Current Undergraduate Courses

Spring 2010

101BEE
Introduction to Philosophy
Tuesday and Thursday
12:30-1:50pm
Beebe

This course will introduce students to some of the basic questions and methods of philosophy. We will begin by looking at the birth of Western philosophy in ancient Greece. We will read three of Plato's dialogues and will learn about the life of Socrates, the first great Western philosopher. We will then wrestle with philosophical questions such as the following: What must one do to be truly happy? Are there absolute truths? Is truth relative? Is it ethically permissible to clone human beings? Is euthanasia morally permissible? How is the mind related to the brain? Is it anything more than the brain? Can computers think? Do humans have free will? If so, what is the nature of that freedom? Is it rational to believe in God? Is the existence of evil incompatible with the existence of a wholly good God? What distinguishes science from non-science?

101MCG
Introduction to Philosophy
Tuesday and Thursday
2-3:20pm
McGlone

This course is an introduction to philosophy, with an emphasis on issues in metaphysics, epistemology, and ethics. We will address a number of important philosophical questions: Are there any good reasons for believing or disbelieving that God exists? To what extent are we justified in believing what we do about the external world? To what extent are we justified in believing what we do about what we have not yet perceived on the basis of what we have? How do our concepts of free action and moral responsibility fit together with a modern, scientific conception of the world? How are the mental features exhibited in the world related to the physical features so exhibited? Under what conditions is an action right or wrong? What is the source of value in the world?

We will study a number of important responses to questions of this sort, reading both historically significant and contemporary sources. At each step, we will focus on formulating and assessing arguments for and against the philosophical positions that support these responses.

101TA
Introduction to Philosophy
Monday Wednesday Friday
11-11:50am
Spencer

Philosophy is concerned with the deep questions about human existence and the nature of the world. This course will introduce students to these questions and to some of the ways in which these questions have been answered throughout the history of philosophy. We will examine some of the historical views on questions including, but not limited to the following: "What is philosophy?" "What is a person?" "Is there a world outside our minds, and, if so, how can we know anything about it?" "Is there a God?" The grade will be based on tests, a short paper, and classroom participation. We will use texts from the anthology *Introducing Philosophy* by Robert Solomon, as well as some articles which will be provided on course reserve.

107DON
Ethics
Monday Wednesday Friday
10-10:50am
Donnelly

Nearly everyone assumes that some human actions are morally good or at least morally permissible, while other human actions are morally wrong. However, there is often considerable and bitter disagreement over the moral worth of particular actions. The primary purpose of this class is to examine different principles which have been advocated for distinguishing between morally acceptable and morally unacceptable actions. Special attention will be paid to principles which are based on substantial philosophical arguments and which purport to be independent of specific cultural practices. We will also consider: i) the extent of a person's responsibility for his or her actions and ii) what reasons can be given for choosing good actions and refraining from bad actions. Students should expect a substantial amount of reading from historical and contemporary sources. Grades will be based on regular class participation and examinations.

107SHO
Ethics
Tuesday & Thursday
9:30-10:50am
Shockley

This course is an introduction to moral philosophy. We will consider such broad questions as, how ought we to act? What sorts of lives should we lead? What sorts of things, whether persons, practices, objects or institutions, might rightly be said to be good? In this course we will investigate several different approachesto answering these difficult questions. To this end, and with the goal of making the student broadly familiar with this branch of philosophy, we will read selections from several major moral philosophers and survey the issues andpositions in moral philosophy that arise from these readings. We will begin by considering the nature of morality, and the relation of morality to selfishness (or egoism) and cultural relativism. We will then read excerpts from one of the classic works of the history of moral philosophy, Aristotle's Nichomachean Ethics. Here we will consider what it means to claim someone is virtuous, and examine the relation of the virtuous person to right action. Wewill then move to the normative theories presented in two classics of the Enlightenment: Immanuel Kant's Groundwork of the

Metaphysics of Morals and John Stuart Mill's Utilitarianism. After investigating these classics we will turn toa series of essays dealing with contemporary ethical issues.

