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### PHIL 210.01: Introduction to Logic - Deduction

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## INTRODUCTION TO LOGIC: DEDUCTION

Fall, 2001



*In a republican nation, whose citizens are to be led by reason and persuasion and not by force, the art of reasoning becomes of first importance.*

*- Thomas Jefferson*

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Logic is the study of the methods and principles used to distinguish good from bad reasoning. While no single course could provide a mastery of all that is necessary for this task, there is an area of fundamental importance to good reasoning that offers a natural beginning point for the study of logic, that of elementary deductive inference. Deductive inference lies at the heart of the reasoning process in a wide variety of applications, its methods and principles are thoroughly understood, and it lends itself nicely to mastery within the space of an academic term.

Accordingly, this course will be devoted to a study of the structure of elementary deductive inference. The clarity and rigor of this study will provide not only a foundation for proper deductive reasoning, but as well a sense of the general nature of coherently structured reasoning, a sense that will prove a salutary guide in a wide variety of applications.

Evaluation will be based on a series of four examinations (some adjustment of these dates may be necessary - any change will be announced in class):

|                 |             |                 |               |
|-----------------|-------------|-----------------|---------------|
| Exam 1: Oct. 1  | [units 1-6] | Exam 3: Nov. 16 | [units 11-14] |
| Exam 2: Oct. 24 | [units 7-9] | Exam 4: Dec. 10 | [unit 17]     |

Each of the exams will have a total of 100 points. The grade for the course will be the highest mark allowed by the following scale:

|                             |                             |
|-----------------------------|-----------------------------|
| A: 90 or above on each exam | C: 70 or above on each exam |
| B: 80 or above on each exam | D: 60 or above on each exam |

Yes, this grading scale does mean that your course grade is determined by your lowest exam score, not by an average of scores. The grace note to this policy is that exams *may be repeated* on a maximum of three alternative versions (a total of four attempts per exam), which will be scheduled outside regular class hours. When an exam is repeated, the highest score obtained will be that used to determine the course grade (repeating an exam thus cannot weaken your grade). Initial scores are often disastrous, but final scores and class grades are predominantly A's and B's; the incentive provided by the repetition opportunities produces better understanding and higher grades overall.

Goals for the course are: 1 (direct), to learn the language of first-order logic and the concepts fundamental to deductive inference, to develop skills in translating English into symbolic notation, and to learn truth-table and natural deduction techniques for testing for the validity of inferences; 2 (indirect), to increase sensitivity to the logical structure of English and of argument in English, and to develop an appreciation of the way a formal system can capture and illuminate dimensions of natural meaning. Assessment will be of the direct goals only (feedback from generations of students has convinced me that accomplishment of the indirect goals naturally accompanies that of the direct), and will occur through opportunities for repeated testing of skills to the achievement of mastery.

- A grade of C or better will be required to pass the course under the Pass/No Pass option.
- Cheating or any other academic dishonesty will be grounds for failure of the course.
- October 15 is the last day to drop classes (September 24 to avoid financial penalty).

An inexpensive faculty pack containing extra exercises is available at the bookstore.