Pharmacology and Toxicology (A Graduate Group)

Pamela J. Lein, Chairperson of the Group
Group Office, 4117 Meyer Hall (Department of Environmental Toxicology
530-752-4516; http://www.envtox.ucdavis.edu/ptx

Faculty. The more than 90 faculty in the graduate group represent at least 25 academic departments and organized research units within the College of Agricultural and Environmental Sciences, the College of Biological Sciences, the School of Medicine and the School of Veterinary Medicine.

Graduate Study. The program, which offers both the M.S. and Ph.D. degree, emphasizes an interdisciplinary approach that combines coursework and experimental training in modern approaches to pharmacological and toxicological problems. Areas of research span fundamental and translational research in a broad spectrum of areas within pharmacology and toxicology, including cardiovascular pharmacology, cancer therapies, neuropharmacology, drug discovery and design, neurotoxicology, pulmonary toxicology and environmental toxicology. Students complete core courses in pharmacology and toxicology and carry out research rotations during their first year of study. All Ph.D. students receive financial support. For detailed information on the program, contact the Group office, graduate advisers, or the Group chairperson.

Graduate Advisers. K. Carraway (Biochemistry & Molecular Medicine), A. Gelli (Pharmacology), R. Harper (Pulmonary Medicine), P. Henderson (Hematology & Oncology), Mary Horne (Pharmacology), H. Knych (Molecular Biosciences), J.A. Last (Pulmonary Medicine), P. Levin (Molecular Biosciences), L. Miller (Anatomy, Physiology & Cell Biology), K. Pinkerton (Center for Health and Environment), B. Puschner (Molecular Biosciences), Heike Wullf (Pharmacology).

Courses in Pharmacology and Toxicology (PTX)

Additional courses that satisfy the breadth and depth requirements of the program are taught under departments of faculty in the group.

Graduate

201. Principles of Pharmacology and Toxicology I (5)
Course number: 201. Prerequisite: Biological Sciences 102 and Neurobiology, Physiology, and Behavior 101. First of three courses presenting fundamental principles of pharmacology and toxicology. Introductory overview of basic concepts in pharmacology and toxicology, followed by in-depth blocks on fate processes of chemicals in the body, fate processes in tissue-selective responses, selective toxicity employed therapeutically.—I. (II.) Puschner, Knych

202. Principles of Pharmacology and Toxicology II (4)
Course number: 202. Prerequisite: course 201. The second of three courses presenting fundamental principles of pharmacology and toxicology. Principles of pharmacodynamics and mechanisms of drug/toxicant actions.—II. (III.) Angelast, Eiserich

203. Principles of Pharmacology and Toxicology III (4)
Course number: 203. Prerequisite: courses 201 and 202. Integrated physiological systems, cardiovascular and nervous systems and how drugs and toxicants act to perturb function.—III. (III.) Berman, Gelli

320. Advanced Topics in Pharmacology and Toxicology (1-3)
Course number: 203. Prerequisite: consent of instructor. In-depth coverage of selected topics for graduate students in Pharmacology-Toxicology and related disciplines. Topics determined by instructor in charge for each quarter.—I, II, III. (I, II, III)

277. Life and Death Decisions at the Cellular Level (2)
Course number: 277. Prerequisite: undergraduate or graduate introductory course in cell biology (such as Biological Sciences 104), and general biochemistry (Molecular and Cellular Biology 121 or 122) required; restricted to graduate standing or consent of instructor. Fundamental concepts in cell-signaling; signaling pathways as related to cell death and a variety of human diseases including cancer, Alzheimer’s, and Parkinson’s.—III. (III.) Goldkorn

290. Seminar (1)
Course number: 290. Seminar (1-2). Lecture/discussion/seminar—1 hour each (course format can vary at option of instructor). Prerequisite: S/U grading only.—I, II, III. (I, II, III)

299. Research (1-2)
Course number: 299. Research (1-2). (S/U grading only.)—I, II, III. (I, II, III)

Philosophy

[College of Letters and Science]
David Copp, Ph.D., Chairperson of the Department
Department Office, 1240 Social Sciences and Humanities Building
530-752-0703; http://philosophy.ucdavis.edu

Faculty
Aldo Antonelli, Ph.D., Professor
David Copp, Ph.D., Distinguished Professor
Cody Gilmore, Ph.D., Associate Professor
James R. Griesemer, Ph.D., Professor
Elaine M. Landy, Ph.D., Professor
George J. Mattey II, Ph.D., Senior Lecturer
Robert May, Ph.D., Professor
Robert M. Millstein, Ph.D., Professor
Bernard Malouf, Ph.D., Associate Professor
Marina A. Oshana, Ph.D., Professor
Adam Sennet, Ph.D., Associate Professor
James S. Welfare, Ph.D., Professor

