

Introduction to Logic

Philosophy 201 – Section 2 – Spring Term 2006 – Rutgers University

Instructor: Daniel Kelly

1. Course Description

There are two goals of this course. The first is to introduce the fundamental concepts and techniques of modern formal logic. These include concepts such argument form, deductive validity, soundness, identity, and the idea of a formal language. We will focus on these ideas as we explore the workings of sentential logic, predicate logic, quantification theory, and various proof methods associated with each. The second, more practical goal is to teach students to use these concepts and techniques to help sharpen their own thinking, and develop their ability to evaluate their own and others' arguments. We will therefore emphasize the ability to move back and forth between formal and natural languages, so that students can learn to put the precise tools of modern logic to their own uses.

2. Class Meetings

Class meets Monday and Wednesday, 4th Period, (1:10-2:30pm) in Room A3 of Campbell Hall.

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3. Office Hours and Contact Information

Office: 114 Davison Hall, Douglass Campus

Office Phone: 732-932-9861 ext. 114

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Fall Term Office Hours: Mondays, 2:30-4:00 and by appointment; Office Hours will be held in the Red Lion Café, in the College Ave Student Center. These are subject to change as the semester progresses.

4. Texts

Logic and Philosophy: A Modern Introduction, by Paul Tidman and Howard Kahane, 9th Edition. The book is available at the Rutgers University Bookstore and at NJ Books, both located on the College Ave. Campus.

5. Course Requirements, Policies, and Grading

Grades on problem sets and exams will be given on the standard 0-100 point grading scale:

100-90: A
89-87: B+
86-80: B
79-77: C+

76-70: C
69-60: D
59-0: F

Final grades will be determined by 6 problem sets, a midterm, and a final exam. They will be weighted as follows:

Problem sets	40%
Midterm	20%
Final Exam	40%

The Final Exam is Tuesday, May 9th, from 12:00-3:00 pm in Room A3 of Campbell Hall. NO MAKEUP EXAMS WILL BE OFFERED FOR THIS COURSE. If you know you cannot make it to the final, do not take this course.

There will be 1 problem set due every 2 weeks or so, with exact dates to be announced in class. I will grade select problems from each homework assignment and distribute solutions to as many problems as I have time to write up. Homework must be printed on paper, and in my hand by the end of the class the day they are due, or they are late. Electronic submissions will not be accepted. Since solutions to problem sets will be distributed soon after they are due, **late homework will not be accepted.**

6. Topics and Readings

This is a *very* tentative schedule; the only things set in stone are the date and time for the final exam. Adjustments will be made depending on how fast or slow we are going, and will be announced in class and/or over the class email list. You are free to post to the class mailing list to organize study groups, discuss ideas, etc., just keep it reasonably clean and on topic. The address is: logic201_listserv@rams.rutgers.edu. Since reminders and other information will be distributed via the email list, **make sure you check your Rutgers account on a fairly regular basis.**

We will cover (most of) chapters 1-10 of the Tidman and Kahane book. The 6 problem sets will come from these, and weekly readings will be assigned as we go. Below is a rough timeline of what's coming, and in what order. Class time will be spent introducing new concepts and techniques and going through examples of how to use them. We'll be using the textbook a lot in class, so it will be to your advantage to bring it with you to every class. If we have extra time, we will look at chapter 13 on identity and chapter 16 on induction.

A note on the problem sets: this will be slightly different from other philosophy courses, in that most of what you learn will not come from lectures or readings, but from working through the problems and proofs. Therefore, it is absolutely crucial that you do all of the problem sets. Not only is important that you do them, but that you do them carefully and on time. Logic is cumulative, and each chapter builds on the one before, so you can't afford to fall behind.

1. Week of January 16th
 - Course Overview
2. Week of January 23rd
 - Introduction and basic concepts

3. Week of January 30th
 - Sentential logic, symbolization and truth functions
 - **Problem Set #1**
4. Week of February 6th
 - Sentential logic, symbolization and truth functions
5. Week of February 13th
 - Truth Tables
 - **Problem Set #2**
6. Week of February 20th
 - Sentential logic proofs
7. Week of February 27th
 - More sentential logic proofs
 - **Problem Set #3**
8. Week of March 6th
 - March 8: Midterm Exam
9. Week of March 13th
 - **SPRING BREAK**
10. Week of March 20th
 - Conditional and indirect proofs
11. Week of March 27th
 - Predicate logic, symbolization and quantifiers
 - **Problem Set #4**
12. Week of April 3rd
 - Predicate logic, symbolization and quantifiers
13. Week of April 10th
 - Predicate logic proofs
 - **Problem Set #5**
14. Week of April 17th
 - More predicate logic proofs
15. Week of April 24th
 - Relational predicate logic
 - **Problem Set #6**
16. Week of May 1st
 - Review
 - May 1: Last day of class
17. Week of May 8th
 - **Final Exam: 12:00-3:00pm, Tuesday, May 9**