychology. P:NM: (PHL 462 or LIN 401 or CSE 440 or PSY 200)
Cognitive processing of information by animals, humans, and computers. Relevant issues in philosophy, linguistics, psychology, neurophysiology, and artificial intelligence.
- 474 Aesthetic Theory and Modernism**
Fall. 4(4-0) Interdepartmental with English; History of Art; Linguistics and Languages; Music; Romance Languages. R: Not open to freshmen or 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:NM: (PHL 330) or a 200 level mathematics or statistics course.
Structure of scientific theories and explanation. Causation, prediction, induction, confirmation, discovery, and scientific progress.
- 481 Topics in Science Studies**
Spring. 3(3-0) P:NM: Three science courses or two PHL courses.
Converging trends in philosophy, history, and sociology 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:NM: Three courses in biological science or two PHL courses.
Philosophical and methodological issues in biology. Topics such as functional explanation, classification, the structure of evolutionary theory, reductionism, observation and measurement, or value-neutrality.
- 485 Philosophy of Social Science**
Spring. 3(3-0) P:NM: Three courses in social science or two PHL courses.
Explanations, theories, and concepts in social science. Such topics as historicism; reductionism; rationality and relativism; comparison of logical empiricist, interpretive, and critical theory approaches.
- 486 Biotechnology in Agriculture: Applications and Ethical Issues**
Fall of even years. 3(3-0) Interdepartmental with Horticulture; Crop and Soil Sciences; Forestry. Administered by Department of Horticulture. P:M: (BOT 105 or BS 111) P:NM: (CSS 350 or ZOL 341) R: Not open to freshmen or sophomores.
Current and future roles of biotechnology in agriculture: scientific basis, applications. Environmental, social, and ethical concerns.
- 487 Philosophy of Mathematics**
Fall of odd years. 3(3-0) P:NM: (PHL 330) or three courses in mathematics.
Nature of mathematical truth and knowledge. Theories of logicism, formalism, intuitionism, and conventionalism.
- 488 Philosophy of Physical Science**
Fall of even years. 3(3-0) P:NM: Three courses in physical science or two PHL courses.
Philosophical problems of the physical sciences. Topics from such areas as quantum mechanics, space-time, classical mechanics, or relativity.
- 490 Independent Study**
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Approval of department.
Supervised special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
- 491 Special Topics in Philosophy**
Fall, Spring, Summer. 3 to 4 credits. A student may earn a maximum of 9 credits in all enrollments for this course.
Special topics supplementing regular course offerings, proposed by faculty on a group study basis.
- 492 Seminar for Majors (W)**
Fall. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P:M: Completion of Tier I writing requirement. P:NM: 16 credits in Philosophy. R: Open only to juniors or seniors in the Department of Philosophy or approval of department.
Advanced, variable topic seminar for undergraduate majors. Seminar presentations. Substantial paper.
- 499 Senior Thesis Research (W)**
Fall, Spring. 3(3-0) P:M: Completion of Tier I writing requirement. R: Open only to juniors or seniors in the Department of Philosophy. Approval of department.
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.
- 800 Proseminar in Philosophy**
Fall. 3(3-0) R: Open only to master's students in the Department of Philosophy or approval of department.
The practice of graduate and professional work in philosophy: reading, writing, presentation, critique and revision; rigor of argument and clarity of expression; areas and methods of inquiry; cooperation and dialogue in inquiry; conferences, professional activities, and employment.
- 801 Teaching Philosophy**
Spring. 3(3-0) R: Open only to Ph.D. students in Philosophy or approval of department.
Theoretical and pedagogical issues in teaching philosophy: the nature of philosophy, designing a course and syllabus, lecturing, leading discussions, designing assignments, evaluation, classroom dynamics, using technology, teaching various areas of philosophy.
- 810 Seminar in the History of Philosophy**
Fall. 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.
Major thinkers, themes, periods, or movements in the history of philosophy.
- 820 Seminar in Continental Philosophy**
Fall of even 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.
Major figures or themes in 19th and 20th century continental philosophy.
- 840 Seminar in Value Theory**
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.
Major figures, themes, or periods in ethics or aesthetics. Topics vary.
- 850 Seminar in Social and Political Philosophy**
Spring of even 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.
Major figures, themes, or periods in social and political philosophy. Topics vary.
- 860 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.
Selected topics in metaphysics, epistemology, and philosophy of mind.
- 870 Seminar in Philosophy of Health Care**
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.
Ethical, political, theoretical, and methodological issues in medicine and health care.

880 Seminar in Philosophy of Science
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.

Selected topics in the philosophy of the special sciences, in the metatheory of science, and in the social studies of science.

890 Independent Study
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 20 credits in all enrollments for this course. R: Approval of department.

Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.

894 Practicum in Philosophy of Health Care
Fall, Spring. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P:NM: (PHL 344) R: Open only to graduate students in Philosophy or approval of department.

Study of ethical and policy issues in hospital and governmental agency settings.

899 Master's Thesis Research
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.

Directed research leading to a master's thesis in partial fulfillment of Plan A master's degree requirements.

999 Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 50 credits in all enrollments for this course. R: Approval of department.

Doctoral dissertation research.

PHYSICAL MEDICINE AND REHABILITATION PMR

Department of Physical Medicine and Rehabilitation College of Osteopathic Medicine

501 Osteopathic Manipulative Medicine I
Fall. 1(0-2) Interdepartmental with Osteopathic Manipulative Medicine. Administered by Department of Osteopathic Manipulative Medicine. R: Open only to students in the College of Osteopathic Medicine.