107TA
Ethics
Monday Wednesday Friday
11-11:50am
Potter

This course introduces students to moral philosophy and to such fundamental questions as: What is virtue? Do we have moral obligations and, if so, on what are they based and to what do they obligate us? What kinds of things, people, or institutions can be said to be good? The course texts include works of those philosophers (including Plato, Aristotle, Aquinas, Kant, and Mill) who first developed ethical theories to answer fundamental questions like these and others. In the final part of the course, students are introduced to applied ethics through a number of contemporary ethical issues.

115TA
Critical Thinking
Monday Wednesday Friday
9-9:50am
Cox

This course is designed to provide students with some of the essential skills that are crucial to better reasoning and arguing—skills that are important for doing well in life. The primary goal is for students to learn to identify, reconstruct, evaluate, and respond to arguments. We will be primarily concerned with informal logic, as opposed to formal or symbolic logic, but the introduction of some formal notation will be useful at times. We will examine elements of both inductive and deductive reasoning and the differences between them. More specifically, we will discuss argument structures, abductive reasoning, analogical reasoning, scientific/causal reasoning, probability theory, and statistical reasoning. Students will learn how to identify and avoid informal fallacies and other common mistakes, how to respond to and refute arguments, and how to construct strong arguments of their own.

115TA1
Critical Thinking
Tuesday & Thursday
9:30-10:50am
McGrath

This course will serve as an introduction to informal logic. Topics to be covered include the nature, construction, and evaluation of arguments; spotting logical fallacies; basic principles and techniques of informal inductive, deductive, and abductive logic; and topic-specific application of the knowledge and skills learned in the course. Thinking logically is a necessary prerequisite for any career or major, and an invaluable asset to students who plan to take standardized tests, such as the GRE. Regular attendance and homework assignments will be required.

115TA2
Critical Thinking
Monday Wednesday Friday
11-11:50am
Choi

In order to be a good athlete in a specific sports game, you should develop your overall physical strength, including muscle power, speed, flexibility, etc. as well as special skill or technique requisite for that field of sports. Likewise, in order to be a good scholar (or student), it is necessary not only to have specific knowledge about your field of study, but also to foster your general ability to think clearly and consistently. The goal of this course, Critical Thinking, is to sharpen your thinking faculty and to harden its basic foundation. Roughly speaking, the former is related to analyzing the results of other people's thinking, one of which we usually call 'arguments' and the latter to building up your own structure of thinking strong and clear enough to persuade others.

For these goals, we will (1) learn basic methods of making and analyzing arguments, (2) practice those methods by applying them to various sources which we encounter in everyday life. With these grounds, (3) we will construct our own arguments on current controversial topics. Grades will be based on exams, homework assignments in general.

215BIT
Introduction to Deductive Logic
Tuesday & Thursday
12:30-1:50pm
Bittner

This course is an introduction to the principles of logic. Students will learn to recognize arguments and to understand their basic elements. Students will also learn to evaluate the validity and soundness of arguments. Other topics include: definitions, formal and informal errors of reasoning, and principles of deductive reasoning.

Required text: Patrick Hurley's *A Concise Introduction to Logic* (10th edition). The textbook comes with a key which enables the students to use the supporting material on the text website. All homework assignments and the exams are to be delivered electronically through this website.

The course grade will be based on weekly homework assignments and three exams.

215TA
Introduction to Deductive Logic
Monday Wednesday Friday
9-9:50am
Jensen

Logic as both a practice and field of study permeates many aspects of human endeavor including fields like philosophy, psychology, law, computer science and mathematics. Despite logic's long

history of inquiry, it is not an easy discipline to define. A commonly accepted definition is that logic is the study of reasoning and arguments. Questions are asked: How does one correctly reason from a set of statements known or accepted as true to another statement which is also true? How can we be sure that the truth of one statement follows necessarily from another?

