|  |  |  |  |
| --- | --- | --- | --- |
| MUSE 525 | Advanced Studies in Music Education | 3 | Su (odd years) |
| MUSE 566 | Seminar in Music Education | 3 | F (odd years) |

THREE CREDIT HOURS OF COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| MUSE 480 | Workshop in Music Education | 1-3 |  |
| MUSE 503 | School Music Administration and Supervision | 3 | Su (even years) |
| MUSE 592 | Graduate Thesis | 3 | As needed |

Applied Music

|  |  |  |  |
| --- | --- | --- | --- |
| MUS 505 | Systems of Musical Analysis | 3 | F (even years) |
| MUS 560 | Seminar in Music Literature | 3 | Sp (even years) |

FIVE CREDIT HOURS OF COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| MUS 508 | Applied Conducting | 2 | F, Sp, Su |
| MUS 521 | The Symphony | 3 | F (even years) |
| MUS 522 | Opera | 3 | Sp (odd years) |
| MUS 570-589 | Applied Music | 2 | F, Sp, Su |
| MUS 591 | Graduate Recital |  | As needed |

Note: MUS 591: Students electing this course must also enroll in at least two semesters of applied music, MUS 570–589.

Electives

FOUR CREDIT HOURS OF COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| MUS 561-563 | Large Ensembles | 0.5 | F, Sp |
| MUS 564-566 | Chamber Ensembles | 1 | F, Sp |
| MUS 570-589 | Applied Music | 2 | F, Sp, Su |

Note: A thesis/graduate project or recital is required of each student. Thesis/graduate projects vary. Topics must be approved by the departmental graduate committee. The recital is available only to students who clearly exhibit advanced musicianship. Recitals must also be approved by the departmental graduate committee.

Total Credit Hours: 36

# Philosophy

**Department of Philosophy**

**Department Chair:** Glenn Rawson

**Department Faculty: Professors**Rawson, Shogenji; **Associate Professors** Duncan

Students **must** consult with their assigned advisor before they will be able to register for courses.

Philosophy B.A.

Course Requirements

Logic

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 205W | Introduction to Logic | 4 | F, Sp |
| PHIL 305W | Intermediate Logic | 4 | Sp (even years) |

History

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 351W | Plato, Aristotle, and Greek Philosophy | 4 | F |
| PHIL 354 | Continental Philosophy | 4 | F |
| PHIL 356W | Descartes, Hume, Kant and Modern Philosophy | 4 | Sp |

Ethics

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 306 | Contemporary Ethical Theory | 3 | F |

Political and Legal

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 321 | Social and Political Philosophy | 3 | F, Sp |
| PHIL 322 | Philosophy of Law | 3 | Annually |

Epistemology

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 311 | Knowledge and Truth | 3 | Sp (even years) |
| PHIL 320 | Philosophy of Science | 3 | Sp (odd years) |

Metaphysics

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 330 | Metaphysics | 3 | F (even years) |
| PHIL 333 | Philosophy of Mind | 3 | F (odd years) |

Seminar

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 460W | Seminar in Philosophy | 4 | Annually |

Total Credit Hours: 32

Philosophy B.A. with Concentration in Ethics and Society

Course Requirements

Logic

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 205W | Introduction to Logic | 4 | F, Sp |
| PHIL 305W | Intermediate Logic | 4 | Sp (even years) |

History

TWO COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 351W | Plato, Aristotle, and Greek Philosophy | 4 | F |
| PHIL 354 | Continental Philosophy | 4 | F |
| PHIL 356W | Descartes, Hume, Kant and Modern Philosophy | 4 | Sp |

Ethics

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 206 | Ethics | 3 | F, Sp, Su |
| PHIL 306 | Contemporary Ethical Theory | 3 | F |

Political and Legal

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 321 | Social and Political Philosophy | 3 | F, Sp |
| PHIL 322 | Philosophy of Law | 3 | Annually |

Metaphysics and Epistemology

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 311 | Knowledge and Truth | 3 | Sp (even years) |
| PHIL 320 | Philosophy of Science | 3 | Sp (odd years) |
| PHIL 330 | Metaphysics | 3 | F (even years) |
| PHIL 333 | Philosophy of Mind | 3 | F (odd years) |

Seminar

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 460W | Seminar in Philosophy | 4 | Annually |

