

Baruch College
PHI 1600: Introduction to Logic and Moral Reasoning
Spring Semester 2013
Instructor: R. Gregory Taylor
Office: VC 5-272B
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Texts (required): Merrie Bergmann, James Moor, and Jack Nelson, *The Logic Book*, Fifth Edition, McGraw–Hill, 2009. This text may be purchased or “rented” at the Baruch College bookstore. We will use the textbook extensively during the semester, although you need not bring it to class. If you somehow own an earlier edition of this text, that will surely be sufficient. (However, in that case, it will be your responsibility to identify which page and exercise numbers are at issue in the case of any given reading/written assignment.) Newman Library’s Reserve Desk has one copy of the fifth edition, three of the fourth edition, and one of the third edition.

Catalog Description: PHI 1600 Logic and Moral Reasoning (3 hours; 3 credits) This course examines the principles of clear and accurate thought, including sound and valid arguments and methods of scientific reasoning in moral and political argument. Prerequisite or Corequisite: ENG 2100 or ENG 2100T or ENG 2100H

First Reading Assignment (over the next two weeks or so): Bergmann, Moor, and Nelson, Chapters 1 and 2

Goals for the Course (What the Student Should Expect to Learn): Having completed this course, the student should (1) understand how to represent English-language arguments in the language of sentential logic, (2) be able to use either truth-tables or truth-trees to assess such arguments (in particular, those arising in the context of moral deliberation) with respect to their validity or invalidity, (3) be able to carry out derivations within a formal system for sentential logic, (4) understand the limitations of sentential logic as a means of representing arguments, (5) be able to translate elementary English-language arguments into the language of predicate logic, (6) identify common fallacies in reasoning, and (7) be able to apply Toulmin’s Six-Point Method for Argument Evaluation to simpler arguments (newspaper editorials, for example).

Course Content: The following are the most important topics that will be covered:

- Core logical concepts: truth-values, arguments, deductive validity and soundness, induction, consistency, equivalence
- Truth-functional connectives; examples of connectives that are not truth-functional, e.g., Bel_A ... meaning that agent A believes that ...
- Syntax (grammar) of sentential logic (SL)
- Truth-value assignments (to sentences)
- Truth-tables for sentences
- Truth-functional truth (validity), falsity (unsatisfiability), and indeterminacy (contingency)
- Truth-functional equivalence of sentences
- Truth-functional consistency as a property of sets of sentences
- Truth-functional entailment (as when one sentence “entails” another sentence)
- Truth-trees/Truth-tree method (for determining whether a given sentence is truth-functionally true, etc.)
- Using truth-trees to determine whether a given argument is valid
- Derivations within the derivation system SD
- The derivation system $SD+$
- The soundness and completeness concepts
- The limitations of SL
- The system of predicate logic (PL) that overcomes (many of) those limitations
- The concept of quantification
- Syntax (grammar) of predicate logic (PL)
- Quantifier scope

- Aristotle's Square of Opposition
- The following topics are not covered in the textbook but, rather, in slide lectures placed on-line:
 - Evaluating arguments arising in the context of moral deliberation using Toulmin's Six-Point Method for Argument Analysis
 - A taxonomy of common fallacies (Hasty Generalization, Equivocation, *Tu Quoque*, Genetic Fallacy, etc.)

Grading/Tests: In addition to the two-hour final examination, held during the scheduled examination period, there will be a midterm examination roughly half-way through the semester. There will also be five to seven shorter quizzes.

Written homework: There will be numerous written homework assignments.

Reading assignments: The instructor follows the textbook rather closely. Consequently, there is always a reading assignment even if no explicit announcement is made to that effect. Namely, you should be reading that part of the text that covers the topic(s) currently under discussion. (The instructor regularly mentions where in the textbook is to be found some discussion of the current topic.)

Grade Computation: The grade for the course will be determined as follows. The student's grade will be computed in two ways, first using

Quizzes 25%
 Midterm examination 25%
 Final examination 25%
 Written homework assignments 25%

and then using

Quizzes 25%
 Midterm examination 30%
 Final examination 30%
 Written homework assignments 15%.

The student's final grade will be the higher of those two computations. (For most students, the first will be the higher; however, in the case of the rare student who does little homework but nonetheless does well on quizzes and tests, the second will be higher.)

As for the quizzes, there are in general no make-ups for missed. On the other hand, the lowest quiz grade will be dropped. (The instructor's grading program does this automatically.)

Course Handouts: There will be regular handouts prepared by the instructor. These will appear on BlackBoard and should be printed by students as they appear. All handouts should be brought to every class. There will not be so many that this will pose a burden to students traveling by public transportation. Early on, **the instructor will be verifying that students possess course notebooks with some sort of pocket for storing these handouts**, since students unable to locate handouts will be at a disadvantage.

Attendance: Class attendance is mandatory. An attendance sheet will be circulated during each class unless there is a quiz or collected writing assignment, in which case that quiz or writing assignment functions as a record of attendance. Students are permitted six discretionary absences, which is more lenient than the policy of Baruch College (four discretionary absences). Thus any student who has missed seven classes will immediately receive a grade of WU for the course. Classes missed during the first week are recorded and count fully as discretionary absences. Consequently, if a student enrolls in the course during the second week of the semester, then he or she is immediately recorded as having two discretionary absences. *The instructor takes attendance very seriously.*

During the Spring Semester 2012, grades of WU were assigned to roughly twenty-five of roughly one hundred thirty-two students.

For whatever reason, some students log tremendous numbers of absences during the first few weeks of class. Such students are unlikely to succeed in the course subsequently. Consequently, there is an exception to the instructor's policy of six permissible discretionary absences stated above. *Namely, any student who misses five of the first ten class sessions (including those of the first week) will immediately be assigned a grade of WU.*

Other issues: Students are not permitted to leave the room during quizzes or the midterm and final examination. Use of cell phones and other electronic devices is forbidden during quizzes and the midterm and final. Generally, students should turn off cell phones before class begins. Students are expected to take tests at the scheduled hour. Latecomers will not be permitted extra time. Anyone who misses the final exam will receive a WU grade for the course.