

Philosophy

A Level III recital usually is given in the last semester of the student's work. This is a solo recital and requires a minimum of 45 minutes of music.
Prerequisite: 350

Operations Management

See Department of Management in the Division of Business.

Philosophy (PHIL)

Atkinson (chair), Berquist, Coulter, Degnan, Farmer, Hayden-Lemmons, Heaney, Herrman, Hubbard, Kemp, Kronen, Laumakis, Menssen, Piché, Reiter, Stromberg, Sullivan, van Ingen, Winter

The philosophy program offers work on major figures in all periods of the history of philosophy, with special attention to the thought of Aristotle and St. Thomas Aquinas.

The two core requirements, Philosophy of the Human Person and Introductory Ethics, are intended to introduce students to the fundamental philosophical questions about human nature and conduct and to help them develop their ability to reason.

Philosophy Honor Society

Phi Sigma Tau is a society whose objectives are to serve as a means of awarding distinction to students having high scholarship and personal interest in philosophy; to promote student interest in research and advanced study in this field; to provide opportunities for the publication of student research papers of merit; to encourage a professional spirit and friendship among those who have displayed marked ability in this field; and to popularize interest in philosophy among the general collegiate public.

Students are eligible for membership if they have a manifest interest in research and study of philosophy (having completed a minimum of 8 semester credits in the field); hold a cumulative GPA of at least 3.00 in either philosophy or general courses; and have completed at least two semesters of college education.

Major in Philosophy

115 Philosophy of the Human Person

214 Introductory Ethics

Plus one of:

221 Critical Thinking

223 Formal Logic

Plus sixteen credits in philosophy through the ages:

Four credits in ancient philosophy:

200 Introduction to Classical Philosophy

230 Greek Philosophers on the Foundations of Knowledge

320 Aristotelian Logic

Four credits in medieval philosophy:

202 Problems in Medieval Philosophy

270 Minds Without Bodies: Angels

300 Philosophy in Latin Texts

400 Thought of Thomas Aquinas

Four credits in modern philosophy:

232 Modern Philosophy: Descartes to Kant

280 Modern Philosophers on God and Religion

350 Modern Ethical Theory

Four credits in 20th-century philosophy:

302 Christian Philosophy and 20th-Century Controversies

304 Twentieth-Century Thomism

354 Biomedical Ethics

356 Contemporary Social Issues: Life, Death and Sexuality

358 Environmental Ethics

430 The End of Philosophy?

440 Contemporary Issues in the Philosophy of Mind

480 Reason and Belief

Plus:

Sixteen additional credits in Philosophy, four of which must be a major seminar:

- 302 Christian Philosophy and 20th-Century Controversies
- 400 Thought of Thomas Aquinas
- 430 The End of Philosophy?
- 440 Contemporary Issues in the Philosophy of Mind
- 480 Reason and Belief

A major seminar can satisfy both the seminar and chronological period requirement.

Minor in Philosophy

- 115 Philosophy of the Human Person
- 214 Introductory Ethics

Plus:

Twelve additional credits in philosophy chosen in consultation with the chair of the department.

Minor in Philosophy for St. John Vianney students

- 115 Philosophy of the Human Person
- 200 Introduction to Classical Philosophy
- 214 Introductory Ethics

Plus one from each group below:

- 221 Critical Thinking
- 223 Formal Logic

- 232 Modern Philosophy: Descartes to Kant
- 302 Christian Philosophy and 20th-Century Controversies
- 356 Contemporary Issues: Life, Death and Sexuality

- 202 Problems in Medieval Philosophy
- 300 Philosophy in Latin Texts
- 304 Twentieth-Century Thomism
- 400 Thought of Thomas Aquinas

115 Philosophy of the Human Person

An examination of fundamental conceptions of the human person in ancient, medieval and modern philosophy. Possible topics include: the existence and immortality of the human soul, free will and determinism, the immateriality of the intellect, the relationship between mind and body, and the relevance of different conceptions of the human person for ethics and religion. Attention is given to relevant issues of human diversity. The development of logical and critical thinking receives special attention.

200 Introduction to Classical Philosophy

A survey of the roots of philosophical inquiry in the classical period. The pre-Socratics, Plato, Aristotle, the Stoics, and if time permits the Skeptics and neo-Platonists.

Prerequisite: 115

202 Problems in Medieval Philosophy

An investigation of major philosophical problems in their medieval context. Possible topics include: faith and reason, free will, the role of authority, and the existence of God.

Prerequisite: 115

214 Introductory Ethics

An inquiry into the rational foundations and methods of ethics, with attention to the application of ethical principles to areas of personal conduct, institutional behavior and public policy, and diversity within and across cultures.