Emeriti Faculty
William H. Bossert, Ph.D., Professor Emeritus
Robert C. Cummins, Ph.D., Professor Emeritus
Gerald Dworkin, Ph.D., Distinguished Professor Emeritus
Joel I. Friedman, Ph.D., Professor Emeritus
Neil W. Gilbert, Ph.D., Professor Emeritus
Michael J. Jibson, Ph.D., Professor Emeritus
John F. Malcolm, Ph.D., Professor Emeritus
Paul Teller, Ph.D., Professor Emeritus
Michael V. Wedin, Ph.D., Professor Emeritus
George Wilson, Ph.D., Professor Emeritus

The Major Program
Pharmacology addresses problems and questions that arise in all areas of human thought and experience and in all disciplines. Recurring questions about the nature of value, the good life, right conduct, knowledge, truth, language, mind, and reality are central to philosophical study. Philosophy also investigates the methodologies and assumptions of the major disciplines in the university in order to deepen our understanding of the sciences, of mathematics, art, literature, and history, and of religion and morality. It leads us to address issues about the nature of these subjects, about the methods of reasoning characteristic of them, and about the contributions they make to our understanding of the world and ourselves.

Pharmacology contributes to the liberal education of its students. The department emphasizes an analytic approach to philosophical questions, which trains students to understand and evaluate arguments and to think and write precisely and clearly. These skills are of immense value in a variety of careers.

The Program. The Department of Philosophy offers courses in such areas as the theory of knowledge, metaphysics, logic, ethics, and political philosophy. In addition, upper division courses offered in moral and political philosophy, and aesthetics, and in the philosophy of religion, of mind, of language, of mathematics, of law, and of the physical, biological, and social sciences.

The problems of philosophy have important roots in past. The history of philosophy is important not only as part of the heritage of educated persons, but also because it is relevant to contemporary issues. For these reasons, the department places great emphasis on the history of philosophy, providing courses on the major figures and traditions of western philosophy.

Career Alternatives. Students of philosophy learn to understand and evaluate arguments, to think and write precisely and clearly. These analytical skills are assets in any career. Many of our majors have pursued graduate study in philosophy and have become philosophers in their own right. Others have pursued academic careers in related disciplines in the humanities and social sciences. Philosophy majors are well prepared for law, business, or other professional schools and have found careers in computer programming, government service, teaching, the ministry, and social work.

A.B. Major Requirements:

Preparatory Subject Matter………………16
One course from any of the following areas………………………………..…………………12
(a) General Philosophy: Philosophy 1
(b) Ancient Philosophy: Philosophy 21
(c) Early Modern Philosophy: Philosophy 22
(d) Philosophy of Mind: Philosophy 13 and 13G
(e) Ethics: Philosophy 14, 15 or 24
(f) Philosophy of Science: Philosophy 30, 31, 32 or 38
(g) Philosophy of Language: Philosophy 17
(h) Metaphysics: Philosophy 101
(i) Theory of Knowledge: Philosophy 102
Philosophy 12 ………………………..4

Depth Subject Matter ……………………36
Upper division units in Philosophy ………36
Note: Philosophy 101 and 102 may not be counted toward both preparatory and depth subject matter units.

Total Units for the Major …………………52

Major Advisers. G.J. Mattey, Marina Oshana
Advising Office. 1240 Social Science and Humanities

Minor Program Requirements:

Students wishing to minor in Philosophy may choose a general minor or a minor specializing in logic. There are no specific course requirements for the general minor, so students may create a program to suit their own interests. The range of choice in the logic specialization is limited to the courses listed.

UNITS

Philosophy—General ……………………20
Twenty upper division units in philosophy. Philosophy 12 may be substituted for four of the upper division units.

Quarter Offered: I-Fall, II-Winter, III-Spring, IV-Summer; 2015-2016 offering in parentheses
Pre-Fall 2011 General Education (GE): ArtHum—Arts and Humanities; SciEng—Science and Engineering; SocSci—Social Sciences; DivDom—Domestic Diversity; WrtWriting Experience
Fall 2011 and on Revised General Education (GE): AH—Arts and Humanities; SE—Science and Engineering; SS—Social Sciences; ACHM—American Cultures, DD—Domestic Diversity, OL—Oral Skills, QL—Quantitative, SL—Scientific, VL—Visual, WC—World Cultures, WRT—Writing Experience

UNITS
Philosophy

11. Asian Philosophy

Lecture—3 hours; discussion—1 hour. Survey of the main philosophical systems of south and east Asia: Hinduism, Buddhism, Confucianism, and Taoism. Topics include the nature of reality, including God, the universe and the human condition, and the proper conduct of human life. Offered in alternate years. GE credit: Art/Hum, Div | AH, WC, WE.—I, II, III.