This is an introductory course to the principles of deductive logic. No prerequisites are required or assumed. We will introduce and formalize the notions of an argument, deduction, truth value, validity, and soundness among others. Our primary focus will be in exploring both traditional Aristotelian categorical logic and modern propositional logic. Topics will include translation from natural language into symbolic form, analyzing argument structure, the square of opposition and immediate inference, truth tables, Venn Diagrams, and natural deduction. Time permitting; discussion may include logic puzzles, alternate kinds of logic, or the historical development of logic.

My goal as an instructor is twofold. One is that I want students to gain an understanding of basic logical concepts and develop the ability to analyze arguments so as to determine if they are invalid or valid. Secondly I hope to help develop their reasoning and deductive abilities in general for application to any domain. A student should leave the course confident in their preparation for advanced courses in predicate or first order logic.

Grading will be based on three exams, homework and class participation.

217BAU
Professional Ethics
Tuesday & Thursday
12:30-1:45pm
Baumer

Phi 217, "Professional Ethics" - Baumer - 12:30-1:45 Tuesdays, Thursdays, 112 Norton, North Campus [This course may be listed in the UB Undergraduate Catalogue as Phi 117.]
This course introduces central ethical issues and problems of various professions, e.g., business, engineering, government, health care, law, and the sciences. The course uses case studies and essays presenting and discussing these issues. Course sessions combine lectures and discussion. Course requirements include three exams and a research essay. The goals of the course are to provide basic knowledge of approaches to ethics and to common ethical issues in professional activities, and ability to analyze and address these issues.
No prior study of Philosophy is presumed.
The course text: Ethical Issues in Professional Life, edited by Joan C. Callahan, Oxford U. Press, New York, ©1988 [paperbound

221BEE
Science and Religion
Tuesday
6-8:40pm
Beebe

This course will cover a variety of issues concerning the relation between science and religion. We will begin by considering some general questions about whether and how scientific truths can conflict with religious truths. The second part of the course will cover issues surrounding the Big Bang, the large-scale structure of the cosmos and what philosophers and other religious thinkers have had to say about the beginning, age and size of the universe. The third part of the course will consider the current controversy between evolutionary theorists and "intelligent design" theorists (i.e., those who claim that organisms and their parts were originally designed by an intelligent being and did not arise through evolution). In addition to the philosophical aspects of this controversy, we will also consider some of the sticky public policy issues it raises. The final part of the course will consider some recently developed theories in the cognitive sciences (e.g., neuroscience, cognitive psychology) that offer explanations of the nature, function and pervasiveness of religious belief.

238EHR
Philosophy of Law
Tuesday & Thursday
11am-12:20pm
Ehrenberg

This course canvasses several areas of both general and specific jurisprudence. It will cover the relation between law and morality by looking at legal positivism, natural law, and legal interpretivism. We will also investigate the relation of these theories to theories of law's indeterminism: legal realism, law and economics, critical legal studies, and feminist theory. Then we will turn to specific philosophical issues in the law such as legal authority and the obligation to obey the law, the nature of legal responsibility, the debate over judicial review and constitutionalism, and the nature of legal reasoning. We will not discuss applied ideological issues like abortion or euthanasia, except perhaps in passing by way of example, but the tools and theories you learn in the class will help inform your discussion of those problems elsewhere. Some prior familiarity with or study of philosophy or philosophical texts is highly recommended.

252YU
Eastern Philosophy
Tuesday & Thursday
12:30-1:50pm
Yu

This course is an introduction to Chinese philosophy by examining the basic assumptions, methods, terminologies, and doctrines of major Chinese philosophers. We focus on classical Chinese philosophy (Confucianism, Daoism, Mohism, the Logicians and Legalism, etc), but will also introduce Chinese Buddhism and two major Neo-Confucian systems: Zhuxi and Wang Yangmin. This course assumes no background in Chinese language or culture, as essential historical and cultural information will be provided in lectures. Course sessions will combine lectures and discussions.

Textbook: Wing-Tsit Chan, A Source Book in Chinese Philosophy, Princeton, 1963.

Recommend readings: To be distributed.

