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 250)
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 empiricism, 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:NM: (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:NM: 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:NM: 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.
Seminar in Philosophy of Science
Fall, 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.

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.

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:N:M (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.

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.

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.

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.

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.

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.

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.

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.

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.

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 &mester 6 in the graduate-professional program.
Individual or group projects on special problems related to physical medicine and rehabilitation.

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.

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:N:M: (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

Department of Physics and Astronomy
College of Natural Science

Concepts in Physics
Fall. 1(0 -6) Conceptual foundations of physics emphasizing key experiments.

Physics Computations I
Spring. 1(0 -5) P:M: (PHY 183 or concurrently or PHY 183B or concurrently or PHY 193H or concurrently or PHY 181B or concurrently) P:N:M: (CSE 101 or CSE 231) R: Approval of department.
Use of Mathematica to solve, analyze and graph equations and data from mechanics.

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.

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 concurrently or PHY 183B or concurrently) P:N:M: (CSE 101 or CSE 231) R: Approval of department.
Newton’s laws of motion, conservation of momentum and angular momentum, energy conservation, thermal physics, waves, and sound. Competency based instruction.

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 concurrently or PHY 231 or concurrently or 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 194B 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.