12. Introduction to Symbolic Logic

Lecture—3 hours; discussion—1 hour. Syntax and semantics of the symbolic language. Syntax and semantics of the symbolic language sentence logic. Translation between sentence logic and English. Truth table interpretation of sentence logic. Proof techniques. Application of truth tables and proof techniques to arguments in English.

13. Minds, Brains, and Computers

Lecture—3 hours; discussion—1 hour. Contemporary theories of the nature of the mind. The mind as a brain process and as a computer process. Ways in which neuroscience, artificial intelligence and psychology shed light on the mind.

14. Ethical and Social Problems in Contemporary Society

Lecture—3 hours; discussion—1 hour. Philosophical issues and positions involved in contemporary moral and social problems. Possible topics include civil disobedience and revolution, racial and sex discrimination, environmental politics, technology and human values, sexual morality, freedom in society. GE credit: Art/Hum, Div, Wrt | AH, WE.

15. Bioethics

Lecture—3 hours; discussion—1 hour. Critical analysis of norms raised by contemporary medicine and biology. Possible topics include euthanasia, abortion, reproductive technologies, genetic engineering, patient relations, allocation of medical resources, experimentation on human subjects. GE credit: Art/Hum, Div, Wrt | AH, WE.

16. Philosophical Foundations of American Democracy

Lecture—2 hours; discussion—1 hour. The philosophical underpinnings of democratic government and the tension between the goals of providing security and of preserving democracy and civil liberties. Illustration of the tension through focus on issues related to war and terrorism. GE credit: ACGH, AH, WE.—I.

17. Language, Thought, and World

Lecture—3 hours; discussion—1 hour. Puzzles in the philosophy of language, such as what language is, how language conveys thought, whether we each speak our own private language, and what we can learn about the world by studying language. GE credit: Soc/Sci, Div, Wrt | SS, WE.—May.

21. History of Philosophy: Ancient

Lecture—3 hours; discussion—1 hour. Survey of Greek philosophy with special attention to the Pre-Socratics, Plato, and Aristotle. GE credit: Art/Hum, Div, Wrt | AH, WE.—I.

23. History of Philosophy: Early Modern

Lecture—3 hours; discussion—1 hour. Survey of major figures in philosophy of the seventeenth and eighteenth centuries, with emphasis on Descartes, Hume, and Kant. GE credit: Art/Hum, Wrt | WC.—II. (II) Mathey

24. Introduction to Ethics

Lecture—3 hours; discussion—1 hour. Reading of historical and contemporary philosophical works in ethics. Topics include the nature of morality, the justification of moral beliefs, major ethical theories, such as consequentialist, deontological, and virtue theories. GE credit: Art/Hum, Wrt | AH, WE.—II. (II) Mathey, Oshana

30. Introduction to Philosophy of Science

Lecture—3 hours; discussion—1 hour. Basic problems in the philosophy of science, common to the physical, biological, and social sciences. Analysis of explanation, confirmation theory, observational and theoretical terms, the nature of theories, operationalism and behaviorism, realism and reductionism. GE credit: Art/Hum or Sci/Eng, Wrt | AH or SE, SS, WE.—Landry, Millstein

31. Appraising Scientific Reasoning

Lecture—3 hours; discussion—1 hour. Introduction to scientific hypotheses and the kinds of reasoning used to justify such hypotheses. Emphasis on adequate justification, criteria, and strategies for distinguishing scientific from pseudoscientific theories. Concrete historical and contemporary cases. GE credit: Art/Hum or Sci/Eng | AH or SE, SS, WE.—Griesemer

32. Understanding Scientific Change

Lecture—3 hours; discussion—1 hour. Concepts of scientific change in historiography and historical philosophy. Survey of models of growth of knowledge, 17th century to present. Relationship between logic of theories and theory choice. Kuhn’s revolution model. Examples from various sciences. GE credit: Art/Hum or Sci/Eng, Wrt | AH or SE, SS, WE.—Griesemer

33. Introduction to Philosophy of Biology

Lecture—3 hours; discussion—1 hour. Non-technical introduction to philosophical, social, and scientific ideas, methods and technologies in contemporary biological fields such as evolution, genetics, molecular biology, ecology, behavior. Philosophical consideration of determinism, reductionism, explanation, theory, modeling, observation, experimentation. Evaluation of scientific exploration of human nature. GE credit: Art/Hum, Wrt | AH or SE, SS, WE.—Griesemer, Millstein

98. Directed Group Study (1-5)

Prerequisite: consent of instructor. (P/NP grading only)

99. Special Study for Undergraduates (1-5)

Prerequisite: consent of instructor. (P/NP grading only)

Upper Division

(Certain upper division courses may not be offered every year.)