Evaluations:

1. Attendance and class participation (10%)
2. Three exams (20% each)
3. A term paper on classical Chinese philosophy (30%)

315DPT
Symbolic Logic
Monday Wednesday Friday
2-2:50pm
Dipert

It is strongly recommended that you have first had PHI 215 or be a mathematics or computer science major. (If you are in doubt about your level of preparation for the course, email or talk with the instructor.) This is a complete course on the syntax, deductions in, and semantics of propositional logic and first-order predicate logic.

The text will be Harry J. Gensler's Introduction to Logic (Routledge, Paperback). This text has a first chapter on Aristotelian logic that we will skip over, and then we will review quickly the two chapters on propositional logic, assuming that many students have seen something like this before. The main part of the course will be devoted to First Order Predicate Logic. The text has software that accompanies it that is easy to use--you will not be submitting homework through the internet but using the program at home to work, and sometimes print out, problems. This introductory text, more than any such logic book I know, takes an interesting and original approach to logic; what its pages lack in terms of lengthy explanations and pictures (and what the software lacks in terms of catchy graphics) it makes up in succinct and clear explanations and examples.

The text (and software) introduces first the syntax of propositional logic and exercises in translation—from English to logical notation, then from logical notation to English. We will go through truth tables for connectives, sentences, and arguments fairly quickly, clarifying the notion of a valid propositional argument. Next, the concept of a deduction is introduced and the basic rules of inference out of which they are constructed: first rules using the connectives conjunction ('and'); disjunction(or); and negation (not). This is itself a complete system, capable of expressing and deducing all valid propositional arguments in English. To these are added rules for the conditional (if…then,) and the biconditional (iff,), which makes the expression of sentences in ordinary English much easier.

Rules of Inference for each of these are paired in the standard way for "natural deductions": an INTROduction and an ELIMination rule for each connective. (Gensler calls them SIMPLICATION rules and INFERENCE rules.)

At the end of the course, we will discuss some interesting results that have been proven about First-Order Logic, such as the completeness and consistency of deductions, and the limitations of

logic: its inability completely to express mathematics and the uncomputability of certain properties.

We will discuss these topics briefly: alternative notations, alternative logics (such as three-valued and paraconsistent logics), the relationship between logic and ontology. We will also briefly take a look at temporal logic, modal logic, and logics of belief, knowledge, and ethical obligation.

321WIL
Philosophy of Science
Tuesday & Thursday
11am-12:20pm
Williams

This course is intended an introduction and consideration of some of the philosophical issues that arise in the natural sciences (these are primarily issues concerning the epistemology and metaphysics of science). We will consider four philosophical topics:

- **Scientific Realism**: Are scientific theories, strictly speaking, true? Do the entities they posit genuinely exist, or should our attitude be more sceptical, treating them as nothing more than useful fictions that allow us to better navigate our world? Do genes or superstrings or spacetime really exist?
- **Induction and Confirmation**: Can scientific theories be proven true? How rigorous must testing be for us to accept scientific theories? What do we do if to theories are equally supported by the scientific evidence?
- **Natural Kinds**: What is the status of the taxonomies we use to categorize the world? Do they carve nature at its joints, or are they divisions of our own making? Of particular interest in our thinking about natural kinds will be the divisions of the biological sciences, such as species.
- **Explanation and Laws of Nature**: Many forms of explanation seek to subsume phenomena under covering laws—but what are these laws? Are they just statements that pick up on regularities in the world, or are they something more metaphysical in nature? Could we have a world with inherent causal force that lacked laws, and lacked generality? And if there are laws, are they the laws of physics, or do we have laws of chemistry and biology too?

Students are expected to have **either** a background in the physical sciences **or** have taken at least one previous philosophy course.; both is desirable, neither is required. This course should be of great interest to anyone engaged in the physical or social sciences and associated fields as well as students of philosophy.

