

experience, of parapsychological phenomena, and of neurophysiological findings to the mind-body problem.
NB: Not offered every year. See Department chair.
 Prerequisite(s): 6 sem. hrs. of Philosophy or third year standing.

PHILOSOPHY, GRADUATE COURSES

PHIL 512 20th Century Philosophy

This course acquaints students with important philosophical developments in Western Anglo-American philosophy during the 20th century. These include analytic philosophy, ordinary language philosophy, and recent developments questioning the traditional value and role of philosophy. The writings of major philosophers are studied throughout, and emphasis is placed upon epistemological, metaphysical, and linguistic issues. Some attention is given to examining the relationships between these philosophical movements and others, e.g., those that characterize postmodernism. Attention is occasionally given to points which carry implications for Christian faith.

PHIL 514 Reason and Enlightenment

This course provides an overview of the ideas of three philosophers from the modern rationalistic tradition of the 17th century Enlightenment—Descartes, Spinoza, and Leibniz. As each author's ideas are discussed, their positions are evaluated on: the role of faith, the limits of reason, the existence of God, the divisibility of reality, the meaning of nature, and the ethics and politics of human life.

PHIL 515 Contemporary Political Philosophy (3 sem. hrs.)

An examination of 20th century political philosophy through reading of texts by major contemporary political philosophers.

PHIL 520 Social and Political Philosophy (3 sem. hrs.)

Provides an examination of foundational ideas and problems in the entire Western tradition of political philosophy. While undertaking close readings of major texts of this tradition, the course evaluates classical, medieval, and modern approaches to the state, the citizen, democracy, liberty, equality, authority, obligation, natural right, and disobedience. Also seeks to understand the applicability of these ideas as Christians facing the challenges of the 21st century.

PHIL 521 Postmodern Philosophy (3 sem. hrs.)

An in-depth survey of postmodern thinkers and their philosophy. Authors considered include Nietzsche, Foucault, Derrida, and their critics. The philosophical and religious implications of both modernism and postmodernism are explored.

PHIL 550 Symbolic Logic (3 sem. hrs.)

This course acquaints students with the elements of symbolic logic and its methods of deduction, including: the quantificational calculus, definite descriptions, identity, and the logic of relations. The significance of symbolic logic is examined in relation to logical atomism as advanced early in the 20th century by Ludwig Wittgenstein and Bertrand Russell.

PHIL 560 Philosophy of Language (3 sem. hrs.)

Examines a range of topics within philosophy of language. Includes an overview of several works considered classics in the field (e.g. Wittgenstein, Quine, Searle, Alston, Grice), as well as critical review of major schools of thought in regard to language and criticism. Insights from linguistics and related disciplines, including textlinguistics and sociolinguistics, are considered in evaluating the schools of thought.

PHIL 570 Philosophy of Knowledge and Rational Belief (3 sem. hrs.)

A descriptive and critical inquiry into the theory of knowledge, including such topics as foundationalism, relativism, evidence, warrant, cognitive reliability, skepticism, and the relationship of cognitive science and psychology to philosophical accounts of knowledge and rational inquiry.

PHIL 571 Aesthetics (3 sem. hrs.)

Sensitizes students to the value, pleasures, and risks of the human imagination and explores different views on the nature, value, and meaning of artworks and of aesthetic experience. Surveys various notions of beauty and explores some of the reasons why beauty has become incidental to the arts and aesthetics in general. Examines some of the central philosophical notions and theories that are essential to an informed grasp of the field of aesthetics and a brief history of views of the nature, value, and role of imagination in artistic creation.

PHIL 573 Reason and Belief in God (3 sem. hrs.)

A survey of central issues arising from the question, "Is belief in God rational?" Topics include arguments concerning the existence of God, religious pluralism, natural science and religious belief, religious language, and critiques of natural theology from Kierkegaard and Reformed Epistemology.

PHIL 583 Religious Experience Seminar (3 sem. hrs.)

