

PHILOSOPHY-012:  
INTRODUCTION TO SYMBOLIC LOGIC  
UNIVERSITY OF CALIFORNIA, DAVIS – SPRING, 2014  
TR 3:10 P.M. - 4:30 P.M., OLSON 146

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**1 Basic course information:**

INSTRUCTOR:	Ted Shear
CONTACT:	ebshear@ucdavis.edu
OFFICE:	1233 Social Sciences and Humanities
OFFICE HOURS:	T 1:00 PM - 3:00 PM
TEACHING ASSISTANT:	Tyrus Fisher
CONTACT:	tkfisher@ucdavis.edu
OFFICE:	0237 Social Sciences and Humanities
OFFICE HOURS:	TR 2:00 PM - 3:00 PM
TEXTBOOK:	Bergmann, Moor, and Nelson – <i>The Logic Book (6th ed.)</i>

**2 Topic and goal of the course:**

The focus of this course will be on the system of deductive logic known as first-order propositional logic (sometimes called sentential logic), which takes atomic propositions as the fundamental units of logical analysis. We will develop and explore the syntax and semantics of sentential logic, as well as a natural deduction proof theory.

There are a variety of reasons why one might be interested in understanding such a system. Here are several examples of such reasons: (1) first-order logic plays a central role in the subfield of linguistics known as semantics, which investigates the meanings of natural language sentences; (2) Boolean algebras — that are isomorphic to the system the we develop and explore in this course — are of special interests to mathematicians for a wide variety of reasons; (3) any more advanced work in logic requires a thorough understanding of the foundational concepts presented in this course; (4) first-order logic is one of the central tools used by contemporary analytic philosophers for the investigation of the logical relations that hold between concepts; finally and perhaps most relevant to you, (5) understanding systems of deductive logic can help us differentiate good reasoning from bad reasoning, and this, in turn, can serve as an important and useful tool in adjudicating the quality of arguments and the basis for our beliefs.

Our primary concern in this course will be understanding and exploring the notion of deductive validity provided by the system; but, our study will also extend to related topics, such as, the translation of English arguments into formal logic and various topics in the meta-theory of first-order sentential logic.

Not open for credit to students who have taken course 112, 113, 131, 134, or 135-I, IV.

**3 Evaluation criteria and policies:**

The table below outlines the breakdown and distribution of each graded item for the course:

ASSIGNMENT	WEIGHT	DATE
Quiz 1:	2.5%	4/10/14
Quiz 2:	2.5%	4/29/14
Quiz 3:	2.5%	5/20/14
Quiz 4:	2.5%	5/29/14
Assignment 1:	10%	4/24/14
Assignment 2:	10%	5/20/14
Assignment 3:	10%	6/05/14
Midterm Exam:	25%	5/06/14
Final Exam:	35%	6/07/14

While collaboration on Assignments 1-3 will be allowed, each student will be required to submit his/her own assignment separately. Assignments are due at the beginning of class on the date specified.

No late assignments or make-up quizzes/exams will be permitted unless a medical note is provided or permission is granted by the instructor *prior to the due date or the quiz/exam date*. If you do not turn in your assignment on time and have not received an extension, you will receive no credit.

It is the responsibility of the student to keep-up with the lectures, and assignment/exam dates.

### 3.1 Anonymized grading:

All assignments will be graded anonymously. This means that the TA will not know the identity of the student when grading. In order to facilitate this practice, it is essential that you do not put your name on the front of your work or in any place that would be visible to the TA when he is grading. Instead, you should attach a separate sheet to the back of your assignment that includes your name and student ID number.

### 3.2 Quizzes:

There will be four quizzes that will be given roughly every two weeks. You will be permitted to work in groups of up to five students. Each group will submit *only one* quiz. Group members will all receive the same score. For each quiz, you should work with a different group of students.

### 3.3 Academic honesty:

Suspected cases of any sort of academic dishonesty are, without question, reported to Student Judicial Affairs (SJA). See the following website for more information on the university's policy and procedure regarding academic honesty:

<http://sja.ucdavis.edu/>

If you are unsure about whether a particular practice counts as academic dishonesty, refer to the SJA's policy and procedure first. Contact me if you are still unsure.

Collaboration on work during the course is permitted only when explicitly stated.

### 3.4 Rules for examinations:

The use of notes, any outside sources, or collaboration with other students will not be permitted for any examinations.

Any student found in violation of these rules will receive a zero on the examination and their case will be forwarded to SJA.

### 3.5 Students with disabilities:

If you have a disability and require accommodations, please contact the Student Disability Center (SDC). Their contact information can be found here:

<http://sdc.ucdavis.edu/contact.html>

Appropriate accommodations will be provided once the SDC determines what they are. Please complete this step at the *beginning* of the quarter since the SDC sometimes takes some time to process these requests.

### 3.6 Extensions:

Extensions will be granted at the discretion of the instructor. Should you need to request an extension, please do so with ample time prior to the deadline.

## 4 Schedule:

WEEK:	DATE:	TOPIC:	READING:
Week 1	4/01/14	Introduction to basic concepts	Chapter 1
	4/03/14	NO CLASS DUE TO UAW STRIKE	
Week 2	4/08/14	Syntax	Chapter 2
	4/10/14*	Syntax	
Week 3	4/15/14	CLASS CANCELLED	
	4/17/14	Translations	
Week 4	4/22/14	Translations	Chapter 3
	4/24/14†	Introduction to truth-tables	
Week 5	4/29/14*	Using truth-tables	—
	5/01/14	Using truth-tables	
Week 6	5/06/14	Midterm exam	Chapter 4
	5/08/14	Introduction to truth-trees	
Week 7	5/13/14	Using truth-trees	Chapter 5
	5/15/14	Using truth-trees	
Week 8	5/20/14†*	Derivations	Chapter 6
	5/22/14	Derivations	
Week 9	5/27/14	Derivations	—
	5/29/14*	Derivations	
Week 10	6/03/14	Metatheory	—
	6/05/14†	Review	
	6/07/14	Final Exam	—

\* indicates that a quiz will take place on this day.

† indicates that an assignment is due at the beginning of class on this day.