Additional Courses

TWO COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 206 | Ethics | 3 | F, Sp, Su |
| PHIL 306 | Contemporary Ethical Theory | 3 | F |
| PHIL 321 | Social and Political Philosophy | 3 | F, Sp |
| PHIL 322 | Philosophy of Law | 3 | Annually |
| PHIL 325 | Environmental Ethics | 3 | Sp |
| POL 204 | Introduction to Political Thought | 4 | F, Sp |
| POL 208 | Introduction to the Law | 4 | F, Sp |

Total Credit Hours: 31-33

Philosophy B.A. with Concentration in History of Philosophy

Course Requirements

Logic

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 205W | Introduction to Logic | 4 | F, Sp |
| PHIL 305W | Intermediate Logic | 4 | Sp (even years) |

History

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 351W | Plato, Aristotle, and Greek Philosophy | 4 | F |
| PHIL 354 | Continental Philosophy | 4 | F |
| PHIL 356W | Descartes, Hume, Kant and Modern Philosophy | 4 | Sp |

Ethics, Political, and Legal

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 306 | Contemporary Ethical Theory | 3 | F |
| PHIL 321 | Social and Political Philosophy | 3 | F, Sp |
| PHIL 322 | Philosophy of Law | 3 | Annually |

Metaphysics and Epistemology

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 311 | Knowledge and Truth | 3 | Sp (even years) |
| PHIL 320 | Philosophy of Science | 3 | Sp (odd years) |
| PHIL 330 | Metaphysics | 3 | F (even years) |
| PHIL 333 | Philosophy of Mind | 3 | F (odd years) |

Seminar

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 460W | Seminar in Philosophy | 4 | Annually |

Additional Courses

TWO COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| HIST 220 | Ancient Greece | 3 | Alternate years |
| HIST 221 | The Roman Republic | 3 | Alternate Years |
| HIST 306 | Protestant Reformations and Catholic Renewal | 3 | As needed |
| HIST 307 | Europe in the Age of Enlightenment | 3 | As needed |
| HIST 316 | Modern Western Political Thought | 4 | F |
| HIST 340 | The Muslim World from the Age of Muhammad to 1800 | 3 | As needed |
| PHIL 355 | Augustine, Aquinas and Medieval Philosophy | 3 | As needed |
| PHIL 357 | Hegel, Nietzsche and Nineteenth-Century Philosophy | 3 | F (even years) |
| PHIL 359 | Frege, Russell, Wittgenstein and Analytic Philosophy | 3 | F (odd years) |

Total Credit Hours: 31-33

Philosophy B.A. with Concentration in Knowledge and Reality

Course Requirements

Logic

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 205W | Introduction to Logic | 4 | F, Sp |
| PHIL 220 | Logic and Probability in Scientific Reasoning | 4 | F, Sp |
| PHIL 305W | Intermediate Logic | 4 | Sp (even years) |

History

TWO COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 351W | Plato, Aristotle, and Greek Philosophy | 4 | F |
| PHIL 354 | Continental Philosophy | 4 | F |
| PHIL 356W | Descartes, Hume, Kant and Modern Philosophy | 4 | Sp |

Ethics Political and Legal

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 306 | Contemporary Ethical Theory | 3 | F |
| PHIL 321 | Social and Political Philosophy | 3 | F, Sp |
| PHIL 322 | Philosophy of Law | 3 | Annually |

Epistemology

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 311 | Knowledge and Truth | 3 | Sp (even years) |
| PHIL 320 | Philosophy of Science | 3 | Sp (odd years) |

Metaphysics

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 330 | Metaphysics | 3 | F (even years) |
| PHIL 333 | Philosophy of Mind | 3 | F (odd years) |

Seminar

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 460W | Seminar in Philosophy | 4 | Annually |

Additional Courses

TWO COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| BIOL 111 | Introductory Biology I | 4 | F, Sp, Su |
| CHEM 103 | General Chemistry I | 4 | F, Sp, Su |
| CHEM 104 | General Chemistry II | 4 | Sp, Su |
| MATH 139 | Math, Data, and the Contemporary Citizen | 4 | F, Sp, Su |
| PHIL 311 | Knowledge and Truth | 3 | Sp (even years) |
| PHIL 320 | Philosophy of Science | 3 | Sp (odd years) |
| PHIL 330 | Metaphysics | 3 | F (even years) |
| PHIL 333 | Philosophy of Mind | 3 | F (odd years) |
| PHYS 101 | Physics for Science and Mathematics I | 4 | F, Sp, Su |
| PHYS 102 | Physics for Science and Mathematics II | 4 | F, Sp, Su |
| PHYS 110 | Introductory Physics | 4 | Sp, F, Su |
| PSYC 110 | Introduction to Psychology | 4 | F, Sp, Su |
| PSYC 341 | Perception | 4 | Annually |
| PSYC 349 | Cognitive Psychology | 4 | F, Sp |
| PSYC 354 | Psychopathology | 4 | F, Sp |