101. Metaphysics

Lecture—3 hours; discussion—1 hour. Prerequisite: one course in philosophy recommended. Theories of being. Such topics as reality, universals, space, time, causality, becoming, body, experience, persons, freedom, and determinism. Views of the nature and method of metaphysics. Anti-metaphysical arguments. GE credit: Art/Hum, Wrt | AH, WE.—Gilmour

102. Theory of Knowledge

Lecture—3 hours; extensive written discussion. Prerequisite: one course in philosophy. Analysis of the concept of knowledge. The relation between knowledge, belief and truth. Development of foundationalist, coherentist and externalist theories of justified belief. Examination of skepticism. GE credit: Art/Hum, Wrt | AH, WE.—Mathey

103. Philosophy of Mind

Lecture/discussion—3 hours, term paper. The relation between mind and body, our knowledge of other minds, and the explanation of mental acts. Discussion of such concepts as action, intention, and causation. GE credit: Art/Hum, Wrt | AH, WE.—Malyneux

104. The Evolution of Mind

Lecture/discussion—3 hours, term paper. Prerequisite: one previous Philosophy course or instructor permission. The interpretation of human thought and behavior through the lens of evolutionary theory. Topics include the nature/nurture debate concerning...
cognitive and other mental capacities and traits, and the interaction between evolution, learning and development. GE credit: SciEng, SS, WE.

105. Philosophy of Religion (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: one course in philosophy or one course in science. GE credit: ArtHum, Writ | AH, WE, WE—Gilmore, Szafran

107. Philosophy of the Natural Sciences (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: one course in philosophy or one course in science. GE credit: SciEng, Writ | AH or SE, WE—Landry, Molyneux.

108. Philosophy of the Biological Sciences (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: one course in philosophy or one course in science. GE credit: SciEng, Writ | AH or SE, WE, WE—Griesser, Millstein.

109. Philosophy of the Social Sciences (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: one course in philosophy or one course in science. GE credit: SciEng, Writ | AH or SE, WE.

111. Philosophy of Space and Time (4)
Lecture/discussion—4 hours. Prerequisite: course 12 or consent of instructor. GE credit: AH, WE—Gilmore.

112. Intermediate Symbolic Logic (4)
Lecture/discussion—4 hours. Prerequisite: course 12 or consent of instructor. GE credit: AH, WE—Gilmore.

113. Metalogic (4)
Lecture/discussion—4 hours. Prerequisite: course 112, Mathematics 108, or the equivalent. GE credit: AH, WE—Gilmore.

114. History of Ethics (4)
Lecture/discussion—4 hours. Prerequisite: one philosophy course. Study of some classic texts from the history of philosophy written on central problems of ethics, including studies from the works of Aristotle, Socrates, Plato, and Aquinas. GE credit: AH, WE—Gilmore.

115. Problems in Normative Ethics (4)
Lecture/discussion—3 hours, term paper. Prerequisite: one course in philosophy. GE credit: AH, WE, WE—Szafran.

116. Ethical Theories (4)
Lecture/discussion—3 hours, term paper. Prerequisite: one course in philosophy; one course in ethics recommended. Study of fundamental concepts and problems in ethics through an examination of classical and contemporary philosophical theories of ethics. Among the theories that may be discussed are utilitarianism, virtue theory, theories of natural rights, Kantian ethics, and contractualism. GE credit: AH, WE—Copp.

117. Foundations of Ethics (4)
Lecture/discussion—3 hours, term paper. Prerequisite: one of courses 114, 115, 116, 101, or 137. Advanced investigation of questions about the nature and foundations of morality. Among the topics that may be discussed are moral realism and anti-realism, cognitive and non-cognitivism, types of relativism, meta-ethical language and normative belief. GE credit: AH, WE—Copp.

118. Political Philosophy (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: one course in philosophy. Intensive examination of some central concepts of political thought such as the state, sovereignty, rights, obligation, freedom, law, authority, and responsibility. GE credit: SciSci, Writ | AH, WE—Oshana.

119. Philosophy of Law (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: one course in philosophy or consent of instructor. Philosophical theories of the nature of law, legal obligation, the relation of law and morals. Problems for law involving liberty, determinism of permission or of exression, privacy, rights, discrimination and fairness, responsibility, and punishment. GE credit: SciSci, Writ | AH, WE—Oshana.

120. Environmental Ethics (4)
Lecture/discussion—3 hours, term paper. Prerequisite: one course in philosophy recommended. Nature of art, of artistic creation, of the work of art, and of aesthetic experience; nature and validity of criticism; relations of art to its environment. GE credit: ArtHum, Writ | AH, WE—Millstein.

