
Music History and Literature, Musicology

see Music

Music Laboratories

see Music

Nuclear Engineering Technology

see Engineering Technology

Philosophy and Religion Studies

Philosophy, PHIL

PHIL 1050 (PHIL 1301). Introduction to Philosophy. 3 hours. Survey of leading figures in the history of philosophy (from Ancient Greece, Medieval Europe, the Renaissance, Enlightenment, and the 20th century) and an examination of central areas of philosophy: metaphysics, epistemology, human nature, ethics, political theory and aesthetics. *Satisfies the Humanities requirement of the University Core Curriculum.*

PHIL 1400 (PHIL 2306). Contemporary Moral Issues. 3 hours. Survey of basic ethical theories and exploration of such issues as abortion, euthanasia, national security and civil liberties, affirmative action, the death penalty, extramarital sex, pornography, animal rights, world hunger, and the environment. *Satisfies the Humanities requirement of the University Core Curriculum.*

PHIL 1800. Philosophy of Self. 3 hours. An examination of the nature of the self through a reading of classical and contemporary sources. Topics may include the relation of mind and body; the soul, self and society; non-Western notions of self, freedom and determinism; the unconscious; gender; and race.

PHIL 2050 (PHIL 2303). Introduction to Logic. 3 hours. Focus on critical thinking to develop the skills for making sound arguments and for evaluating the arguments of others in order to recognize the difference between arbitrary and well-reasoned judgments. Topics include deductive and inductive modes of practical reasoning, common fallacies, rules of inference, and the formal rules of logic. *Satisfies the Humanities requirement of the University Core Curriculum.*

PHIL 2070 (PHIL 1304). Great Religions. 3 hours. Philosophical and social dimensions of Hinduism, Buddhism, Taoism, Judaism, Christianity, Humanism and Islam. Emphasizes the diversity of religious experience and traditions. *Satisfies a portion of the Understanding the Human Community requirement of the University Core Curriculum.*

PHIL 2100. Introduction to Judaism. 3 hours. Examines the beliefs, practices, laws and movements of Judaism from Biblical times to the present, emphasizing the impact of modernity on the central texts and traditions.

PHIL 2310 (PHIL 2316). Introduction to Ancient Philosophy. 3 hours. An introduction to the worldview of Antiquity through an examination of metaphysical, epistemological and ethical views in Ancient Greek

philosophy including the pre-Socratics, Plato and Aristotle. *Satisfies the Humanities requirement of the University Core Curriculum.*

PHIL 2330 (PHIL 2317). Introduction to Modern Philosophy. 3 hours. (2;0;1) An examination of metaphysical, epistemological and ethical views in the Modern Period, focusing on the writings of the Rationalists and the Empiricists. *Satisfies the Humanities requirement of the University Core Curriculum.*

PHIL 2400. Religion and American Society. 3 hours. Subjects covered include religious pluralism in the United States, religion and civil rights, evolution and creationism, religion and gender, and religious response to cultural change. *Satisfies a portion of the Understanding the Human Community requirement of the University Core Curriculum.*

PHIL 2500. Introduction to Contemporary Environmental Issues. 3 hours. Explores ethical, ecological and political dimensions of such international environmental issues as atmospheric and water pollution, global climate change, industrial agriculture, deforestation, biodiversity loss, and the relationship between environmental issues and social and political concerns. *Satisfies the Humanities requirement of the University Core Curriculum.*

PHIL 2600. Ethics in Science. 3 hours. Survey of the philosophical relationships between ethics (including political and cultural values) and science (as a practice and form of inquiry). Topics include research ethics, experimentation on animals, biotechnology, information technology, gender in science, religion and science, and science policy. *Satisfies the Social and Behavioral Sciences requirement of the University Core Curriculum.*

PHIL 2900. Special Problems. 1–3 hours.

PHIL 3100. Aesthetics. 3 hours. Examination of the theories of the beauty of nature and art in the history of philosophy as represented by or found in painting, sculpture, music, literature, film and television to understand the nature of aesthetic experience, artistic expression and the relation of art to nature, truth, ethics, culture, technology and gender.