Total Credit Hours: 31-33

Philosophy Minor

Course Requirements for Minor in Philosophy

The minor in philosophy consists of a minimum of 18 credit hours in philosophy, with at least two courses at the 300-level. The courses chosen should form a coherent program.

Course Requirements for Minor in Logical and Ethical Reasoning

The minor in logical and ethical reasoning consists of a minimum of 18 credit hours, with at least two courses at the 300 level, as follows:

Courses

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 205W | Introduction to Logic | 4 | F, Sp |
|  | -Or- |  |  |
| PHIL 220 | Logic and Probability in Scientific Reasoning | 4 | F, Sp |
|  | -Or- |  |  |
| PHIL 305W | Intermediate Logic | 4 | Sp (even years) |
|  |   |  |  |
| PHIL 206 | Ethics | 3 | F, Sp, Su |
|  | -Or- |  |  |
| PHIL 306 | Contemporary Ethical Theory | 3 | F |

REMAINING CREDIT HOURS are made up of additional choices from the five courses above and/or from:

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 100 | Introduction to Philosophy | 3 | Annually |
| PHIL 321 | Social and Political Philosophy | 3 | F, Sp |
| PHIL 322 | Philosophy of Law | 3 | Annually |
| PHIL 325 | Environmental Ethics | 3 | Sp |
| POL 204 | Introduction to Political Thought | 4 | F, Sp |
| POL 208 | Introduction to the Law | 4 | F, Sp |

Course Requirements for Minor in History of Philosophical Thought

The minor in history of philosophical thought consists of a minimum of 18 credit hours, as follows:

Courses

AT LEAST FOUR COURSES from:

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 351W | Plato, Aristotle, and Greek Philosophy | 4 | F |
| PHIL 355 | Augustine, Aquinas and Medieval Philosophy | 3 | As needed |
| PHIL 356W | Descartes, Hume, Kant and Modern Philosophy | 4 | Sp |
| PHIL 357 | Hegel, Nietzsche and Nineteenth-Century Philosophy | 3 | F (even years) |
| PHIL 358 | Existentialism and Phenomenological Philosophy | 3 | Sp (odd years) |
| PHIL 359 | Frege, Russell, Wittgenstein and Analytic Philosophy | 3 | F (odd years) |

REMAINING CREDIT HOURS are made up of additional choices from the eight courses above and/or from:

|  |  |  |  |
| --- | --- | --- | --- |
| HIST 224 | The Glorious Renaissance | 3 | F |
| HIST 238 | Early Imperial China | 3 | As needed |
| HIST 306 | Protestant Reformations and Catholic Renewal | 3 | As needed |
| HIST 307 | Europe in the Age of Enlightenment | 3 | As needed |
| HIST 316 | Modern Western Political Thought | 4 | F |
| HIST 340 | The Muslim World from the Age of Muhammad to 1800 | 3 | As needed |
| PHIL 100 | Introduction to Philosophy | 3 | Annually |
| POL 316 | Modern Western Political Thought | 4 | F |

Course Requirements for Minor in Principles of Knowledge and Reality

The minor in principles of knowledge and reality consists of a minimum of 18 credit hours, as follows:

Courses

|  |  |  |  |
| --- | --- | --- | --- |
| PHIL 205W | Introduction to Logic | 4 | F, Sp |
|  | -Or- |  |  |
| PHIL 220 | Logic and Probability in Scientific Reasoning | 4 | F, Sp |
|  | -Or- |  |  |
| PHIL 305W | Intermediate Logic | 4 | Sp (even years) |
|  |   |  |  |
| PHIL 311 | Knowledge and Truth | 3 | Sp (even years) |
|  | -Or- |  |  |
| PHIL 320 | Philosophy of Science | 3 | Sp (odd years) |
|  |   |  |  |
| PHIL 330 | Metaphysics | 3 | F (even years) |
|  | -Or- |  |  |
| PHIL 333 | Philosophy of Mind | 3 | F (odd years) |