329WIL
Metaphysics
Tuesday & Thursday
2-3:20pm

Williams

Metaphysics is concerned with the most fundamental categories of existence. These include events, particulars, properties, persons, facts, and so on. The aim of metaphysical investigation is to provide a unified account of how these categories are connected with one another, in order to illuminate the basic structure of our world. Within this enterprise, certain relations and processes are of special importance to the metaphysician, these include: causation, persistence, composition, supervenience, and possibility. In some cases it might be argued that certain categories are empty (there is nothing of that type in our world), or that certain relations can be accounted for in terms of the others (they can be 'reduced'). Other times it might be argued that the categories or relations on offer are inadequate for dealing with the world as we know it, in which case new ones may be introduced.

The best way to approach metaphysics is through the consideration of certain problems; as one begins to think about how best to solve these problems, the connections between the many metaphysical problems become clear. With that in mind, this course will pay close attention to four major metaphysical issues (the problem of universals; the nature of particulars; and the problem of persistence and the nature of possibility) but in so doing we are likely to touch on most of the topics that fall within the range of metaphysics.

335SHO
Contemp. Ethical Theories
Tuesday & Thursday
12:30-1:50pm
Shockley

This course will introduce the student to ethical theory, the study of the nature and justification of moral concepts, principles and guidelines. The goals of this course are, first, to gain a theoretical understanding of some of the central issues of contemporary ethical theory and, second, to consider how one might reason about fundamental issues regarding the nature of value and morality. The abstract nature of this investigation allows us to address some of the most pressing questions of morality. How different are facts and values? Are determinations of right or wrong based on something more than our feelings, agreements, or social conventions? When I judge an act to be right, am Idescribing or identifying some property in the world? Or is this judgment the expression of some attitude I have regarding that act? These questions, we will see, are oriented around the overriding theme of this course: what is the nature of morality? Students will be assumed to have at least a passing familiarity with the basic elements of Aristotle's Nicomachean Ethics, Mill's Utilitarianism, and Kant's Groundwork of the Metaphysics of Morals. A previous course in introductory or applied ethics should be sufficient preparation.

337D
Social-Ethical Values in Medicine
Monday Wednesday Friday
1-1:50pm
Dryden

This course will examine a number of important ethical issues that arise in medical and health care practice from a standpoint that employs ethics, the philosophical study of moral choice, as a point of departure. The question whether moral decision is primarily a matter of feeling and emotion or of thinking and reason will be examined. This course will examine how religion influences many people's views on medical ethical issues, and whether moral guidance derived from religion is reliable. There will be significant attention to historically important ethical theories (Natural Law, Utilitarianism, and Immanuel Kant's ethical theory) and how they structure moral choice. The course will examine alternate viewpoints for assessing the moral standing of human life. Attention will be paid to alternative models of the physician-patient relationship and ethical challenges that arise in that context. Issues that arise as a result of technical advances in human reproduction such as in vitro fertilization and preimplantation genetic testing will be considered. The controversy about stem cell research will be considered. Controversies revolving around treatment of very sick newborn babies will be considered. The role of medical personnel in causing or assisting the death of their patients will be examined.

At the conclusion of this course, students should be able to:

- identify and discuss subjectivism in ethics
- discuss the relation of religion to morality
- explain differences between alternative ethical theories
- apply alternative ethical theories to the resolution of moral problems in medicine
- identify significant alternative viewpoints on when human life begins
- list major elements of the Hippocratic Oath
- identify and evaluate four models of the MD-patient relationship
- explain and evaluate "therapeutic privilege"
- explain why benefiting the patient and respecting patient autonomy are sometimes in tension
- understand advance directives
- identify significant moral consequences of advances in reproductive technology
- evaluate arguments for and against stem cell research
- evaluate arguments for and against denying treatment to or intentionally ending the life of newborn babies

337HER
Social-Ethical Values in Medicine
Monday Wednesday Friday
12-12:50pm
Hershenov

The course will examine current bioethical controversies surrounding abortion, euthanasia and physician-assisted suicide, advanced directives, informed consent, embryonic stem cell research, the definition and criterion of death, increasing the supply of organs for transplant, commercial surrogate motherhood, and human cloning. The course is designed to not just help future doctors and nurses morally navigate themselves around their job but to enable students as citizens to develop informed and reasonable positions on the most important bioethical issues of the day.

