Introduction to Logic

Philosophy 210, Spring 2021

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Office hours: Tuesday 11:00–noon, Thursday 3:00–4:00
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Weekly study session: Mon 3:00–4:00

What the course is about

This is an introduction to modern logic. You will learn how to translate English language sentences into formal languages, and you will learn how to evaluate or demonstrate different properties in the formal language. Unlike sentences in English, sentences in the formal language are precise and unambiguous.

The course covers two formal languages: Sentential Logic (SL) and Quantified Logic (QL). You will learn the strengths and weaknesses of these different systems.

Materials

The textbook for this course is *forall x*, available over in the Course Materials section. You may want to print it out for yourself or order a copy, but the PDF of the textbook is free.

Policies

We will be using an on-line system called Carnap for both weekly homework assignments and exams. Carnap will actually check your work on many of the homework problems, so that you can figure out the right answer before moving on.

• Homework will be due by midnight Sunday of the week it is assigned. It can still be turned in after the due date passes, but not for full credit.

If you miss an exam or face exigent circumstances, please contact the instructor. I'm happy give extensions or make allowances when appropriate.

• Cheating will not be tolerated. Since the exams will be on-line, I can't watch you taking them— but you are responsible for your own answers. For more, see the Standards of Academic Integrity.

Note that getting help on the homework problems is not cheating. I encourage you to reach out to the TA and to your classmates. You ultimately need to learn the material, but I encourage you to learn collaboratively.

• Logic sits on the cusp of humanistic and formal disciplines. As such, this course may be used to fulfill the general education requirement for Humanities or for Mathematics. For more, see the General Education Program.

Requirements and grading

There will be weekly homework, three midterm exams, and a final exam. Each component of the course will figure in your final grade:

40% weekly homework

15% first midterm

15% second midterm

15% third midterm

15% final exam

If you can find a substantive error in the textbook, then you are encouraged to point it out to me. The first student to report any particular error will receive a bonus equal to 3 points on a midterm exam.

Schedule

Week 1 (starting February 1) Logical concepts (Chapter 1)

Week 2 (starting February 8) Sentential Logic (Chapter 2)

Week 3 (starting February 15) Truth tables (Chapter 3)

Week 4 (starting February 22) SL and truth tables, continued
MIDTERM EXAM #1 must be taken sometime during this week.

Week 5 (starting March 1) Quantified Logic (Chapter 4)

Week 6 (starting March 8) QL, continued

Week 7 (starting March 15) QL, continued
MIDTERM EXAM #2 must be taken sometime during this week.

Week 8 (starting March 22) Formal semantics for QL (Chapter 5)

Week 9 (starting March 29) Formal semantics, continued
MIDTERM EXAM #3 must be taken sometime during this week.

Week 10 (starting April 5)

Week 11 (starting April 12) Proofs (Chapter 6)

Week 12 (starting April 19) Proofs, continued

Week 13 (starting April 26) Proofs, continued

Week 14 (starting May 3) Proofs, continued

Week 15 (starting May 10) review
The FINAL EXAM must be taken sometime during this week.