

**PHILOSOPHY ADVANCED UNDERGRADUATE  
AND GRADUATE COURSE OFFERINGS  
SPRING 2004**

**Philosophy 4614 : Philosophy of Science  
and**

**Philosophy 5306: Philosophy of Modern Science &  
Technology**

This course is an introductory graduate course. It is designed to help students become familiar with three major topics prominent in recent philosophy of science and technology and to develop skill in making and evaluating arguments about these and related topics. The topics are:

- (1) Can the history of science offer shed light on fundamental issues in philosophy of science and technology? Among the issues covered will be the goals of science, the nature of progress in science and technology, various ways in which contextual factors affect scientific and technological change, and the interrelations among theory, experiment, and available technology.
- (2) What is the relationship between technological and scientific change? This question contains many hidden assumptions. Yet variants of this question are critical for understanding science as scientific advances ("advances") have come to depend increasingly on experimental technologies, technological advances ("advances") have come to depend increasingly on science, and as "scientific" technologies have come to play an ever-more central role in the dominant culture.
- (3) Incorporating both the above, what is the relationship between the direction of scientific research and the health of the surrounding society?

We will address the limitations and benefits of working with, and from, historical case studies in dealing with these topics. There will be short written assignments approximately every other week and a term paper. Students will have some opportunity to influence the readings employed and the issues addressed in the course. If student schedules permit, we will hold three or four class sessions at 6:30 on Tuesday evenings to meet jointly, via simultaneous video, with STS/Phil 5306 class in northern Virginia.

Instructor: R. Burian

PHIL 4614 CRN 16370

PHIL 5306 CRN: 14013

Lecture: 2:30p-5:30p LANE 132 M\*

(\*Some classes may be moved to T evenings if that fits student schedules. See explanation above.)

(PHIL 5306 cross-listed with: STS 5306, CRN 14550)

**Philosophy 5506: Symbolic Logic**

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This will be an introduction to the metatheory of logics, intended for students who have a solid background in first order logic (e.g., 3505/5505). The focus will be on the central metalogical results of Model theory and Proof theory for first order systems. *Topics include:* building formal systems, Cardinal Arithmetic and Cantor's results, Church's thesis, Deduction theorems, Lowenheim-Skolem-Tarski theorems (upward and downward), Consistency results, Lindenbaum's Lemmas, Negation completeness, Semantic Completeness (Henkin), Decidability/Undecidability results; Godel's first and second Incompleteness Theorems, Skolem paradoxes and Non-standard models of arithmetic.

Depending on interest and time, we may either pursue more advanced treatments of the lemmas and corollaries of Godel's results,

or develop some of the logic and metalogic for systems of Modal logic-comparing and contrasting the completeness results of first order logic and those for a cluster of Modal logics, based on (a fanciful use of) possible world semantics.

Instructor: D. Mayo  
Lecture: 2:00-4:45p

CRN: 15533  
Holden 110 T

**Philosophy 6014: Special Topics in Philosophy  
Subtitle: TS: W. Sellars**

Wilfrid Sellars wrestled with the relations among language, action, scientific change, the world, and thought, among other things, throughout his long career. In this course we will concentrate on his approach to understanding how to think about the world scientifically. We will explore his schema for thinking about the world in different ways first, and how science presents special problems second because of his views on realism. In particular, given his view of the relation between language use and the world, his account of the growth of science becomes problematic.

Instructor: J. Pitt  
Lecture: 2:30p-5:30p

CRN: 14018  
MAJWM 225 Th

**Philosophy 6014: Special Topics in Philosophy  
Subtitle: TS: Pictorial Realism**

Why do some pictures seem more realistic than others? If there is something 'real' about pictorial realism, why do people from cultures with different pictorial traditions make conflicting judgments about whether a picture is realistic or not? The issue of pictorial realism has been an active area of research in contemporary aesthetics, and several different philosophical accounts of pictorial realism have been developed. We will evaluate these theories in terms of their capacities to explain both the apparent naturalness of our experience of pictorial realism as well as the cultural relativity of these experiences. We will also draw on theories of pictorial representation as resources to develop or modify existing theories of realism, and we will assess whether results from scientific studies of perception and cognition can help solve these problems.

Instructor: L. Perini  
Lecture: 2:30p-5:30p

CRN: 15532  
MAJWM 225 W

**Philosophy 6204: Advanced Topics in the History of Philosophy  
Subtitle: TS: Aristotle**

Soul and Life: A Study of Aristotle's *De anima*

The soul, for the ancients, is the provider of life, that which distinguishes a living from a non-living body. Nobody in antiquity denied the existence of the soul because nobody had doubts about the fact that life is a conspicuous feature of the physical world. Aristotle is no exception to the rule. The existence of living bodies is for him a given, and life is a conspicuous datum of the physical world that requires explanation. By gaining clarity about life, Aristotle generates his account of the soul, on the crucial assumption that the soul is the principle of life. Aristotle's *De anima* is the first philosophical text entirely devoted to the topic of the soul. It is also a systematic account of life. According to Aristotle, all his predecessors failed to understand the soul and life because they limited their focus to the human soul and the human life. Unlike

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them, Aristotle did not limit himself to what is peculiarly human. He was persuaded that any such restricted investigation would prevent the investigator from arriving at a full understanding of the soul and the phenomenon of life.

Aristotle's considered view is that life takes various forms and that there are different levels and, ultimately, different types of life. Correspondingly, there are different types of soul. Aristotle is committed to the view that there are three types of life (plant life, animal life and human life) precisely because there are three types of soul (nutritive soul, perceptive soul and intellective soul). We will study the specific accounts that Aristotle gives for each of these souls. Interestingly enough, these specific accounts are preceded by a general account of the soul which maps on to these three souls without depending on anything peculiar to any of them. Though full understanding of the soul hardly stops with such a general account, this account provides the starting point for a sensitive investigation of the soul; and it provides the platform for the specific accounts of the different types of soul, and therefore of the different types of life.

Nearly all, if not all, of what Aristotle says about the topic of the soul and life is deeply powerful, remarkably consistent, and tightly argued. Anybody unconvinced by his investigation of the soul and life should nevertheless find it intriguing and provocative. Among other things, it forces us to seek greater clarity about how a fundamental conception of life is formed and justified.

Instructor: A. Falcon  
Lecture: 6:00p-8:50p

CRN: 14019  
MAJWM 225 M