Students will become familiar with the leading arguments on both sides of contemporary bioethical controversies. The readings are chosen to provide opposing positions. Each topic covered will have a second author arguing against the position defended in the first reading, usually commenting on the very author and essay just read. Even if students don't switch sides on an issue due to the course readings, lectures and discussions, the hope is that they will not only be able to give a stronger defense of their own positions but will also come to better appreciate the considerations that favor the opposing side. This might play a small role in making public debate more civil and reasonable. The methodologies employed in the class should make students more aware of their own basic values, perhaps revealing to them commitments of which they were previously unaware. Students will learn how to construct philosophical arguments and critically read philosophical essays. The course will involve reading and analyzing articles by Judith Thomson and Don Marquis on abortion, Leon Kass, David Velleman and Frances Kamm on euthanasia and physician-assisted suicide, Alan Shewmon and Jeff McMahan on death, David Shoemaker and Rose Koch on embryonic stem cell research, Elizabeth Anderson and Richard Arneson on Commercial Surrogacy, Leon Kass and David Hershenov on human cloning, Jim Delaney and Robert Veatch and Michael Gill on organ transplants, James Childress and Veatch on informed consent, Rebeccaaa Dresser and Ronald Dworkin on advance directives. All the readings will be placed on the library electronic course reserve so students will not have to buy any texts or course readers.

337TA
Social-Ethical Values in Medicine
Tuesday & Thursday
9:30-10:50am
Taylor

This course is intended to provide students with competency in the ethical theory demanded by the practice of medicine. The course presumes no prior familiarity with ethics, logic, or philosophy in general, but it does presume academic maturity and intellectual seriousness. The primary issues we will cover will include, but are not limited to: abortion, euthanasia, organ commercialization, treatment of the mentally ill, advanced care orders (DNR's), informed consent, definitions of death, stem cell research and human cloning. Considerable time and care will be devoted to examining various metaphysical accounts of human persons and the implications of these accounts for medical ethics.

337TA3
Social- Ethical Values in Medicine
Tuesday & Thursday
11am-12:20pm
Smith

This is an introductory course which will address contemporary ethical issues in medicine. Students will be introduced to some of the prominent ethical theories in philosophy (Utilitarianism, Kantian theory, Virtue ethics, etc.) and will examine contemporary problems in medicine within these frameworks. Topics to be covered include: research on human subjects, patient-professional relationship, human genetics, reproduction, organ transplantation, death and

dying, race and medicine and biotechnology. No prior knowledge in ethical theory is presumed for this course but students will be expected to critically examine the various issues in an intellectually mature manner. Course requirements will consist of discussion participation, tests, a paper, and completion of required readings.

Textbook: Contemporary Issues in Bioethics (7th ed.) , Beauchamp, Walters, Kahn and Mastroianni, Thomson-Wadsworth Publishing, 2008.

Additional readings will be provided by the instructor electronically.

338EHR
Law and Morality
Tuesday & Thursday
2-3:20pm
Ehrenberg

In traditional legal philosophy there are two main camps: those who say "an unjust law is no law at all," and those who say "the existence of law is one thing; its merit or demerit is another." We will explore the theories behind these two opposing positions and their arguments against each other, as well as some more modern permutations that treat the issue of whether and where morality must appear in the law.

This is a third year class in philosophy, and those who have no background in or familiarity with philosophy should start with a more general introduction to its methods.

346DON
Philosophy in Literature
Wednesday
12:30-3:10pm
Donnelly

Literary works often deal with philosophical issues such as whether human beings are free, what makes an action good or bad, or what makes a person virtuous or base. In this class, we will consider these sorts of philosophical issues through both philosophical and literary works. Our readings will include selections from, among others, Aristotle, Sophocles, Boethius, William Shakespeare, Henry David Thoreau, Henry James, and Jean-Paul Sartre. Grades will be based on short written assignments, class presentations, and one longer paper.