Prerequisite: 115

221 Critical Thinking

A course that stresses the ability to recognize and analyze arguments and fallacies drawn from a variety of fields. Syllogistic, propositional and inductive forms of reasoning are examined in the context of ordinary prose.

Prerequisite: 115

223 Formal Logic

An introduction to propositional logic, first-order predicate calculus with identity, and quantified modal logic. Students construct proofs in these areas and apply principles of formal logic to philosophical arguments.

Prerequisite: 115

230 Greek Philosophers on the Foundations of Knowledge

An examination of Plato and Aristotle on the justification of claims to knowledge, with particular

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emphasis placed on the justifications of first principles.

Prerequisite: 115

232 Modern Philosophy: Descartes to Kant

An examination of major philosophers of the early modern period, with emphasis on methodology and claims to knowledge.

Prerequisite: 115

260 Introduction to the Philosophy of Nature

An investigation of change in the world of nature, covering such topics as the principles of change, nature, causes in nature and definitions of change.

Prerequisite: 115

270 Minds Without Bodies: Angels

A philosophical inquiry into the existence and nature of angels. A survey of recent works on angels and arguments for and against the existence of angels in the works of such writers as Pseudo-Dionysius, Aquinas, Descartes, Hobbes, Locke, and Adler.

Prerequisite: PHIL 115

280 Modern Philosophers on God and Religion

An introduction to philosophical theology in the modern period. Movements covered include seventeenth-century scholastic orthodoxy, the enlightenment, and the romantic synthesis of the two.

Prerequisite: 115

295, 296, 297, 298 Topics

The subject matter of these courses, announced in the annual *Class Schedule*, will vary from year to year, but will not duplicate existing courses. See the description of these courses at the beginning of the "Departments and Curricula" section of this catalog.

300 Philosophy in Latin Texts

A survey of various writings, principally those of Thomas Aquinas, for students who wish to acquire familiarity with reading medieval philosophical texts in the original Latin.

Prerequisites: 115 and LAT 111

302 Christian Philosophy and 20th-Century Controversies (Major Seminar)

An investigation of major philosophical problems of the 20th century, together with responses from a Christian philosophical point of view.

Prerequisite: 221 or 223

304 Twentieth-Century Thomism

An examination of the influence of Thomas Aquinas on prominent Thomistic philosophers of the 20th century. Possible thinkers include: Rousselot, Marechal, Maritain, Gilson, Rahner and Lonergan.

Prerequisite: 214

320 Aristotelian Logic

An examination of the logical works of Aristotle. Topics include: categories, propositions, forms of argument. Emphasis on demonstration (proof of necessary truths) and its distinction from dialectical reasoning. Applications to philosophical texts.

Prerequisite: 221 or 223

331 Philosophy of Science

A philosophical investigation into the foundations of the natural sciences, with special emphasis on scientific methodology and the differences among various sciences.

Prerequisites: 115 and prior or concurrent registration in a college-level science course

341 Love, Sex and Friendship

A philosophical examination beginning with Plato of the problems inherent in love relationships, e.g., the problems of reciprocity and permanence. Particular attention is given to Karol Wojtyła's analysis of romantic love.

Prerequisite: 214

350 Modern Ethical Theory

An examination of modern and contemporary normative and metaethical theories in such writers as Hobbes, Hume, Kant, Mill and contemporary authors.

Prerequisite: 214

351 Political and Legal Philosophy

An investigation into the philosophical and ethical foundations of law and politics in the classical and liberal traditions. Possible topics include: the common good and individual freedom, natural law and positive law, justice, liberalism and communitarianism.

Prerequisite: 214

352 Freedom, Culpability and Punishment

An examination of classical and contemporary philosophers on the topics of human freedom, culpability and the justification of punishment.
Prerequisite: 214

353 Personalism and the Common Good

An examination of the writings of ancient, medieval and contemporary authors on the highest good for the human person and its relation to the good of the state.
Prerequisite: 214

354 Biomedical Ethics

An investigation of ethical problems in medicine and biological technology. Possible topics include: genetic engineering, experimentation with human subjects, the right to health care, and the concept of mental illness.
Prerequisite: 214

355 Philosophy of Moral Education and Development

An examination of moral development and moral education in the writings of such figures as Plato, Aristotle, Wollstonecraft, Piaget, Kohlberg and Gilligan. Students interview practicing moral educators.
Prerequisite: 214

356 Contemporary Social Issues: Life, Death and Sexuality

An investigation of contemporary arguments relating to matters of life and death and to the topic of sexuality. Abortion, infanticide, euthanasia, and sexual and reproductive practices receive attention.
Prerequisite: 214

