












Critical Reasoning

PHILOS/LPS 29




Instructor Info —

-  William Stafford
-  Office Hrs: Wed 10-12
-  Office
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Course Info —

-  Prereq: None
-  Tu & Th
-  1-4
-  HH230

Discussion Info —

-  Wed
-  11-12
-  SST792

TA Info —

-  Name
-  Office Hrs: hr-hr
-  Office

Overview

The aim of this course is threefold. First, it aims to improve students' knowledge of what constitutes good reasoning by studying the formal methods of propositional logic. Second, it aims to give students training in applying this new knowledge. You will have the opportunity to develop your own skills in good reasoning. This second aim is quite practical: no matter what you do with your life in the future, you can benefit from some time spent sharpening your skills in reasoning. Third, this course aims to develop your intellectual character. Your work in this course will give you the opportunity to develop habits of intellectual creativity, perseverance, inquisitiveness and open-mindedness.

This course is skill based the teaching outcome is that you should be able to:

1. Diagram arguments.
2. Translate informal arguments into formal notation.
3. Check the validity of formal arguments using truth tables.
4. Prove the validity of formal arguments using Fitch style proofs.
5. Check the validity of categorical statements using Venn diagrams.
6. Identify instances of 6 classes of fallacies.

Material

Required Texts

Nolt, Rohatyn, and Varzi, *Schaum's Outline of Theory and Problems of Logic*, McGraw Hill (2nd Ed.).

Grading Scheme

60 points	Attendance/Participation
360 points	Homework, 9 worth 40 points each, due every class day at 12pm
200 points	Midterm Exam: Tuesday 9th July & Tuesday 16th July
400 points	Final Exam: TBA

Grades will be as follows: A = 900-1000 points; B = 800-899 points; C = 700-799 points; D = 600-699 points; F <600 points.

Learning Objectives

- have an understanding of the basic concepts of logical appraisal: validity and consistency;
- be familiar with propositional logic;
- be familiar with the truth-table method for evaluating validity and consistency;
- be familiar with deductive proof for propositional logic;
- understand common informal fallacies and how to spot them;
- understand some of the philosophical issues relating to logic.

FAQs

? Is the textbook required?

! Yes, homeworks may ask you to complete exercises from the book.

? Are lectures required?

! Yes, attendance of lectures is part of the requirements for passing the course.

? Is the final cumulative?

! Yes, you can be asked about any material covered during the course in the final. However, it will be skewed toward material not covered in the midterm.

? Can homework be handed in late?

! No, homework not submitted 1 hour before class on the day they are due cannot be submitted late. However, students who contact me ahead of time with substantial reasons may get an extension. See the policy on unavoidable absences in this document.

Diversity and Inclusivity Statement

I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability - and other visible and non-visible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class.

Accommodations for Students with Disabilities

If you are a student that require special accommodation in exams, contact the Office of Disability Services, as soon as possible. If you think you will require additional accommodations, or would like to talk to me about special accommodations already set up through Disability Services, please email me to set up a meeting.

Unavoidable Absences

If you know you will miss part of the course because of religious observance, sporting competition or planned medical procedure please contact me in the first week of the course. If you contact me after this it may not be possible to make up missed course work.

If an emergency occurs during the course and you are unable to attend please email me as soon as possible with corroborating evidence. If you do not contact me within a reasonable time frame it may not be possible to make up missed course work.

Academic Integrity

Any violation of academic integrity (including cheating on an exam or test) will result in an F for the course and letters sent to the appropriate deans. This course will follow the UCI policy on academic integrity. A link to that policy is on the course Canvas Space.

Students may help each other on with homework. However, each student must answer every problem and you must not copy another students working. *You must NEVER look at another students completed work.* Students will be asked, and must provide, the names of those they worked with.

Class Schedule

WEEK	TOPIC	SUMMARY
Week 1	Tuesday: Diagramming arguments	Ch. 1
	Thursday: Translating to a formal language	Ch. 3 (Homework 1 due at 12pm)
Week 2	Tuesday: Truth tables	Ch. 3 (Homework 2 due at 12pm)
	Thursday: Holiday no class	(Homework 3 due at 12pm)
Week 3	Tuesday: First Test & Proofs part 1	Ch. 4 (Homework 4 due at 12pm)
	Thursday: Proofs part 2	Ch. 4 (Homework 5 due at 12pm)
Week 4	Tuesday: Second Test & Categorical logic	Ch. 5 (Homework 6 due at 12pm)
	Thursday: Venn diagrams	Ch. 5 (Homework 7 due at 12pm)
Week 5	Tuesday: Fallacies	Ch. 2 and 8 (Homework 8 due at 12pm)
	Thursday: Review	(Homework 9 due at 12pm)
Finals Week	EXAM	