

PHILOSOPHY (PL-UY)

PL-UY 2004 Symbolic Logic (4 Credits)

Typically offered Fall and Spring

This course introduces the methods and applications of propositional logic and relational predicate logic. The course looks at the concept of a formal language and covers semantic and proof-theoretic methods of testing arguments for validity. Semantic concepts of tautology, logical equivalence and consistency are compared with their proof-theoretic counterparts, and the notions of soundness and completeness of proof-theoretic methods are introduced. | Prerequisites: None. Co-requisites: None. Notes: Satisfies a HuSS elective.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

PL-UY 2064 Ethics and Technology (4 Credits)

Ethical expertise is integral to the careers and responsibilities of engineering and technology management professionals, from long-standing issues around professional responsibilities to society and more recent controversies such as “teclash” concerns about bias, equity, and surveillance. This survey course introduces undergraduate students to some of the most relevant ethical issues in engineering and the technology industry today. Students will begin by exploring basic ethical approaches from a variety of philosophical traditions and how these principles have historically been integrated into engineering professions. Then, students will study a variety of topics of high importance to engineers today, including ethics in computing, data, and automated systems; medical ethics, past and present; disability ethics and activism; ethical issues related to the environment and climate change; and ethical issues related to race and gender. | Notes: Satisfies a HuSS elective.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

PL-UY 2103W Philosophy of Science, Technology and Society in China and India (3 Credits)

Typically offered occasionally

This course addresses the fundamental questions of philosophy—What is real? What is good? How do we know?—by considering the answers by classical philosophers from India and China. Philosophy in Asia has not been viewed as an abstract academic subject with little or no relevance to daily life. Rather, it has been seen as one of life's most basic and important enterprises. Philosophy is seen as essential to overcoming suffering and improving the quality of human life. Since Asian philosophy is concerned with practical issues to a greater extent than in the West, the course considers how technology is understood and valued. Attention is given to the history of science in China and India. Since no rigid distinctions exist between philosophy and religion in Asian thought, the place of science and technology in relation to human values is also different. The class examines the Asian philosophical tradition to understand both its historical importance and its relevance to society today. | Prerequisites: Completion of first year writing requirements. Co-requisites: None. Notes: Satisfies a HuSS elective.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

PL-UY 3004 Metalogic (4 Credits)

Typically offered Fall and Spring

What is the relation between truth and proof? Are there true statements about natural numbers that cannot, in principle, be proven? Can an algorithm be written to decide which statements about numbers are provable and which are not? What is the mathematical basis of the concept of a mechanically implementable algorithm (i.e., a computer program)? What does all of this have to do with logic? This course addresses these and other questions by investigating the properties of propositional and 1st-order logic. Topics include the soundness and completeness of formal systems of propositional and 1st-order logic, the Löwenheim-Skolem and Compactness theorems for 1st-order logic, Gödel's incompleteness theorems for formal arithmetic, and Turing machines and the notions of computability and undecidability. | Prerequisites: PL-UY 2004 or permission of the instructor. Co-requisites: None. Notes: Satisfies a HuSS elective.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

PL-UY 3203W Philosophy of Technology: The Critique of Heidegger (4 Credits)

Typically offered occasionally

This course examines, critically and reflectively, the impact, effects and outcomes of technologies upon human activities. The course studies the nature of the technologically textured ecosystem, or technosystem. The course focuses on how technologies change human life, individually, socially and culturally, and considers the effects of human-technology relations on science, culture, democracy and human values. Emphasis is on the position of Heidegger, his predecessors, followers and critics. The course will examine Heidegger's unusual interpretation of East Asian philosophy in relation to technology. Heidegger claimed to find merit in Eastern thought, and his critique of Western technology is seen in an Eastern philosophical context. | Prerequisites: One Level 2 STS Cluster HuSS elective. Co-requisites: None. Notes: Satisfies a HuSS elective.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

PL-UY 3204 Philosophy of Technology: The Critique of Heidegger (4 Credits)

This course examines, critically and reflectively, the impact, effects and outcomes of technologies upon human activities. The course studies the nature of the technologically textured ecosystem, or technosystem. The course focuses on how technologies change human life, individually, socially and culturally, and considers the effects of human-technology relations on science, culture, democracy and human values. Emphasis is on the position of Heidegger, his predecessors, followers and critics. The course will examine Heidegger's unusual interpretation of East Asian philosophy in relation to technology. Heidegger claimed to find merit in Eastern thought, and his critique of Western technology is seen in an Eastern philosophical context. | Prerequisites: One Level 2 STS Cluster HuSS elective. Notes: Satisfies a HuSS elective.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No