PHIL 3110. Epistemology. 3 hours. Examines the nature of knowledge and justification. Issues include the relationship between knowledge and opinion, skepticism and the possibility of knowledge; the nature of truth and meaning; the roles of perception, social construction, and gender and ethnicity in knowing and believing.

PHIL 3120. Social and Political Philosophy. 3 hours. Examines how people should live together in communities and what legitimate governing institutions best promote the ideals of freedom, justice, rights, democracy, equality and happiness. Topics include civil and human rights, social contract theory, economic justice, group identity, race and gender.

PHIL 3200. Philosophy in Literature. 3 hours. Examination of how philosophical themes arise in works of literary fiction and the differences between a philosophical and literary approach. Topics include personal identity, consciousness, Stoicism, skepticism, mysticism, free will, ethics and justice, life and death, and God.

PHIL 3250. Philosophy of Science. 3 hours. Examination of what science is and how it works. Topics including the nature of scientific explanation, the distinction between science and pseudo-science, scientific progress, the aims of science, and the role of social and economic values in scientific theories and practices.

PHIL 3260. Philosophy of Social Science. 3 hours. Examination of the methodologies and criteria of knowledge, truth and values in the social sciences. Topics include an analysis of the nature of action, rationality, agency, social meaning and interpretation.

PHIL 3300. Symbolic Logic. 3 hours. Symbolic analysis applied to logical problems, propositional logic, predicate logic and modal logic.

PHIL 3310–PHIL 3360. The History of Philosophy. 3 hours each.

PHIL 3310. Ancient Philosophy. Advanced examination of selected philosophical thought from the pre-Socratics through Plotinus including Plato and Aristotle.

PHIL 3320. Medieval Philosophy. Advanced examination of selected philosophical thought from Saint Augustine to the Renaissance. Philosophers might include Boethius, Anselm, Avicenna, Averroes, Aquinas, Duns Scotus, Grosseteste and William of Ockham.

PHIL 3330. Modern Philosophy. Advanced examination of selected philosophical thought from the Renaissance to the 19th century including Continental rationalism, British Empiricism and Kant.

PHIL 3340. Nineteenth-Century Philosophy. Examination of major figures in European philosophy such as Hegel, Marx, Schopenhauer, Nietzsche and Kierkegaard. Topics include the nature of knowledge, religion, the role of history, political economy and the relationship of the individual to society.

PHIL 3350. Twentieth-Century Philosophy. Selected major figures and themes in Anglo-American and Continental philosophy including analytic philosophy, logical positivism, linguistic analysis, ordinary language philosophy, process philosophy, existentialism, phenomenology, pragmatism and post-Analytic philosophy.

PHIL 3360. American Philosophy. Examination of the major American philosophies, including pragmatism and process philosophy. Figures might include C.S. Pierce, William James, John Dewey, George Herbert Mead, Alfred North Whitehead, Hilary Putnam and Richard Rorty.

PHIL 3400. Ethical Theory. 3 hours. Analysis of the important historical and contemporary theories of appropriate human conduct through a reading of major philosophers such as Aristotle, Aquinas, Hobbes, Hume, Kant, Mill and Nietzsche.

PHIL 3500. Christianity and Philosophy. 3 hours. A philosophical study of Christianity from its origins to the present, including Eastern Orthodoxy, Roman Catholicism, and Protestantism. Topics may include faith and reason, nature and grace, hope and redemption, love, evil and religious truth.

PHIL 3570. Hebrew Bible. 3 hours. Philosophical and ethical concepts of the Hebrew Bible compared with ancient pagan thought and subsequent Western culture. Concepts discussed include creation, revelation, holiness, faith, covenant, prophecy, idolatry, chosen people, justice, mercy, truth and peace.

PHIL 3575. Judaic Religion and Philosophy. 3 hours. An introduction to a wide range of Judaic texts—biblical, medieval and modern—that address Jewish law, history and thought from diverse points of view.