Examines the place of evidence in religion and assesses the evidential force of religious experience and related phenomena. The main body of the course addresses the evidential force of such experiences as near-death experiences, visions, mystical states of consciousness, as well as the Shroud of Turin as a unique religious artifact. Surveys some major contributors to the critical study of religious experience, e.g.: William James, Rudolf Otto, and R.C. Zaehner, and examines competing theories for religious phenomena, e.g., psychological and neurophysiological explanations for near-death and visionary experiences.

PHIL 584 Suffering and Belief in God (3 sem. hrs.)

Examines some key issues pertaining to suffering and belief in God. Topics include the problem of evil, arguments from suffering original sin, everlasting suffering and providence.

PHIL 590 Philosophy of Mind (3 sem. hrs.)

Deals with questions such as: What are we referring to when we speak of mind? What is the nature of the human mind? Does it have a nature? Does it exist as something separate from the human brain? Is it a property of the human brain? Is it identical to the human brain? Or is it merely an abbreviated way of talking about bodily behaviours? More particularly, how is our phenomenologically rich and existentially weighted point of view on the world related to the neurophysiological conditions that underwrite it (or as one writer put it, "how is the water of the brain transubstantiated into the wine of consciousness?")? How does the way we understand the answers to these questions inform Christian belief that humans bear God's image? And how does theology bear on our understanding of our bodies' relationship to our minds?

PHIL 591 Existentialism

Explore primary source material from five major (atheist and theist) existentialist philosophers, excerpts of existentialist fiction, a book that offers an overview of the common themes of existentialism, and another rife with existentialist themes that helps readers assess their own degree of existential alienation. Students engage in daily discussions and lectures on the material read. Students write two papers: a book review and a research paper, and keep a journal tracking their intellectual, emotional, and spiritual journey through class readings and lectures. In small groups, students discuss and share their insights and struggles with existentialism.

PHIL 600 CORE SEMINAR – Human Nature: Competing Philosophical Views (3 sem. hrs.)

Examines some of the most influential views of human nature advanced by philosophers and scientists in the history of Western civilization, and to explore implications of these views for ethics, epistemology, and metaphysics. Plato and Aristotle are considered to have been seminal in shaping western views of human nature, and Christianity has drawn from ancient Greeks in articulating its own views. This backdrop to the modern period in philosophy is first examined before moving into seminal views advanced in modernity and postmodernity. Among the latter will be both philosophical views and scientific views on human nature, views held by Rationalists, Kantians, Empiricists, Darwinians, Behaviorists, Existentialists, Marxists, Freudians, Pragmatists, Evolutionary Psychologists, Post-structuralists, and Transhumanists.

PHIL 603 Social Ethics Seminar (3 sem. hrs.)

Examines ethical questions concerning life and death. Special emphasis is placed on understanding and evaluating moral and legal perspectives on these questions, within the larger tradition of Western philosophy, and in the face of the current technological revolution. Issues include: the moral status of humans, the meaning of personhood, sanctity of life versus quality of life, genetic engineering, reproductive technologies, euthanasia and physician-assisted suicide, abortion.

PHIL 607 Special Topics in Philosophy (3 sem. hrs.)

Topics may vary. Courses offered to date:

- Existence, Truth and Possibility
- Medieval Cosmology
- Neoplatonism and Early Christianity
- Empiricism
- Foundations of Ethics

PHIL 610 Research Design/Seminar (3 sem. hrs.)

Under the direction of the student's approved thesis advisor, a course of reading and study which leads to the development of both a significant bibliographical essay (or annotated bibliography) and a thesis proposal. The latter includes at least the following: major question(s) to be addressed; significance of the issue(s); methodologies to be used; theories to be addressed and primary sources to be examined.

PHIL 611/612 Thesis (3 sem. hrs.; 3 sem. hrs.)**PHIL 613 Major Essay (3 sem. hrs.)**

Under the direction of a supervisor, students not doing a thesis research and write a major paper of approximately 10–15,000 words in length.

PHIL 621 Philosophical Perspectives on Religious Pluralism

This course surveys and engages central philosophical issues relevant to assessing normative religious pluralism.

PHIL 645 Philosophy and Religion (3 sem. hrs.)

