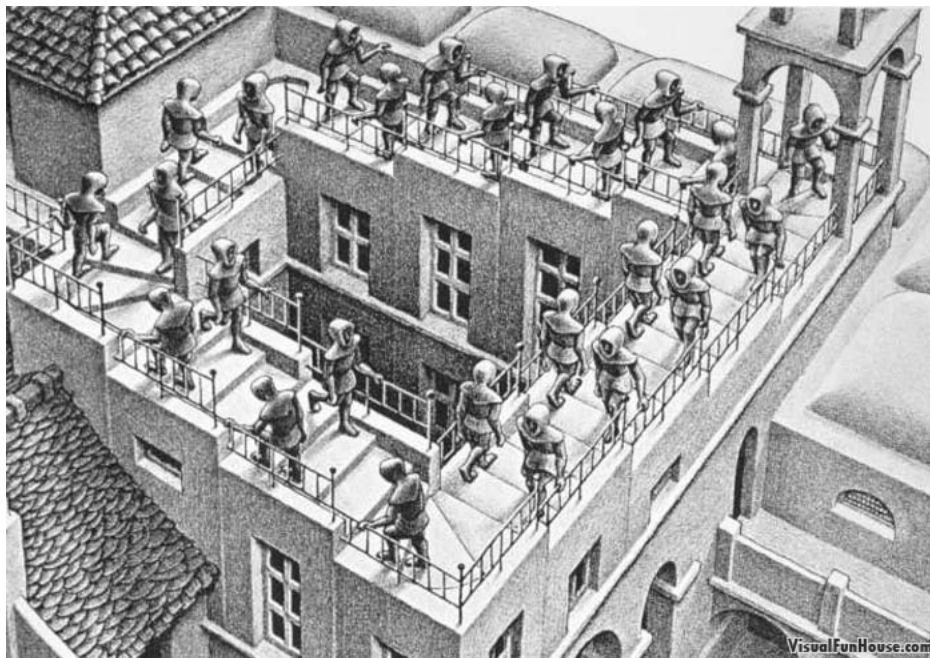


# Logic

Spring 2011



## Description

An introduction to the basic techniques of sentential and predicate logic. Students learn how to put arguments from ordinary language into symbols, how to construct derivations within a formal system, and how to ascertain validity using truth tables or models.

## General Information

- Time: T/Th 11:00–12:15
- Place: Kimmel Center, #804
- Instructor: Jeff Sebo
- Email: [jeffsebo@gmail.com](mailto:jeffsebo@gmail.com)
- Office: 5 Washington Place, #607
- Office hours: T 11:00-12:00 or by appointment
- Course website: [jeffsebo.net/teaching/](http://jeffsebo.net/teaching/)

## Readings

The required text for this course is *Language, Proof and Logic* by Jon Barwise and John Etchemendy. You can find these books at Bluestockings (172 Allen Street between Stanton and Rivington) as well as online. Note that, since we will be using the software that comes with this book, you must purchase a new copy, and you cannot share a copy with another student.

## Grading

Your grades will be determined as follows:

- **Daily Homework:** After most classes, you will be assigned a series of problems from the book. Some of them will be submitted online; these will be graded pass/fail, and will together count for 50% of your grade. Other problems will not be submitted online, but will rather be discussed in the following lecture. These will not be graded, but I strongly recommend that you do them.
- **Exams:** We will have 3 exams. The first two will each count for 15% of your final grade, and the final exam will count for 20%. They will all be taken in class.
- **Attendance and Participation:** I will take attendance on random days, and will occasionally call on people to present their homework. If you are not there, this will result in a deduction from your final grade. Repeated absences may result in losing an entire letter grade for the course (e.g. B+ to C+).

## Policies

- **Laptops/Cell Phones:** Laptops are allowed, but only for taking notes. Cell phones must be on silent.
- **Special Accommodations:** If you need special accommodations, please let me know so that I can properly assist you.
- **Academic Integrity:** Plagiarism and other forms of academic dishonesty will not be tolerated. See the NYU College of Arts and Science policy on Academic Integrity for more information.
- **Extensions/Incompletes:** Extensions and incompletes will be granted only in exceptional circumstances. If you would like to request either, please do it well before the due date.