PHIL 3580. Early Christian Thought. 3 hours. Selected first-century Christian documents in light of Dead Sea Scrolls, Roman mystery religions, and biblical and extra-biblical Hebrew, Aramaic and Greek writings.

PHIL 3585. South Asian Philosophy and Religion. 3 hours. Study of South Asian philosophical and religious thought from earliest times to the present: the Indus Valley civilization, Vedic religion, the development of Jainism, Buddhism and devotional Hinduism, the philosophical schools, medieval Indian thought, Sikhism, and modern Indian philosophy.

PHIL 3595. East Asian Philosophy and Religion. 3 hours. Philosophical study of East Asia from earliest times to the present, including ancient Chinese religion; Taoist, Confucian, Mohist and Legalist philosophies; Chinese Buddhism and Neo-Confucianism; the influence of Shinto, Buddhism and Neo-Confucianism upon medieval Japan; and Japanese philosophy since the Meiji Restoration.

PHIL 3600. Philosophy of Religion. 3 hours. Examines the concepts, belief systems and practices of religions. Topics include religious experience, faith and reason, arguments for God's existence, the problem of evil, religious language, life after death, miracles, religion and science, and the conflicting claims of different religions.

PHIL 3650. Religion and Science. 3 hours. An examination of the complex historical and contemporary relationship between sciences and religions. Historical elements focus on the rise of modern science and “the Galileo Affair.” Theories of the relationship between the disciplines are also studied. Contemporary issues may include cosmology, religion and ecology, intelligent design and evolution, stem cell research, and artificial intelligence.

PHIL 3700. Science, Technology and Society. 3 hours. An examination of the interconnections among science, technology and society and the ways they mutually shape one another to the benefit and detriment of social life and the environment. Topics include the social values of science and technology; technology and social progress; expertise and democracy; colonialism; and environmental justice.

PHIL 3800. Philosophy of Mind. 3 hours. Examination of the nature of perception and consciousness, the nature of mental events and mental states, and the relationship of the mind to the brain and the body. Topics include free will versus determinism, scientific reductivism, holism, the unconscious, behaviorism, artificial intelligence, free will, and the self.

PHIL 3900. Philosophy of Food. 3 hours. An examination of the philosophical dimensions of food, agriculture, animals, eating and taste to explore the nature and meaning of food, how we experience it, the social role it plays, its moral and political dimensions, and how we judge it to be delicious or awful.

PHIL 4400. Metaphysics. 3 hours. Examination of the ultimate nature of reality and the terms used to understand it, such as existence, substance, causality, space, time and identity. Themes include idealism, realism, naturalism and process metaphysics. Figures might include Plato, Aristotle, Aquinas, Locke, Leibniz, Kant, Hegel, Nietzsche, Heidegger, Whitehead and Derrida.

PHIL 4450. Philosophy of Ecology. 3 hours. Traces the development of ecology from its roots in 19th-century natural history through general ecology, restoration ecology, deep ecology and social ecology. Examines the central philosophical concepts of biological and cultural diversity; the relations between societies and their environments; environmental and social problems determined by losses in biocultural diversity; agriculture, land ethics and conservation; non-Western conceptions of nature and society.

PHIL 4500. Existentialism. 3 hours. Examination of humanity's place in the natural and social worlds. Emphasis on problems of freedom, authenticity, alienation, anxiety, affirmation, morality, religion and atheism. Figures typically include Kierkegaard, Nietzsche, Heidegger and Sartre.

PHIL 4550. Philosophy of Science and Technology. 3 hours. Examines the relationship between science and technology; the role of experiment and instrumentation in scientific practice; the social construction of scientific knowledge and technical artifacts; the nature of technology in human perception and experience; the role of technology in the broader social impacts of science and technology; the relationship of biotechnology, information technology, imaging technology and nanotechnology to society.

PHIL 4600. Phenomenology. 3 hours. The study of human experience and of the ways things present themselves to us in and through such experience. Examines phenomenology as a method of inquiry, a philosophical movement, and a study of the structures and conditions of experience. Figures typically include Husserl, Heidegger, Merleau-Ponty and Ricoeur.