123. Aesthetics (4)
Lecture/discussion—3 hours, term paper. Prerequisite: one course in philosophy recommended. Nature of art, of artistic creation, of the work of art, and of aesthetic experience; nature and validity of criticism; relations of art to its environment. GE credit: ArtHum, Writ | AH, WE—Millstein.

125. Theory of Action (4)
Lecture—3 hours; extensive writing or discussion—1 hour. Prerequisite: one course in Philosophy. Survey of prominent contemporary approaches to leading problems in action theory. Problems include issues about the nature of intentional action and the conceptual character of explanations of actions in terms of the agent’s reasons. GE credit: ArtHum, Writ | AH, WE—Oshana.

128. Rationality (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: at least one course in philosophy. Philosophical issues concerning rationality in its various forms. Focus is on theoretical and practical reasoning and conditions for rational belief, choice, and action. Possible additional topics include rationality and human judgment; paradoxes of rationality; varieties of irrationality; rationality and objectivity. GE credit: AH, WE—Antonnell.

129. Knowledge and the A Priori (4)
Lecture/discussion—3 hours, extensive writing. Prerequisite: one course in philosophy. Self-directed study of the (in)fallibility and (in)deceptibility of a priory methods. Analytic, formalist and Kantian accounts of how knowledge can be acquired through reasoning and intuition alone, without recourse to empirical methods. Offered in alternate years. GE credit: AH, WE—Szafran.
143. Hellenistic Philosophy (4)
Lecture/discussion—3 hours; term paper. Prerequisite: course 21 recommended, or other course in philosophy.
Consideration of central issues such as meaning/reference, analytic/ synthetic, reductionism, formal and ordinary language, essential properties, ontological commitment, possible vs. actual worlds, influential writings by philosophers such as Russell, Moore, Wittgenstein, Austin, Carnap, Quine, Putnam, Kripke, van Fraassen. GE credit: AH, WE.—Mattey

144. Medieval Philosophy (4)
Lecture/discussion—4 hours. Prerequisite: course 22N. Study of the main traditions in medieval philosophy. Topics selected from Hellenistic and Christian, Islamic, and Jewish traditions. Offered in alternate years. GE credit: AH, WE.—Szafr

151. Nineteenth Century European Philosophy (4)
Lecture/discussion—4 hours. Prerequisite: course 22N. Survey of the main movements in nineteenth century philosophy on the European continent. Idealism in Schopenhauer and Hegel, dialectical materialism in Marx, irrationalism in Kierkegaard, Nietzsche and Dostoevsky. Offered irregularly. GE credit: Art/Hum | AH, WE.—Mattey

156. Contemporary Analytic Philosophy (4)
Lecture/discussion—3 hours; term paper. Prerequisite: one upper-division course in philosophy. Consideration of central issues such as meaning/reference, analytic/synthetic, reductionism, formal and ordinary language, essential properties, ontological commitment, possible vs. actual worlds, influential writings by philosophers such as Russell, Moore, Wittgenstein, Austin, Carnap, Quine, Putnam, Kripke, van Fraassen. GE credit: AH, WE.—Antonelli

157. Twentieth Century European Philosophy (4)
Lecture/discussion—4 hours. Prerequisite: one course in Philosophy. Survey of the main movements in twentieth century philosophy on the European continent, including phenomenology, existentialism, post-structuralism and post-modernism. Philosophers covered are Husserl, Heidegger, Sartre, Foucault, Derrida. GE credit: Art/Hum | AH, WE.—Mattey

160. Pre-Socratics (4)
Lecture/discussion—3 hours; term paper. Prerequisite: course 21. Study of the metaphysical views of such pre-Socratic figures as the Milesians, the Pythagoreans, Heraclitus, Parmenides, Empedocles, Anaxagoras, and the atomists. GE credit: AH, WE.—Szafr

161. Plato (4)
Lecture/discussion—3 hours; term paper. Prerequisite: course 21. Examines Plato’s most important contributions, including metaphysics, epistemology, psychology, cosmology, ethics and political philosophy. Dialogues will be selected from Plato’s middle and later writings. GE credit: AH, WE.—Szafr

162. Aristotle (4)
Lecture/discussion—3 hours; term paper. Prerequisite: course 21. An overview of Aristotle’s most central and influential writings. Topics selected from fields such as metaphysics, physics, ethics, logic, and psychology. GE credit: AH, WE.—Szafr

168. Descartes (4)
Lecture/discussion—4 hours. Prerequisite: course 22N. The philosophical writings of René Descartes. Topics include the refutation of skepticism, the nature and existence of the mind, body, the existence of God, and the foundations of science. Offered irregularly. GE credit: AH, WE.—Mattey

