

Phil 201: Introduction to Logic

Fall 2009

Course Number: 730:201 Section 01

Time: Mon/Thurs, 11:30am-12:50pm

Location: Murray Hall 112

Course Instructor: Jennifer Nado

Email: jennifernado@gmail.com

Office: 3 Seminary Place, room 001

Office Hours: Wednesday, 11:30am-12:50pm or by appointment

Course Description:

The goal of this course is to introduce you to the basics of formal logic. Logic is the study of good reasoning – by learning the principles of logic, we learn to distinguish good arguments from bad ones. *Formal* logic is a rigorous, precise method for evaluating arguments, one which involves use of an artificial language known as First-Order Logic (or FOL). This artificial language will help us analyze the form of natural-language arguments, allowing us to determine whether an argument's conclusion follows from its premises – i.e., allowing us to determine whether or not the argument is valid. We will learn to translate arguments into FOL, to test their validity using the method of truth tables, to construct counterexamples to invalid arguments, and to construct proofs for valid arguments.

An understanding of elementary formal logic is vitally important for anyone with an interest in philosophy, mathematics, computer science, or linguistics. In addition, the study of logic will help you learn to recognize good and bad reasoning – a valuable skill both inside the classroom and out in the 'real world'.

Required Text:

Barwise, J., and Etchemendy, J. (2003). *Language, Proof, and Logic*. Stanford: CSLI Publications.

IMPORTANT: You need to buy this text new – NOT used! The bundled software requires a registration ID which will only function for the original user. You will use this software to submit electronic homework assignments, so it is mandatory that you have a functioning copy.

The website for the textbook is <http://ggww2.stanford.edu>. Use it to get updates for the software, help with technical issues, and even homework tips.

Grade breakdown:

550 points (55%): Two exams – 250 points/300 points

300 points (30%): Weekly homework assignments

150 points (15%): Attendance/in-class assignments

TOTAL: 1000 points

900-1000 points = A

870-899 points = B+

800-869 points = B

770-799 points = C+

700-769 points = C

600-699 points = D

0-599 points = F

Exams:

There will be two exams - a midterm worth 250 points, and a final worth 300 points. The final will not be cumulative – it will only cover material from the second half of the course. If you have to miss an exam, you will need to get a Dean's note before I will schedule a make-up.

Homework:

There will be weekly homework for this class. Each will consist of 5 problems, worth 5 points each, for a total of 25 points per homework. There will be a total of 12 homework assignments, for $12 \times 25 = 300$ points total.

Most homework will be completed using the textbook software. The software includes three programs which you will use to test arguments and construct proofs – Tarski's World, Fitch, and Boole. When you've finished, you'll save your work, and then submit the file electronically using a fourth program called Submit. The homework is graded electronically by a grading server called the Grade Grinder, and results are automatically sent both to me and to you. I'll then look at the results and assign a point score, which you will be able to view on the course's Sakai site.

There will be a few assignments that don't use the software. You can either email me your solutions for those, or hand me a paper copy.

I will send out homework assignments via email, as well as announce them during class, one week before they are due. Homework must be turned in on the due date, by the BEGINNING of class (though you may submit early if you like). Late homework will be penalized 2 points per day late. If you have a legitimate excuse for missing homework, get a Dean's note and I'll remove all penalties.

Attendance/in-class assignments:

On about one third of the class days (and I'm not telling which), we'll spend the last 10-15 minutes on short in-class problem sets. There will be 10 of these total, and they will be worth 15 points each. The purpose of these is to encourage attendance, to help you practice, and to help me get a sense of how well people understand the material. You'll be able to use your book, and you'll be able to ask me questions. Best of all, you'll get the full 15 points for putting in an honest effort, even if you get the answers wrong. You'll also get 5 extra credit points if you get everything right, for a potential total of 50 extra credit points – i.e. half a letter grade.

There will be NO make-ups for these. However, if you have a legitimate reason for being absent on a problem set day, and you get a Dean's note, I will give you the 15 points. No extra credit though!

Schedule:

1. Thurs Sept 3	Introduction	
2. TUESDAY Sept 8	1.1 – 1.3	
3. Thurs Sept 10	2.1 – 2.2	Homework 1 due
4. Mon Sept 14	2.3 – 2.5	
5. Thurs Sept 17	3.1 – 3.2	Homework 2 due
6. Mon Sept 21	3.3 – 3.7	
7. Thurs Sept 24	4.1	Homework 3 due
8. Mon Sept 28	4.2 – 4.4	
9. Thurs Oct 1	5.1-5.2	Homework 4 due
10. Mon Oct 5	5.3 – 5.4	
11. Thurs Oct 8	6.1 – 6.2	Homework 5 due
12. Mon Oct 12	6.3 – 6.5	
13. Thurs Oct 15	7.1 – 7.3	Homework 6 due
14. Mon Oct 19	8.1 – 8.2	
15. Thurs Oct 22	Review: Ch. 1-8	Homework 7 due
16. Mon Oct 26	MIDTERM EXAM	
17. Thurs Oct 29	9.1 – 9.3	
18. Mon Nov 2	9.4 – 9.6	
19. Thurs Nov 5	10.1 – 10.3	Homework 8 due

20. Mon Nov 9	11.1 – 11.3	
21. Thurs Nov 12	11.4 – 11.5	Homework 9 due
22. Mon Nov 16	12.1 – 12.2	
23. Thurs Nov 19	12.3	Homework 10 due
24. Mon Nov 23	12.4	
Thurs Nov 26	NO CLASS (Thanksgiving)	
25. Mon Nov 30	13.1	
26. Thurs Dec 3	13.2	Homework 11 due
27. Mon Dec 7	13.3	
28. Thurs Dec 10	Review	Homework 12 due
29. Mon Dec 21	FINAL EXAM 12:00-3:00	