Spring 2-1-2007

PHIL 211.01: Introduction to Logic - Applied Logic

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PHIL 211: Applied Logic
Spring Semester 2007
R.E. Walton, Prof.

SYLLABUS

Philosophy 211 introduces the basic material of inductive logic, scientific reasoning and elementary philosophy of science, placing these formal concepts and techniques in a context of practical reasoning. The course begins with a brief review of formal deductive logic, as taught in PHIL 210, a prerequisite for PHIL 211. Following that, the general idea of inductive reasoning is introduced and elementary fallacies are covered. Several model forms of inductive argument are then studied, concluding with a treatment of statistical inference, a topic which will be covered in some detail. Special attention will be given to deficient forms of inductive reasoning, especially those involving quantification.

TEXTS:

Salmon, Merilee, *Introduction to Logic and Critical Thinking* (5th Edn.), Thomson-Wadsworth Publishers.

Paulos, John Allen, *A Mathematician Reads The Newspaper*, Anchor Books.

Various texts on the course web page or library reserve.

Students should also have an electronic calculator capable of doing elementary combinatorics and statistical calculations. The student version of the WINKS statistical computation package may also be recommended after classes commence.

REQUIREMENTS:

Regular reading and problem assignments in the textbook will be given. These should be thoroughly prepared before the class in which they will be covered. A good deal of material not covered by the textbook will be introduced. For this material handouts and supplementary problems will often be provided; these will ordinarily be posted on the course web page ["Exhibits and Handouts"]. Students will also sometimes be asked to produce examples of arguments from newspapers, magazines, books and other "live" sources.

There will be regular quizzes given throughout the semester at a rate of about one every other week. These quizzes will usually be unannounced. There will be a least one hour-long examination, and a second if it seems appropriate. There will be a final examination required of all students, administered on the date listed below.

READINGS:

	TOPIC and TEXT	WEEK
1.	Elementary set theory	I
2.	Arguments [MS 1}	II
3.	Review of formal deductive logic [MS 8, 9, 10]	III
4.	Definition [MS 2]	III
5.	Deductive fallacies, Induction [MS 3]	IV
6.	Inductive argument forms [MS 4]	V

7.	Philosophical problems and paradoxes of induction	VI
8.	Probability [MS 6]	VII
9.	Statistical inference	VIII,X
10.	Mill's Methods [MS 5]	XI
11.	The "scientific method"	XII
12.	Science and knowledge	XIII

FINAL EXAM: Wed., May 9, 3:20-5:20

MID-TERM: Friday, March 16 [tentative]