170. Leibniz (4)
Lecture/discussion—4 hours. Prerequisite: course 22N. Survey of the philosophical writings of Gottfried Wilhelm Leibniz. Topics include Leibniz’s logic, the existence of God, human freedom, substance, and the relation between science and metaphysics. Offered irregularly. GE credit: AH, WE.—Mattey

172. Locke and Berkeley (4)
Lecture/discussion—4 hours. Prerequisite: course 22N. Principal metaphysical works of John Locke and George Berkeley. Topics include abstract ideas, existence of matter, primary and secondary qualities, essence, substance, existence of God, and the nature of scientific knowledge. May be repeated for credit. Offered irregularly. GE credit: AH, WE.—Mattey

174. Hume (4)
Lecture/discussion—4 hours. Prerequisite: course 22N. David Hume’s Treatise of Human Nature and related writings. Topics include empiricism, space, causality, belief, skepticism, the passions, and morality. Offered irregularly. GE credit: AH, WE.—Mattey

175. Kant (4)
Lecture/discussion—4 hours. Prerequisite: course 22N. Immanuel Kant’s Critique of Pure Reason and related writings. Topics include the nature of human cognition, space and time, a priori concepts, substance, causality, and how to prove the existence of God. Offered irregularly. GE credit: AH, WE.—Mattey

178. Frege (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in philosophy or permission of instructor. Development of Gottlob Frege’s views about language and logic. Formulation of his grand mathematical idea known as logicism and how it led to the development of philosophy of language. GE credit: AH, WE.—Mattey

189A. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (A) History of Philosophy. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, WE.

189B. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (B) Metaphysics. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, WE.

189C. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (C) Theory of Knowledge. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, WE.

189D. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (D) Ethics. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, WE.

189E. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (E) Political Philosophy. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, WE.

189F. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (F) Philosophy of Law. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, WE.

189G. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (G) Aesthetics. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, WE.

189H. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (H) Philosophy of Mind. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, WE.

189I. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (I) Philosophy of Science. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH, SE.

189J. Special Topics in Philosophy (4)
Lecture/discussion—3 hours; extensive writing. Prerequisite: one course in the area of the special topic. Special topics in (J) Logic. May be repeated up to eight units of credit. Offered irregularly. GE credit: AH.

194HA-194HB. Honors Research Project (4-4)
Tutoring—3 hours; term paper. Prerequisite: consent of instructor; open to students who are members of the honors program in Philosophy. Completion of honors research project under direction of an instructor. Consult departmental major adviser for list of instructors available in a given quarter.

198. Directed Group Study (1-5)
(P/NF grading only.)

199. Special Study for Advanced Undergraduates (1-5)
Prerequisite: consent of instructor. (P/NF grading only.)

Graduate

200A. Proseminar I (4)
Seminar—3 hours; term paper. Prerequisite: consent of instructor; open only to students in their first quarter of Philosophy Ph.D. program. Intensive study of core works in a selected area of philosophy. Offered irregularly. GE credit: AH, WE.

200B. Proseminar II (4)
Seminar—3 hours; term paper. Prerequisite: consent of instructor; only for students in their first quarter of Philosophy Ph.D. program. Intensive study of core works in a selected area of philosophy. Intensive experience in philosophical writing, discussion, and presentation of written work. —I. (I)

201. Metaphysics (4)
Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Topics vary from quarter to quarter and may include the following: What are things? Do names refer to things? If so, how? Do things have essential properties? What is the nature of possibility? May be repeated for credit when topic differs and with consent of instructor. —Gilmore

202. Theory of Knowledge (4)
Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Topics vary from quarter to quarter. Sample topics include belief, skepticism, justification, externalism, naturalized epistemology. May be repeated for credit with consent of instructor.—Mattey, Molyneux

203. Philosophy of Mind (4)
Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Topics in the philosophy of mind such as the mind-body problem, mental representation, consciousness. May be repeated for credit with consent of instructor.—Mattey, Molyneux

203P. Philosophy of Mind Practicum (4)
Practicum—12 hours. Prerequisite: consent of instructor. Specific research conducted and prepared for publication by advanced students in a team setting. Topics include knowledge representation and learning in neural networks, the nature and formal properties of mental representations. May be repeated for credit when topic differs and with consent of instructor. (S/U grading only.)

