

University of Calgary
Department of Philosophy

Philosophy 513
Modal logic
Fall 2008

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Lectures	T R 12.30 – 1.15
Venue	SS 1253

Course description

Traditionally, the “modes” implicit in “modal logic” are the so-called alethic modes of truth and ultimately the modes of being: necessary, possible, impossible, contingent. While the study of the formal properties of those notions is still an important part of modal logic, other interpretations have been added over the years, such as temporal, epistemic and deontic. Furthermore, more recently, other formal languages have been suggested, which, although not modal logic in a strict sense, are closely related to it, such as dynamic logic.

The main purpose of the course is to give an introduction to modal propositional logic; the greater part of the fall will be spent on Parts I and II of the required text. The rest of the course will be devoted to the study of the non-alethic interpretations mentioned. We should also find some time to consider modal predicate logic and the special problems meeting there.

Required text

- Brian F. Chellas, *Modal logic: an introduction*. Cambridge: Cambridge University Press, 1980 (or later).

Recommended texts

- George Hughes & Max Cresswell. *An introduction to modal logic*. London: Methuen, 1968 (or later).
- E. J. Lemmon. With Dana Scott. *An introduction to modal logic*. Oxford: Blackwell, 1977.
- Rob Goldblatt. *Mathematics of modality*. CSLI Lecture Notes, no. 43. Chicago: Chicago University Press, 1993.

Recommended survey articles

- Robert Bull & Krister Segerberg.. “Basic modal logic.” In *Handbook of philosophical logic*, edited by Dov Gabbay & Franz Guentner, vol. 2. Dordrecht: D. Reidel.
- Krister Segerberg. “Modal logic.” In the *Encyclopedia of Philosophy*, edited by Donald Borchert, second edition. Detroit, Mich.: Macmillan Reference USA, 2006.
- James Garson. “Modal logic”. In the *Stanford Encyclopedia of Philosophy*. edited by Ed Zalta. Latest revision 2008.
<<http://plato.stanford.edu/entries/logic-modal>>

Course requirements

- Four homework assignments.
- One mid-term test.
- A final exam.

Evaluation

The assignments as well as the mid-term and the final are given a letter grade (A, B, C, D or F, in the case of the first four possibly with a plus or a minus). The final grade in the course will be the weighted average of those grades, each homework assignment worth 10%, the mid-term 25%, and the final 35%.

Tentative dates

- Homework I due 2 October
- Homework II due 23 October
- Midterm 30 October
- Homework III due 20 November
- Homework IV due 18 December
- Final: to be announced