REMAINING CREDIT HOURS are made up of additional choices from the seven courses above and/or from:

|  |  |  |  |
| --- | --- | --- | --- |
| BIOL 111 | Introductory Biology I | 4 | F, Sp, Su |
| CHEM 103 | General Chemistry I | 4 | F, Sp, Su |
| CHEM 104 | General Chemistry II | 4 | Sp, Su |
| CHEM 105 | General, Organic and Biological Chemistry I | 4 | F, Sp, Su |
| MATH 139 | Math, Data, and the Contemporary Citizen | 4 | F, Sp, Su |
| PHIL 100 | Introduction to Philosophy | 3 | Annually |
| PHYS 101 | Physics for Science and Mathematics I | 4 | F, Sp, Su |
| PHYS 102 | Physics for Science and Mathematics II | 4 | F, Sp, Su |
| PHYS 110 | Introductory Physics | 4 | Sp, F, Su |
| PSYC 110 | Introduction to Psychology | 4 | F, Sp, Su |
| PSYC 341 | Perception | 4 | Annually |
| PSYC 349 | Cognitive Psychology | 4 | F, Sp |

Notes: Connections courses cannot be used to satisfy these requirements. No minor in the Philosophy Department may be declared in combination with a Philosophy major or with any of the other minors in the Philosophy Department.

# Physics

**Department of Physical Sciences**

**Department Chair:**Andrea Del Vecchio

**Physics Program Faculty: Professors** Del Vecchio, Rivers, Snowman; **Assistant Professors** Padmanabhan, Young

Students **must** consult with their assigned advisor before they will be able to register for courses.

Physics B.S.

Course Requirements

Courses

|  |  |  |  |
| --- | --- | --- | --- |
| PHYS 101 | Physics for Science and Mathematics I | 4 | F, Sp, Su |
| PHYS 102 | Physics for Science and Mathematics II | 4 | F, Sp, Su |
| PHYS 307 | Quantum Mechanics I | 4 | Sp (odd years) |
| PHYS 311 | Thermodynamics | 4 | Sp (even years) |
| PHYS 312 | Mathematical Methods in Physics | 3 | F |
| PHYS 313W | Junior Laboratory | 3 | F |
| PHYS 401 | Advanced Electricity and Magnetism I | 4 | Sp (even years) |
| PHYS 403 | Classical Mechanics | 4 | Sp (odd years) |
| PHYS 413W | Senior Laboratory | 3 | F |

ONE COURSE from

|  |  |  |  |
| --- | --- | --- | --- |
| PHYS 315 | Optics | 4 | Sp (odd years) |
| PHYS 320 | Analog Electronics | 4 | F (odd years) |
| PHYS 321 | Digital Electronics | 4 | Sp (even years) |

TWO COURSES from

|  |  |  |  |
| --- | --- | --- | --- |
| PHYS 309 | Nanoscience and Nanotechnology | 4 | F (even years) |
| PHYS 402 | Advanced Electricity and Magnetism II | 3 | As needed |
| PHYS 407 | Quantum Mechanics II | 3 | As needed |
| PHYS 409 | Solid State Physics | 3 | As needed |

Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| CHEM 103 | General Chemistry I | 4 | F, Sp, Su |
| CHEM 104 | General Chemistry II | 4 | Sp, Su |
| MATH 212 | Calculus I | 4 | F, Sp, Su |
| MATH 213 | Calculus II | 4 | F, Sp, Su |
| MATH 314 | Calculus III | 4 | F, Sp |
| MATH 416 | Ordinary Differential Equations | 4 | Sp (as needed) |

Total Credit Hours: 67-68

Physics Minor

Course Requirements

The minor in physics consists of a minimum of 17 credit hours, at least nine of which must be at the 300-level or above.

*Note: Connections courses cannot be used to satisfy these requirements.*

# PFA - Performing Arts

PFA 461W - Senior Seminar (3)

Senior candidates for the B.A. in music complete a project appropriate to their interests and field within the performing arts. This project includes a written component and possibly a performance element. This is a Writing in the Discipline (WID) course.

Prerequisite: Senior standing in the B.A. in music program.

Offered: Spring.

