

Phil 12A: Introduction to Logic
Summer 2017, Session D

Course Description

This course is an introduction to the tools of formal logic, with the goal of using them to evaluate arguments. We will cover the syntax and semantics of truth-functional and first-order logic, and develop proof systems for both. This will give us the tools to symbolize natural language arguments in both formal languages, assess arguments for validity, and give deductive proofs. Overall, we will be developing resources to think precisely about what makes for good and bad reasoning, in both everyday and philosophical contexts.

Meeting Information

Lecture T, W, Th 1–3:30 103 Genetics & Plant Bio

Lab section M, F 1–3:30 **Urte's Section:** B5 Hearst Field Annex
→ Last name A–P
Kentaro's Section: 235 Dwinelle
→ Last name Q–Z

**** First section (Friday, July 7):** Everyone to B5 Hearst Annex ******

Contact Information

Instructor: Rachel Rudolph
rachelrudolph@berkeley.edu
Office hours: Wednesday 4–6, 233 Moses Hall (**First week:** 301 Moses)

GSI: Urte Laukaityte
urte.laukas@gmail.com
Office hours: Tuesday 10–12, 301 Moses Hall

Kentaro Yamamoto
ykentaro@math.berkeley.edu
Office hours: Monday 4:30–5:30, Friday 11–12, 737 Evans Hall
(**First week:** Th 4:30–5:30)

Course Material

Forallx Calgary Remix: An Introduction to Formal Logic, by P. D. Magnus and Tim Button (with contribution from many others).

This is an open source textbook, and is available both electronically on bCourses, or in hard copy.

- On Lulu: <http://www.lulu.com/shop/richard-zach/forall-x-calgary-remix-spring-2017/paperback/product-23165559.html>
- On Amazon: <https://www.amazon.com/forall-Calgary-Remix-Introduction-Formal/dp/1546435115>

Any additional course material will be posted on bCourses.

Evaluation

	Date(s)	Weight
Problem sets	Week 1: Friday Weeks 2–6: Thursday	40%
Midterm 1	Tuesday, July 18	15%
Midterm 2	Tuesday, August 1	15%
Final exam	Friday, August 11	30%

Problem sets are to be turned into the 12A box in 301 Moses Hall. Problem set 1 is due by 5 pm Friday of week 1. Problem sets 2–6 are due by 12 noon on Thursday of the given week. Note that Moses Hall is only open Monday–Friday, 8 am–6 pm. **No late work will be accepted without an approved excuse.**

Problem set 1 will be posted on bCourses before the first day of class (July 5). Later problem sets will be posted Thursday of the week before they are due. Only your five best problem sets will count towards your final grade.

Midterm and final exams will take place during the regular class period, beginning at 1:10 pm. Students arriving more than 30 minutes late will not be allowed to take the exam.

Participation in lecture and lab sections may be taken into account in borderline cases.

Accommodations

We're committed to making this course accessible to everyone. If you have been given special accommodations through the Office for Students with Disabilities, we will make all the necessary arrangements. Don't hesitate to get in touch with your instructor or GSI if you have any questions or concerns.

Academic Honesty

You are encouraged to work with others on the problem sets. However, you must write up your answers on your own. You should never directly copy another student's work. (Group work is an aid to individual understanding, not a replacement for it!) On the midterms and final, you must complete all problems on your own.

It is your responsibility to ensure that your work in this course accords with the University's standards for academic honesty. Students found to be cheating or misrepresenting their work will be reported to the Center for Student Conduct and may fail the course. For further information on academic misconduct and how to avoid it, see: <http://sa.berkeley.edu/conduct/integrity/definition>.

Schedule (subject to revision)

	Topics	Chapters
Week 1	Introduction to logical concepts, symbolization, and syntax in truth-functional logic (TFL)	I, II.4–6
Week 2	Use and mention, semantics for TFL (truth tables)	II.7, III, VIII.37
Week 3	Natural deduction in TFL	IV
Week 4	Introduction to first-order logic (FOL), syntax, and symbolization	V
Week 5	Semantics for FOL (interpretations)	VI
Week 6	Natural deduction in FOL	VII