# Schedule

- **1/24 - Introduction**  
Read: Introduction (up to page 10)  
Submit online (by 12am on 1/25): 1-10 on p.8-10
- **1/26 - Atomic Sentences**  
Read: 1.1-1.4  
Homework (submit by 12am on 1/30): 1.2-1.5
- **1/31 - Logic of Atomic Sentences**  
Read: 2.1-2.2  
Homework (submit by 12am on 2/1): 2.2, 2.6, 2.8-2.13
- **2/2 - Logic of Atomic Sentences**  
Read: 2.3-2.5  
Homework (submit by 12am on 2/5): 2.17-2.20, 2.24-2.27
- **2/7 - Boolean Connectives**  
Read: 3.1-3.7  
Homework (submit by 12am on 2/8): 3.2, 3.3, 3.6, 3.9, 3.24
- **2/9 - Logic of Boolean Connectives**  
Read: 4.1  
Homework (submit by 12am on 2/13): 4.2, 4.4-4.7
- **2/14 - Logic of Boolean Connectives**  
Read: 4.2-4.4  
Homework (submit by 12am on 2/15): 4.12-4.14, 4.20, 4.21, 4.27, 4.28
- **2/16 - First Exam**
- **2/21- No class**
- **10/4 - 2/23 - Methods of Proof for Boolean Connectives**  
Read: 5.1-5.3  
Homework (submit by 12am on 2/27): 5.1, 5.5, 5.6, 5.7, 5.11, 5.17, 5.18
- **2/28 - Formal Proofs and Boolean Connectives**  
Read: 6.1-6.2  
Homework (submit by 12am on 3/1): 6.2-6.6
- **3/2 - Formal Proofs and Boolean Connectives**  
Read: 6.3-6.6  
Homework (submit by 12am on 3/6): 6.9, 6.10, 6.18, 6.19, 6.28, 6.29, 6.31
- **3/7 Conditionals**  
Read: 7.1-7.3  
Homework (submit by 12am on 3/8): 7.1-7.4, 7.10, 7.12, 7.13
- **3/9 - Logic of Conditionals**  
Read: 8.1, 8.2, 8.4  
Homework (submit by 12am on 3/20): 8.1, 8.18-8.21, 8.44, 8.48
- **3/14 - No class**
- **3/16 - No class**
- **3/21- Introduction to Quantifiers**  
Read: 9.1-9.3  
Homework (submit by 12am on 3/22): 9.1-9.3

- **3/23 - Introduction to Quantifiers**  
Read: 9.4  
Homework (submit by 12am on 3/27): 9.5, 9.6
- **3/28 - Introduction to Quantifiers**  
Read: 9.5, 9.6  
Homework (submit by 12am on 3/29): 9.9, 9.12, 9.16, 9.17
- **3/30 - Second Exam**
- **4/4 - Logic of Quantifiers**  
Read: 10.1-10.4  
Homework (submit by 12am on 4/5): 10.2-10.4, 10.9, 10.11, 10.16, 10.22, 10.24
- **4/6 - Multiple Quantifiers**  
Read: 11.1-11.2  
Homework (submit by 12am on 4/10): 11.4, 11.5, 11.6, 11.9, 11.11
- **4/11- Multiple Quantifiers**  
Read: 11.3-11.4  
Homework (submit by 12am on 4/12): 11.17, 11.20
- **4/13 - Multiple Quantifiers** Read: 11.5, 11.8  
Homework (submit by 12am on 4/17): 11.39
- **4/18 - Methods of Proof for Quantifiers**  
Read: 12.1, 12.2  
No Homework
- **4/20 - Methods of Proof for Quantifiers**  
Read: 12.3, 12.4  
Homework (submit by 12am on 4/24): 12.4, 12.5, 12.16-12.18
- **4/25 - Methods of Proof for Quantifiers**  
Read: 13.1, 13.2  
Homework (submit by 12am on 4/26): 13.2-13.4, 13.11, 13.12, 13.17
- **4/27 - Formal Proofs and Quantifiers**  
Read: 13.3, 13.5  
Homework (submit by 12am on 5/1): 13.23, 13.33, 13.35, 13.43, 13.45
- **5/2 - More about Quantifiers**  
Read: 14.1, 14.2  
Homework (submit by 12am on 5/3): 14.3, 14.10, 14.11, 14.12
- **5/4 - Review Day**  
No Reading  
No Homework
- **5/9 Final exam**