# PHIL - Philosophy

PHIL 100 - Introduction to Philosophy (3)

Basic philosophic issues, such as the existence of God, free will, minds, the nature of reality, knowledge, and truth, are examined. Emphasis is on reasoning and justification.

Offered: Annually.

PHIL 205W - Introduction to Logic (4)

This course covers principles of valid reasoning. Formal methods of propositional and quantificational logic are introduced to evaluate the validity of reasoning in arguments. This is a Writing in the Discipline (WID) course.

Offered: Fall, Spring.

PHIL 206 - Ethics (3)

An examination and explanation of ethical judgments are made. Clarification and analysis of ethical terms and the validity of norms of conduct from the standpoint of formalistic, intuitional, hedonistic, and naturalistic ethical theories are considered.

Offered: Fall, Spring, Summer.

PHIL 207 - Technology and the Future of Humanity (3)

Philosophical issues concerning recent and near term technological advances. Topics may include uploading personhood, robot consciousness, machine life or death decision making, human enhancement and life extension, or simulated violence.

Offered: Fall, Spring.

PHIL 208 - Introduction to Theories of Justice (4)

Students explore philosophical approaches to balancing individual liberties and the general welfare, comparing ethical foundations and social implications of various theories of justice, such as utilitarian, libertarian and contractarian.

Offered: Fall, Spring.

PHIL 220 - Logic and Probability in Scientific Reasoning (4)

Natural and social sciences require probabilistic reasoning, with special logical features. This course studies general principles of logic, special principles of probabilistic reasoning, their scientific applications, and common probabilistic fallacies.

General Education Category: Advanced Quantitative/Scientific Reasoning.

Prerequisite: Completion of any Mathematics or Natural Science general education distribution.

Offered: Fall, Spring.

PHIL 230 - Aesthetics (4)

This course examines issues in the philosophy of art, such as: the nature of art, art and emotion, artistic intentions, aesthetic value, art and knowledge, and art and morality.

General Education Category: Arts - Visual and Performing.

Offered: Fall, Spring, Summer.

PHIL 261 - Philosophy of Health and Well-Being (4)

Connections across traditional practices and recent developments concerning human health through philosophical concepts of health and well-being, plus ethical principles such as welfare, autonomy, and justice.This is a critical inquiry into ethical issues in health care. Moral theories from both Western and non-Western traditions are discussed and applied to issues in health care.

General Education Category: Connections

Prerequisite: Connections courses may not be used as part of a major or minor. FYS 100, FYW 100/FYW 100P/FYW 100H and 45 credit hours.

Offered: Fall, Spring.

PHIL 262 - Freedom and Responsibility (4)

This class examines the nature of free will. What is it? Is it necessary for moral responsibility? Do we have it? And if not, what should we do about it?

General Education Category: Connections.

Prerequisite: Connections courses may not be used as part of a major or minor. FYS 100, FYW 100/FYW 100P/FYW 100H and 45 credit hours.

Offered: Fall, Spring, Summer.

PHIL 263 - The Idea of God (4)

Concepts of Divinity are critically examined. Issues include polytheism, monotheism, atheism, gender and the God(ess). Students are challenged to critically examine their own ideas through various philosophical and religious traditions.

General Education Category: Connections.

Prerequisite: Connections courses may not be used as part of a major or minor. FYS 100, FYW 100/FYW 100P/FYW 100H and 45 credit hours.

Offered: Fall, Spring, Summer.

PHIL 265 - Philosophical Issues of Gender and Sex (4)

Philosophical questions concerning the concepts of sex and gender are explored. Readings will be drawn from philosophical texts and from a number of related disciplines.

General Education Category: Connections.

Prerequisite: Connections courses may not be used as part of a major or minor. FYS 100, FYW 100/FYW 100P/FYW 100H and 45 credit hours.

Offered: Fall, Spring.

PHIL 266 - Asian Philosophies: Theory and Practice (4)

Study of philosophical themes and practical implications (personal and communal) in Asian cultures. Issues include concepts of life and death, origins and nature of reality, and standards of ethical relations.

General Education Category: Connections.

Prerequisite: Connections courses may not be used as part of a major or minor. FYS 100, FYW 100/FYW 100P/FYW 100H and 45 credit hours.

Offered: Fall, Spring.

PHIL 305W - Intermediate Logic (4)

This course covers some extensions of elementary logic with applications. Topics may include propositional modal logic, quantified