Explores the foundations of religious belief and faith, particularly the issue of the rationality of religion. The role of methodology is examined, including the value of deductive, inductive, and abductive reasoning; also the question whether the method applicable to religious belief is unique to it. The work of recent philosophical theologians and their critics is examined and evaluated.

PHYSICS

PHYS 111 Fundamentals of Physics I (3 sem. hrs.)

The basic principles of Newtonian mechanics: three-dimensional kinematics, dynamics of particles and rigid bodies including work, energy, momentum, and rotational motion, simple harmonic motion and fluids.

Co-requisite: MATH 123.

Prerequisite(s): Physics 12. (Students without Physics 12 may take this course with instructor's consent.) (3-3; 0-0)

PHYS 112 Fundamentals of Physics II (3 sem. hrs.)

The basic principles of classical electromagnetism and waves: mechanical waves, Coulomb's law, electric fields, Gauss's law, Faraday's law, AC circuits, electromagnetic waves, geometrical optics.

Co-requisite: MATH 124.

Prerequisite(s): PHYS 111. (0-0; 3-3)

PHYS 210 Conceptual Modern Physics (3 sem. hrs.)

A survey of the development of scientific theories, emphasizing the ideas that emerged in physics in the 20th century. The course is designed so that general audience students become engaged with the conceptual aspects of topics in relativity and quantum mechanics.

NB: Not offered every year. See Department chair.

Prerequisite(s): Second year standing. (3-0; 0-0)

PHYS 215 Stellar and Galactic Astronomy (3 sem. hrs.)

An introduction to stellar and galactic astronomy, and to the tools and techniques of astronomy. Discussion of the types of stars and their formation, energy production, and end states; the nature of nebulae, star clusters, black holes, galaxies, and quasars; modern cosmology; astrobiology. Several daytime and night-time observation sessions are undertaken. Historical, philosophical, and Christian theological perspectives are considered.

NB: Not offered every year. See Department chair.

Prerequisite(s): Second year standing. (3-0; 0-0)

PHYS 220 Mechanics (3 sem. hrs.)

Topics in classical mechanics, including particle motion in three dimensions, noninertial reference frames, central forces, rigid body motion, Lagrange's equation of motion, and Hamilton's variational principle.

NB: Not offered every year. See Department chair.

Prerequisite(s): PHYS 111; MATH 223. (0-0; 3-0)

PHYS 230 Electricity and Magnetism (3 sem. hrs.)

Electric fields and potentials of static charge distributions, currents, magnetic fields and the vector potential, electromagnetic induction, electric and magnetic energy, electromagnetic properties of matter.

NB: Not offered every year. See Department chair.

Prerequisite(s): PHYS 112; MATH 223. (0-0; 3-3)

PHYS 240 Physical Chemistry (3 sem. hrs.)

Introduction to thermodynamics as applied to chemical reactions. The First and Second Laws of Thermodynamics, free energy and equilibria, phase equilibria and electro-chemistry.

NB: Not offered every year. See Department chair.

Cross-listed: CHEM 240.

Prerequisite(s): CHEM 111, 112; or CHEM 103, 112; or CHEM 103, 104 with instructor's consent; MATH 124. (3-4 or 3-4)

PHYS 310 Topics in Modern Physics (3 sem. hrs.)

Introduction to the special theory of relativity; the principles of quantum mechanics and its interpretation; aspects of atomic, nuclear and particle physics; cosmology.

NB: Not offered every year. See Department chair.

Prerequisite(s): PHYS 112; 210; MATH 223. (3-0 or 3-0)

PHYS 320 Digital Electronics and Instrumentation (3 sem. hrs.)

To provide students with a working knowledge of basic semiconductor devices and gates and their use for implementing logic devices and simple measurement and control functions, and to provide experience in constructing and using circuit diagrams and test/measurement equipment.

NB: Not offered every year. See Department chair.

Cross-listed: CMPT 320.

Prerequisite(s): CMPT 141; MATH 124; PHYS 230; or instructor's consent. (3-3 or 3-3)

PHYS 322 Mathematical Methods of Physics (3 sem. hrs.)

A study of more advanced methods for solving differential equations. Special emphasis is placed on applications in