207. Philosophy of Physics (4)
Seminar—3 hours; term paper. Prerequisite: graduate standing in Philosophy Ph.D. program. Intensive treatment of one (or more) topic(s) in the philosophy of physics, such as foundations of space-time theories, the interpretation of quantum mechan-
ics, or foundations of statistical mechanics. May be repeated for credit when topic differs and with consent of instructor.—Landry

208. Philosophy of Biology (4)
Seminar—3 hours, term paper. Prerequisite: graduate standing or consent of instructor. Intensive treatment of one or more topics in the philosophy of biology of current interest. Topics may include historical and logical analysis, reductionism in biology, sociobiology and cultural evolution. May be repeated for credit when topic differs and with consent of instructor.—Griesemer, Millstein

210. Philosophy of Science (4)
Seminar—3 hours, term paper. Prerequisite: graduate standing or consent of instructor. Treatment of one or more general topics of current interest in philosophy of science. Topics may include the scientific method, explanation, theories of confirmation, scientific realism, reduction in physics and biology. May be repeated for credit when topic differs and with consent of instructor.—Griesemer, Landry, Millstein

212. Philosophy of Logic and Mathematics (4)
Seminar—3 hours, term paper. Prerequisite: course 112 or 113 or Mathematics 108 or 125 or the equivalent. Philosophical issues in logic and mathematics. Topics may include nature of logical and mathematical truth or knowledge, correctness of logical systems, foundations of mathematics, metaphysical and epistemological presuppositions, applications to philosophical problems and formalization of philosophical theories. May be repeated for credit when topic differs and with consent of instructor.—Antonelli, Landry

213. Advanced Logic for Graduate Students (4)
Lecture/discussion—3 hours; extensive problem solving. Prerequisite: graduate standing in Philosophy. Enrollment in the Philosophy Ph.D. program. Intensive study of advanced logic, including set theory, meta-theory of predicate logic, and modal logic. May be repeated two times for credit when topic differs.—I. (I, III.) Antonelli, Matysz

214. Ethics (4)
Seminar—3 hours, term paper. Prerequisite: graduate standing in philosophy or consent of instructor. Topics may include morality and motivation, objectivity in ethics, the relationship between the factual and the moral. Topics vary from quarter to quarter. May be repeated for credit when topic differs and with consent of instructor.—Copp, Oshana

217. Political Philosophy (4)
Seminar—3 hours, term paper. Prerequisite: graduate standing or consent of instructor. Advanced studies in political philosophy. Topics vary but may include distributive justice, enforcement of morality by the state, obligation to obey the law, social contract theory. May be repeated for credit when topic differs and with consent of instructor.—Copp, Oshana

220. Environmental Ethics (4)
Lecture—2 hours. Prerequisite: graduate standing or consent of instructor. Intensive treatment of one or more topics in environmental ethics, such as biodiversity, sustainability, composition of the moral community, invasive species, endangered species, applications of ethical theories to contemporary environmental issues.—Millstein

237. Philosophy of Language (4)
Seminar—3 hours, term paper. Prerequisite: graduate standing or consent of instructor. Study of philosophical issues raised by language, such as the nature of semantic content, proper semantics for verbs of propositional attitude, feasibility and limitations of formal semantics and pragmatics for natural languages. May be repeated for credit when topic differs and with consent of instructor.—May, Sennet

238. Philosophy of Language Workshop (4)
Seminar—3 hours, extensive writing. Discussion of recently published, unpublished and in-progress research in a philosophy of language, including work on the relation of language and mind, of language and logic, and linguistic theory. Open to graduate students only. May be repeated for credit when topic differs.—Landry

261. Plato (4)
Seminar—3 hours, term paper. Prerequisite: graduate standing or consent of instructor. Advanced seminar designed for analysis of arguments, doctrines, and texts from Plato’s works. Methods of argumentation and interpretation are especially stressed. Topics vary according to instructor. May be repeated for credit with consent of instructor.—Szaf

262. Aristotle (4)
Seminar—3 hours, term paper. Prerequisite: graduate standing or consent of instructor. Advanced seminar designed for analysis of arguments, doctrines, and texts from Aristotle’s works. Methods of argumentation and interpretation are especially stressed. Topics vary according to instructor. May be repeated for credit with consent of instructor.—Szaf

275. Kant (4)
Seminar—3 hours, term paper. Prerequisite: graduate standing in philosophy or consent of instructor. Intensive study of a topic in the philosophy of Kant, in such areas as metaphysics, theory of knowledge, ethics. May be repeated for credit with consent of instructor.—Mattey, Szaf

298. Group Study (1-5)
(S/U grading only)

Professional

396. Teaching Assistant Training Practicum (1-4)
Prerequisite: graduate standing. May be repeated for credit. (S/U grading only)—I, II, III. [I, II, III.]

