

THE UNIVERSITY OF WESTERN ONTARIO  
DEPARTMENT OF PHILOSOPHY  
Undergraduate Course Outline Summer 2010  
Philosophy 2250: Introduction to Logic

**Summer Evening Term 2010**  
**Classes:** Tu. Th. 7:00-10:00  
**Bldg. & Room:** KB-K203  
**Office Hours:** TBA

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## Course Description

This course deals with the two most basic systems of modern logic, sentential logic and first order predicate logic with identity, definite descriptions and functions. It includes important metatheoretic results (soundness, completeness, compactness, consistency, and decidability/undecidability). Time permitting, it will also offer an introduction to modal logic and 2nd order logic, and an introduction to philosophical problems posed by modal predicate logic.

No previous knowledge of logic or mathematics is presupposed. This course deals with formal systems, symbolic notations, and deductive procedures, all of which the student will be taught how to use.

Applications to certain fields (such as philosophy, computer science, mathematics, *etc.*) will be considered, if students show interest in those topics.

## Texts

- Merrie Bergmann, James Moor, and Jack Nelson, *The Logic Book*, 5<sup>th</sup> edition (New York: McGraw-Hill, 2008).
- Additional material will be posted on WebCT (in PDFs).

## Objectives

Students graduating from this course will understand the notions of the vocabulary, syntax, and semantics of a language, and the basic logical concepts of denotation, satisfaction, truth, contingency, necessity, consistency, equivalence, entailment, and validity. They will have learned the vocabulary, the syntax, and the semantics for the formal languages that are currently used to capture those features of natural languages that bear on the logic of sentences and the logic of predicates. They will be able to “translate” the logical features of sentences in the natural language into the formalization of modern first order predicate logic and use syntactic procedures (trees and derivations) to determine validity, entailment, equivalence, consistency, necessity, and contingency. They will also understand why these procedures are sound and complete for first order logic, and why they are decidable for sentential logic but undecidable for predicate logic (though this last result will not be rigorously

proven). They will understand the semantics for first order predicate logic and will be able to work with semantic models.

## Requirements & Schedule

1. Participation: 5%
2. 12 homeworks: 25% (2% each+1% for completing all of them)
3. 2 quizzes: 15% (7.5% each)
4. Midterm (in class): 25%
5. Final Exam: 30%

## Audit & Department Policy

Students wishing to audit the course should consult with the instructor prior to or during the first week of classes.

The **Department of Philosophy Policies** which govern the conduct, standards, and expectations for student participation in Philosophy courses is available in the Undergraduate section of the Department of Philosophy website at <http://www.uwo.ca/philosophy/undergraduate/policies.html>. It is your responsibility to understand the policies set out by the Senate and the Department of Philosophy, and thus ignorance of these policies cannot be used as grounds of appeal.