

Syllabus: Intro to Logic

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Office hours: by appointment

Overview

In this course, we'll look at how to formally model good and bad reasoning. By learning what good reasoning is like, we can try to use it. By learning what bad reasoning is like, we can try to avoid it. Our route will be via the basics of propositional and predicate logic.

Course Goals

Students will learn the basics of first-order logic.

Students will learn about common frameworks for our judgment formation and decision making.

Required Texts

- Paul Teller, *A Modern Formal Logic Primer*
 - o Available for free on his website: <https://tellerprimer.ucdavis.edu/>
 - o Includes answers to the exercises in the chapters

Course Structure and Assignments

- Reading
 - o Each week, there will be reading from Teller's *A Modern Formal Logic Primer* ("Logic")
- Lecture videos
 - o Each week there will be lecture videos covering the reading as well as going over some practice exercises.
- Problem sets
 - o There will be problem sets on each chapter of the logic textbook. You can do them on your own or in a small group.
 - o Late problem set will be worth 10% less each day they are late.
 - o For practice, I HIGHLY RECOMMEND doing the exercises given in each of the chapters, though these aren't assigned. I'll distribute the answers.

- Extra credit
 - There will be extra credit problem sets. You can do these at any point in the term.
- Review sessions
 - Each week I'll hold a review session for those who are interested in attending.
 - The day and time will be decided by a Doodle poll each week.
 - If you want to attend, fill out the sign-up sheet.
 - If anyone signs up, I'll hold a session. But if no one signs up, I won't.
 - These will be completely optional and will not be graded. BUT I HIGHLY RECOMMEND COMING.
- NO FINAL EXAM OR FINAL PAPER
 - Your grade is totally determined by the cumulative points you earn on the assignments throughout the semester.

Grade breakdown

- Your final grade will be calculated out of 100 points.
 - A = 93-100 points
 - B+ = 88-92 points
 - B = 83-87 points
 - C+ = 78-82 points
 - C = 73-77 points
 - D+ = 68-72 points
 - D = 63-67 points
 - F = 0-62 points
- The percentage grade does not matter. Only the total points earned.

Schedule

Propositional Logic

Week 1: January 18 – 23

- Readings
 - Logic v. 1 ch. 1

- Lecture videos
 - Lecture 1
- Assignments
 - None

Week 2: January 24 – 30

- Readings
 - Logic v. 1 ch. 2
- Lecture videos
 - Lecture 2
- Assignments
 - Problem Set 1
 - Points: 5
 - DUE: January 31

Week 3: January 31 – February 6

- Readings
 - Logic v. 1 ch. 3
- Lecture videos
 - Lecture 3
- Assignments
 - Problem set 2
 - Points: 5
 - DUE: February 7

Week 4: February 7 - 13

- Readings
 - Logic v. 1 ch. 4
- Lecture videos
 - Lecture 4

- Assignments
 - Problem set 3
 - Points: 5
 - DUE: February 14

Week 5: February 14 - 20

- Readings
 - Logic v. 1 ch. 5
- Lecture videos
 - Lecture 5
- Assignments
 - Problem set 4
 - Points: 10
 - DUE: February 21

Week 6: February 21 – 27

- Readings
 - Logic v. 1 ch. 6
- Lecture videos
 - Lecture 6
- Assignments
 - Problem set 5
 - Points: 10
 - DUE: February 28

Week 7: February 28 – March 6

- Readings
 - Logic v. 1 chs. 8-9 (skip ch. 7)
- Lecture videos
 - Lecture 7

- Assignments
 - Problem set 6
 - Points: 10
 - DUE: March 7

Predicate Logic

Week 8: March 7 - 13

- Readings
 - Logic v. 2 ch.1
 - Logic v. 2 ch.2
- Lecture videos
 - Lecture 8
- Assignments
 - Problem set 7
 - Points: 5
 - DUE: March 14

Spring Break: March 14 – 20

Week 9: March 21 - 27

- Readings
 - Logic v. 2 ch. 3
 - Logic v. 2 ch. 4
- Lecture videos
 - Lecture 9
- Assignments
 - Problem set 8
 - Points: 5
 - DUE: March 28

Week 10: March 28 – April 3

- Readings
 - Logic v. 2 ch. 5
- Lecture videos
 - Lecture 10
- Assignments
 - Problem set 9
 - Points: 10
 - DUE: April 4

Week 11: April 4 - 10

- Readings
 - Logic v. 2 ch. 6
- Lecture videos
 - Lecture 11
- Assignments
 - Problem set 10
 - Points: 10
 - DUE: April 11

Week 12: April 11 – 17

- Readings
 - Logic v. 2 chs. 7-8
- Lecture videos
 - Lecture 12
- Assignments
 - Problem set 11
 - Points: 10
 - DUE: April 18

Week 13: April 18 – 24

- Readings
 - Logic v. 2 ch. 9 secs. 1-3 (skip 9.4)

- Lecture videos
 - Lecture 13

- Assignments
 - Problem set 12
 - Points: 10
 - DUE: April 25

Week 14: April 25 – May 1

- Readings
 - Logic v. 2 ch. 10
 - Optional: v. 2 ch. 13

- Lecture videos
 - Lecture 14

- Assignments
 - Problem set 13
 - Points: 5
 - DUE: May 2