

# LPS 30: Introduction to Symbolic Logic

Summer Session I, 2019

Instructor: Gerard Rothfus (SST 786)  
Classroom: HH 230  
Day/Time: M, W: 1-3:50pm  
Office Hours: M, W: 4-5pm, other times by appointment  
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## Description

This course introduces students to the basics of formal logic. In order to develop their skills in representing and analyzing arguments, students will first be introduced to the basic logical notions of truth, validity, and soundness. We will then proceed to investigate the formal systems of (classical) propositional and predicate logic in a rigorous fashion, introducing key technical results while equipping students with tools they can use to improve their own critical thinking.

## Textbook

The required textbook for the course is L.T.F. Gamut's *Logic, Language, and Meaning. Volume 1: Introduction to Logic*. It can be purchased on campus at the bookstore or (more affordably) online. It is the responsibility of every student to obtain a copy of the textbook as homework problems will be drawn from the text.

## Grading

- Midterm Exam: 30%
- Final Exam: 40%
- Homework: 15%
- Attendance and Participation: 15%

## Grade Scale

A: 90-100	B: 80-89	C: 70-79	D: 60-69	F: < 60
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## Exams and Homework

Homework will be graded for completion and due at the beginning of every Monday class. Late homework will not be accepted; though if you need to miss a Monday class for any reason you may email the homework in before the start of class. There will be two exams: a midterm and a final. The final will be cumulative. Both exams will be closed book/notes; the only material you need to bring is a pen or pencil. If you need to miss a test for a serious reason, you will need to provide documentation (e.g. a medical note) in order to take a (different) make-up exam.

## Attendance and Participation

Students are expected to attend lectures and participate in class discussions and activities. I will frequently make use of online polls to assess student comprehension of course material; participating in these polls will help a student's participation grade.

## Academic Integrity

Academic dishonesty will not be tolerated. The UCI Academic Integrity Policy will be followed in this course, and it is the responsibility of the student to adhere to these policies: <https://aisc.uci.edu/students/academic-integrity/index.php>. Students who have any questions or uncertainty about this policy are responsible for meeting with the instructor to discuss the policy.

## Disabilities

It is the student's responsibility to notify the instructor in advance of the need for accommodation of a University verified disability. I will gladly provide the required accommodations. If you have any questions or concerns about disability accommodations, please don't hesitate to speak with me; I am happy to help out.

## Course Outline

Day:	Topic:	Reading:
June 24	Intro; Arguments; Sets, Relations, and Functions	1, 2.4, 3.5,8
June 26	Syntax and Semantics of Propositional Logic	2.1-5
July 1	Semantic and Syntactic Inference in Propositional Logic	4.1,2.1,3.1-5
July 3	Soundness and Completeness Theorems for Propositional Logic	4.4
July 8	Review for Exam	2.1-5; 4.1-4
July 10	Midterm Exam	
July 15	Syntax and Semantics of Predicate Logic	3.1-8
July 17	Semantic Inference in Predicate Logic	4.2
July 22	Syntactic Inference in Predicate Logic; Soundness and Completeness of Predicate Logic	4.3,4
July 24	Review for Exam	2,3,4
July 31	Final Exam	