PHIL 4650. Philosophy of Water. 3 hours. Examination of water issues at the interface of science, policy, philosophy, art and culture. Philosophical approaches include ethics, aesthetics and ontology of water; epistemological analysis of water conflicts; local and global governance theories.

PHIL 4700. Environmental Ethics. 3 hours. An examination of appropriate human interventions in the natural world. Topics include the history of ideas behind environmental thought, the legal and moral standing of nature, animal rights and welfare, deep ecology, social ecology, environmental justice.

PHIL 4750. Philosophy and Public Policy. 3 hours. Explores how recent developments in moral theory, political philosophy, and philosophy of science and technology can clarify issues in public policy. Topics include the nature of government, the justification and limitations of collective action, the instruments of public policy, democracy and the economy, social costs and benefits, science and technology policy, computers and information policy, food and water policy, and environmental and development policy.

PHIL 4800. Postmodernism. 3 hours. An examination of contemporary philosophers and writers who question the premise of Enlightenment thought that Reason will liberate us from superstition, tradition and hardships imposed by nature. Topics may include a critique of foundationalism, representational epistemology, historical progress and Eurocentrism.

PHIL 4900-PHIL 4910. Special Problems. 1–3 hours each.

PHIL 4951. Honors College Capstone Thesis. 3 hours. Major research project prepared by the student under the supervision of a faculty member and presented in standard thesis format. An oral defense is required of each student for successful completion of the thesis. Prerequisite(s):

completion of at least 6 hours in honors courses; completion of at least 12 hours in the major department in which the thesis is prepared; approval of the department chair and the dean of the school or college in which the thesis is prepared; approval of the dean of the Honors College. May be substituted for HNRS 4000.

PHIL 4960. Proseminar in Philosophy. 3 hours. Advanced study of specific figures, themes or problems in philosophy and religion studies. May be repeated for credit as topics vary each semester.

PHIL 4970. Capstone Seminar. 3 hours. Seminar on philosophical writing and argument focusing on the comparative study of important figures in the history of philosophy. Prerequisite(s): senior standing and consent of department. Required course for philosophy majors only.

Physical Education

see Kinesiology, Health Promotion and Recreation

Physics

Astronomy, PHYS

PHYS 1052 (PHYS 1404). The Solar System. 3 hours. (3;2) History of astronomy and the physical properties of the earth, moon, planets and minor bodies. Includes weekly outdoor and indoor laboratory exercises. Prerequisite(s): proficiency in algebra (MATH 1100 or above). *May be used to satisfy a portion of the Natural Sciences requirement of the University Core Curriculum.*

PHYS 1062 (PHYS 1403). Stars and the Universe. 3 hours. (3;2) Properties of stars and stellar systems and a study of the origin, evolution and future of the universe. Includes weekly outdoor and indoor laboratory exercises. Prerequisite(s): proficiency in algebra (MATH 1100 or above). *May be used to satisfy a portion of the Natural Sciences requirement of the University Core Curriculum.*

Physics, PHYS

PHYS 1210 (PHYS 1415). Conceptual Physics. 3 hours. (3;3) Principles and applications of mechanics, heat, sound, light, electricity and atomic physics for the elementary education major. Prerequisite(s): MATH 1100 or higher and interdisciplinary studies (elementary education) major status. May not use both PHYS 1210 and PHYS 1315 to satisfy a laboratory science requirement. *May be used to satisfy a portion of the Natural Sciences requirement of the University Core Curriculum (by elementary education students).*

PHYS 1270. Science and Technology of Musical Sound. 3 hours. (3;2) Sound production; nature of vibrations in percussion, string, and wind instruments. Sound propagation; sound speed; echoes. Sound intensity, physical and perceived. Sound pitch, physical and perceived; intervals. Complex sounds; harmonic series. Room acoustics; reverberation time; ideal listening rooms. Wave phenomena; interference and diffraction. Digital sound recording; musical scales; the human voice. Includes weekly laboratory exercises. Prerequisite(s): MATH 1100 or above. *May be used to satisfy a portion of the Natural Sciences requirement of the University Core Curriculum.*