Basic osteopathic palpatory skills. Building on their basic palpatory skills, students will learn skills in the osteopathic manipulative treatment areas of counterstrain and muscle energy.

502 Osteopathic Manipulative Medicine - II
Spring. 1(0-2) Interdepartmental with Osteopathic Manipulative Medicine. Administered by Department of Osteopathic Manipulative Medicine. P:M: (OMM 501) R: Open only to students in the College of Osteopathic Medicine.

Students will continue to learn skills in the osteopathic manipulative treatment area of muscle energy as well as high velocity low amplitude (mobilization with impulse).

503 Osteopathic Manipulative Medicine - III
Summer. 1(0-2) Interdepartmental with Osteopathic Manipulative Medicine. Administered by Department of Osteopathic Manipulative Medicine. P:M: (OMM 502) R: Open only to students in the College of Osteopathic Medicine.

Students will use their palpatory skills as they learn the principles of functional (indirect) and myofascial release osteopathic manipulative treatment.

504 Osteopathic Manipulative Medicine - IV
Fall. 1(0-2) Interdepartmental with Osteopathic Manipulative Medicine. Administered by Department of Osteopathic Manipulative Medicine. P:M: (OMM 503) R: Open only to students in the College of Osteopathic Medicine.

Basic cranio-sacral osteopathic manipulative medicine. Exposure to various osteopathic approaches to the extremities.

505 Osteopathic Manipulative Medicine - V
Spring. 1(0-2) Interdepartmental with Osteopathic Manipulative Medicine. Administered by Department of Osteopathic Manipulative Medicine. P:M: (OMM 504) R: Open only to students in the College of Osteopathic Medicine.

Use of patient complaints/conditions to integrate material presented in OMM 501, 502, 503, 504 while preparing the student for OMM 506.

506 Osteopathic Manipulative Medicine - VI
Summer. 1(0-2) Interdepartmental with Osteopathic Manipulative Medicine. Administered by Department of Osteopathic Manipulative Medicine. P:M: (OMM 505) R: Open only to students in the College of Osteopathic Medicine.

The osteopathic component in the context of total patient care in disorders of various systems.

590 Special Problems
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 24 credits in all enrollments for this course.

Each student works under faculty direction on an experimental, theoretical or applied problem in physical medicine and rehabilitation.

601 Physical Medicine and Rehabilitation Clerkship
Fall, Spring, Summer. 2 to 12 credits. Fall: Michigan Capital Med. Spring: Michigan Capital Med. Summer: Michigan Capital Med. A student may earn a maximum of 12 credits in all enrollments for this course.

Physical medicine and rehabilitation inpatient and ambulatory setting clinical experience, didactic sessions, case documentation and presentation, hospital rounds. Strong emphasis on evaluation of neuromusculoskeletal disorders and treatment of function deficits.

620 Directed Studies
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to juniors or seniors in the College of Osteopathic Medicine. Completion of Semester 6 in the graduate-professional program.

Individual or group projects on special problems related to physical medicine and rehabilitation.

656 Neurology Clerkship
Fall, Spring, Summer. 2 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to graduate-professional students in the College of Osteopathic Medicine upon completion of Units I and II.

Clinical exposure in neurology. Program structure developed to achieve proficiency in motor skills, aptitudes; comprehension of concepts and principles; patient evaluation, diagnosis, management, and therapy.

806 Advanced Neuroscience Techniques Laboratory
Summer. 3(0-9) Interdepartmental with Neuroscience; Psychology; Pharmacology and Toxicology; Radiology. Administered by Department of Neuroscience. P:M: (NEU 804 or concurrently) P:NM: (PHM 827 and ANT 839 and PSY 811) R: Open only to doctoral students in the Neuroscience major.

Methods of neuroscience research and the underlying principles on which these methods are based.

PHYSICS PHY

Department of Physics and Astronomy College of Natural Science

101 Concepts in Physics
Fall. 1(1-0)

Conceptual foundations of physics emphasizing key experiments.

102 Physics Computations I
Spring. 1(0-3) P:M: (PHY 183 or concurrently or PHY 183B or concurrently or PHY 193H or concurrently or PHY 181B or concurrently) P:NM: (CSE 101 or CSE 231)
Use of Mathematica to solve, analyze and graph equations and data from mechanics.

170 Investigations in Physics
Fall. 3(0-6) R: Approval of department.

Experiments in optics, electronics, sound and mechanics; analysis of data using computers, library research and oral presentations.

181B Basic Physics I, CBI
Fall, Spring, Summer. 3 credits. P:M: (MTH 132 or MTH 152H or LBS 118) Not open to students with credit in LBS 164 or PHY 183 or PHY 183B or PHY 193H or PHY 231 or PHY 231B or PHY 231C or PHY 233B.

Newton's laws of motion, conservation of momentum and angular momentum, energy conservation, thermal physics, waves, and sound. Competency based instruction.

182B Basic Physics II, CBI
Fall, Spring, Summer. 3 credits. P:M: (PHY 183 or PHY 183B or PHY 181B or LBS 271 or PHY 193H) or (PHY 231 or concurrently and PHY 233B) or (PHY 231B or concurrently and PHY 233B) and (MTH 133 or MTH 153H or LBS 119) Not open to students with credit in LBS 272 or PHY 184 or PHY 184B or PHY 232 or PHY 232B or PHY 294H.

Electricity and magnetism, optical phenomena, interference and diffraction of light, atomic and subatomic topics. Competency based instruction.