358 Environmental Ethics (ENVR 301)

Consideration of the ethical issues arising from human interaction with the environment, including population pressure, pollution, conservation and preservation. Focus is on the grounds of our obligation to resolve such issues; the question of what persons and things are worthy of moral consideration; and the respective roles of individuals, organizations and government in addressing environmental problems. Case studies will be used to trace the implications of various ethical and political theories.
Prerequisites: 214 and ENVR 151

400 Thought of Thomas Aquinas

An examination of some major topics in the theoretical philosophy of Thomas Aquinas. Possible topics include: Aquinas' conception of philosophy and its relation to faith; God; and the destiny of the human being.
Prerequisite: Three courses in philosophy including 223 or permission of instructor

430 The End of Philosophy? (Major Seminar)

An examination of the postmodern and feminist critiques of western philosophy. Particular attention is given to the question of whether philosophy will survive into the 21st century.
Prerequisites: 221 or 223, and any philosophy course of the modern period or permission of instructor

440 Contemporary Issues in the Philosophy of Mind (Major Seminar)

An investigation, principally from a contemporary standpoint, of central issues in the philosophy of mind: consciousness and thought, voluntary action, and the mind's relationship to matter. Current developments in related disciplines receive attention.
Prerequisites: 214 and 223

475, 476, 477, 478 Experiential Learning

See the description of these courses at the beginning of the "Departments and Curricula" section of this catalog.

480 Reason and Belief (Major Seminar)

An investigation, principally from a contemporary standpoint, of the rationality of religious belief. Topics include: the problem of evil, the bearing of contemporary science on traditional arguments for God's existence and religious pluralism.
Prerequisites: 115, 223, and either one additional philosophy course or CATH 307

483, 484, 485, 486 Seminar

See the description of these courses at the beginning of the "Departments and Curricula" section of this catalog.

487, 488, 489, 490 Topics

The subject matter of these courses, announced in the annual *Class Schedule*, will vary from year to year, but will not duplicate existing courses. See the description of these courses at the beginning of the "Departments and Curricula" section of this catalog.

Physics

491, 492, 493, 494 Research

See the description of these courses at the beginning of the “Departments and Curricula” section of this catalog.

495, 496, 497, 498 Individual Study

See the description of these courses at the beginning of the “Departments and Curricula” section of this catalog.

Physical Education

See Department of Health and Human Performance.

Physical Science with a Concentration in Chemistry

Physical Science with a Concentration in Physics

See Department of Teacher Education.

Physics (PHYS)

Tommet (chair), Johnston, Lane

Physics majors learn the fundamental laws that govern the physical universe, from the smallest subatomic particle to the largest galaxies to the very structure of space and time. Emphasis is placed on general understanding, problem solving, and the communication skills essential for success in a career grounded in science. In the laboratory, students use state-of-the-art instrumentation in applying physics to a wide variety of systems. Opportunities are available for students to participate in research projects during the school year and over the summer.

There are three educational options from which to choose: a Bachelor of Science (B.S.) degree; a Bachelor of Arts (B.A.) degree; or a minor in physics. The B.S. degree provides the necessary background for students interested in graduate school, engineering or industrial work; for students interested in professional programs such as medicine or patent law, or students double majoring in areas such as mathematics or chemistry, the Bachelor of Arts degree gives a solid background in physics with the flexibility to meet other needs.

The pre-engineering program sponsored by the Department of Physics allows students to combine a liberal arts education at the University of St. Thomas with an engineering program at another institution. See the description under Pre-Professional Programs in this catalog.

For students interested in secondary education, the department offers a major for teachers of physical science with a concentration in physics, and a teaching minor in physics. See the description of these programs in the Department of Teacher Education.

For students interested in elementary education, the department participates in the Science and Mathematics Major for Elementary Education (SMEE). Further information is available under that title in this catalog.

Major in Physics (B.S.)

111 Introduction to Classical Physics I
112 Introduction to Classical Physics II
225 Introduction to Modern Physics I
226 Introduction to Modern Physics II
260 Principles of Electronic Instrumentation
310 Statistical Mechanics and Thermodynamics
341 Electricity and Magnetism
399 Advanced Physics Laboratory I
400 Advanced Physics Laboratory II
411 Theoretical Mechanics
421 Quantum Mechanics

Plus one of:

342 Electromagnetic Waves
451 Introduction to Solid State Physics

Allied requirements:

CHEM 111 General Chemistry I
CHEM 112 General Chemistry II
MATH 113 Calculus I
MATH 114 Calculus II
MATH 200 Multi-Variable Calculus
MATH 210 Linear Algebra and Differential Equations
QMCS 130 Problem Solving in the Natural Sciences