

Course Description & Syllabus

Phil 122: MODAL LOGIC

Spring 2023

Prof. G. Sher

T,Th 5-6:20

Phil Dept, Main Seminar Room, RWAC 0426

Office Hours: T 2-3 Phil Dept, 0482

Modal logic is a course about the logic of Necessity and Possibility. Necessity and possibility are central notion in most branches of philosophy - Metaphysics, Epistemology, Philosophy of Science, Philosophy of Language, Philosophy of Logic, Philosophy of Mathematics, Ethics, and History of Philosophy - as well as in Computer Science, Linguistics, and Cognitive Science. The course will focus both on Possible-Worlds Semantics - the semantics of modal logic - and on axiomatizations and proofs concerning necessity and possibility.

Essential requirement: Philosophy 120 or the instructor's permission (based on mastery of phil 120 or equivalent formal background).

The course can be used by philosophy graduate students to satisfy the 2nd Logic Requirement.

Textbook: *A New Introduction to Modal Logic*, G.E. Hughes & M.J. Cresswell.

Grades: 2 Midterms & Final. Each Midterm - 25%, Final - 50%

Schedule of Classes:

T 4/4 Introduction to Class. Ch 1: The Basic Notions - "Necessity" and "Possibility"

Modal Propositional Logic

Th 4/6 Ch. 2: The Systems K and T- two increasingly strong systems of Nec & Pos

T 4/11 Cont.

Th 4/13 Ch. 3: The Systems S4, S5 - two still stronger system of Nec & Pos

T 4/18 Cont.

Th 4/20 Preparation for Midterm 1

T 4/25 **Midterm 1**

Th 4/27 Ch. 4: Testing for Validity

T 5/2 Cont.

Modal Predicate Logic

Th 5/4 Ch 13: General Predicate Logic & Modal Predicate Logic

T 5/9 Cont.

Th 5/11 Ch. 15: Expanding Domains

T 5/16 Cont.

Th 5/18 Preparation for Midterm 2

T 5/23	Midterm 2
Th 5/25	Ch. 16: Modality & Existence
T 5/30	Cont.
Th 6/1	Ch. 17: Identity & Descriptions
T 6/6	Cont.
Th 6/8	Preparation for Final