Physical Education

[College of Letters and Science]

W.J. Weidner, Ph.D. Program Director

Program Office. 264 Hickey Gymnasium
S30-752-1111

Committee in Charge
Keith Baar, Ph.D.
(Neurobiology, Physiology, and Behavior)
G. Robert Biggs, B.A. (Physical Education)
Stephen T. Bronzan, M.S. (Physical Education)
Barbara A. Jahn, M.S. (Physical Education)
Susan Kauzlarich, Ph.D. (Chemistry)
Academic Senate Distinguished Graduate Mentoring Award
John Lavallee, M.Ed. (Physical Education)
Maryclare Robinson M.S. (Physical Education)
W.J. Weidner, Ph.D.
(Neurobiology, Physiology, and Behavior)

Faculty
G. Robert Biggs, B.A., Supervisor
Barbara A. Jahn, M.S., Supervisor

Affiliated Faculty
Carissa Adams, Ph.D., Lecturer
Alex Antipa, B.S., Lecturer
Stephan T. Bronzan, M.S., Lecturer/Assistant Director
Greg Chapla, B.A., Lecturer
Kevin Dafl, M.Ed., Lecturer/Coach
Rozanne DeWeese, M.S., Lecturer
Steven Donel, Ph.D., Lecturer
Adam Getchell, M.S., Lecturer
Ron Gould, B.A., M.R., Lecturer
Yajin Graves, B.S., Lecturer
Jennifer Gross, M.A., Lecturer/Coach
Rick Henderson, B.S., Lecturer
Kathryn Henwood, M.A., Lecturer/Coach
Tiffany Huismans, B.S., Lecturer/Coach
Mark Johnson, M.S., Lecturer
Twila Kaufman, M.A., Lecturer/Coach
Andrea Khan, B.S., Lecturer
John Lavallee, M.Ed., Lecturer/Coach
Daryl Lee, M.S., Lecturer
James Leslie, B.S., Lecturer/Coach
Daniel Leyson, M.A., Lecturer/Coach
Ron Manara, B.A., Lecturer
Bill Maze, M.B., M.A., Lecturer/Coach
Peter Matekalski, M.A., Lecturer/Coach
Kevin Noske, M.S., Lecturer/Coach
Maryclare Robinson, M.S., Lecturer
Anthony Schiliano, B.A., Lecturer/Coach
Dwayne Shaffer, M.A., Lecturer/Coach
Sandy Simpson, M.S., Lecturer
Eric Steidlmeier, J.D., Lecturer/Coach
Danielle Stines, M.S., Lecturer/Coach
Anna Temple, B.A., Lecturer/Coach
Lisa Varnum, B.S., Athletic Trainer/Lecturer
Matt Vaughn, M.A., Lecturer/Coach
Andrew Wartenburg, B.A., Lecturer/Coach
Robert Watts, M.A., Lecturer/Coach
Cly Williams, M.A., Lecturer/Coach
Jamey Wright, J.D., Lecturer/Coach
Karen Yoder, M.A., Lecturer/Coach
Karen Zufelt, Ph.D., Lecturer

The Program of Study

The Program in Physical Education facilitates the development and offering of non-major courses related to physical activities and education, fitness and health, athletic training, teacher education, and organized sport. The Program is available as part of a student’s general educational experience to enhance and broaden the university and community experience of physical activity in the maintenance of lifetime health and fitness.

The basic activities series includes Physical Education 1, fitness, lifetime, and sports skills. The PE 1 activity courses are instructional in nature, designed to introduce new skills to beginners or to improve existing skills. Physical Education 6 is offered for students participating in intercollegiate athletics. Additional lower division courses include those in special skill areas, such as life-saving and water safety, health and fitness, and athletic training. Upper division courses include advanced classes in coaching, sociology of sports, and a series of courses that meet the mandated requirements for students pursuing teacher preparation and certification.

Teaching Credential Subject Representative.
W.J. Weidner

Class and Recreational Use of Facilities.

The initial fee payable by all students participating in intercollegiate athletics. Addi-
tional lower division courses include those in special skill areas, such as life-saving and water safety, health and fitness, and athletic training. Upper division courses include advanced classes in coaching, sociology of sports, and a series of courses that meet the mandated requirements for students pursuing teacher preparation and certification.

Courses in Physical Education (PHE)

Lower Division

1. Physical Activities (0.5)
Laboratory—2 hours. Sections in: (a) sports skills, rules and strategy; (b) physical fitness and personal health; (c) recreation; (d) aerobic dance. May be repeated along with course 6 for a combined total of 6 units. (P/NP grading only)—I, II, III. [I, II, III.]

6. Preparation and Participation in ICA Competition (1)
Discussion/lab—10-20 hours. Prerequisite: consent of instructor (coach). Preparation and participation in intercollegiate athletics. Development of fundamental and advanced individual and team skills. Development of knowledge of rules and strategy.