370KOC
Early Modern Philosophy
Monday & Wednesday
10-11:20am
Kochiras

This course focuses upon some of the so-called rationalist and empiricist philosophers of the early modern period, in particular their concerns with problems of metaphysics and

epistemology. Among the problems we examine are concepts of substance, the replacement of explanations in terms of final causes by explanations in terms of efficient causes, and the role of rationalist or metaphysical principles in knowing about the world. This course presumes a background in philosophy.

484RAP
Philosophy of Computer Science
Monday Wednesday Friday
10-10:50
Rapaport

What is philosophy? What is "the philosophy of X" (where X = things like: science, psychology, history, etc.)? What is computer science? What is science? Is computer science a science? If so, what is it a science of? Is it a science of computers? What is a computer? Is it a science of computation? What is computation? What is an algorithm? What is a procedure? What is a recipe? What are Church's and Turing's "theses"? What is "hypercomputation"? What is a computer program? What is the relation of a program to that which it models or simulates? What is simulation? Are programs (scientific) theories? What is an implementation? What is software? Can computer programs be copyrighted, or patented? Can computer programs be verified? What is the philosophy of artificial intelligence? What is AI? What is the relation of computation to cognition? Can computers think? What are the Turing Test and the Chinese Room Argument? What is computer ethics? Should we trust decisions made by computers? Should we build "intelligent" computers?

489DPT
Topics in Logic
Tueday & Thursday
5-7pm
Dipert
(dual listed w/ 519)

This is a course in symbolic logic intended for graduate students, and undergraduates with a solid preparation in logic. To take this class, you must have had PHI 315 (Symbolic Logic) or be prepared to pass a test on that material early in the semester (first-order predicate logic with relations and quantifiers; translation between English and FOL, and skill in producing deductions.)

We will begin with Categorical logic: however, this will not be the usual course in Aristotelian logic, but instead one that presents it as a modern theory with a symbolic, complete natural deduction theory, and a semantics. We will then review rapidly, with philosophical commentary, the first-order predicate logic; we will emphasize the harder parts of FOL, namely translations and deductions with quantified relations. Especially in this early part of the course we will discuss topics in the pedagogy of logic, including computer-assisted learning packages, that would be of use for undergraduate teachers of logic at all levels.

We will examine and compare several theories about special relations that are extensions of FOL, such as set theory, mereology, and the Peano postulates. We will look at several axiomatic systems. We will discuss the semantics for first-order logic, including practice in devising finite models and interpretations that show arguments in FOL to be invalid.

The last part of the discussion of FOL will discuss, but not prove, various philosophically important theorems in metalogic: completeness and soundness, incompleteness and uncomputability.

Finally we will discuss ontological issues in logical systems, and the uses of intensional and modal logics in theories about belief, knowledge, and ethical obligation. (We will not discuss the standard alethic modal logics, such as S1-S5, since those are covered in a dedicated course.)

Probable Texts:
Harry Gensler, *Introduction to Logic* (2002)
R.I.G. Hughes, *Philosophical Companion to First-Order Logic* (1993)
plus articles from the *Stanford Encyclopedia of Philosophy* and handouts.
Recommended: E.J. Lemmon, *Beginning Logic*

498BEE
Undergraduate Research and Creative Activity
Arranged
Arranged
Beebe

Students who wish to work as research assistants in the Experimental Epistemology Research Group (http://eerg.buffalo.edu) should send an unofficial copy of their university transcript and a brief statement of why they would like to be involved with this research to Dr. James Beebe (jbeebe2@buffalo.edu). Students accepted to serve as research assistants will register for one credit-hour of PHI 498 (sec. BEE). Responsibilities include administering short surveys, entering survey data into a spreadsheets, sometimes doing background research on new avenues for experimental research. *Suggested Skill Set:* A highly motivated Junior or Senior with a minimum GPA of 3.0 is desired/preferred but talented Freshmen and Sophomores will be considered. Students must be reliable, able to interact comfortably and clearly with a range of people, and possess good communication and organizational skills. No previous research experience necessary. Time commitment is expected to be about 3 hrs per week. Interest in cognitive science desired.