

# Introduction to Logic

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Office: Bowden 109  
Hours: MTH 10-11, or by appointment

Phil 110 - 002  
Fall 2014  
MTWTh 9 – 9:50  
Bowden 116

## Description:

Logic is the study of reasoning. By learning logic, you can better identify when an argument makes sense, and when someone is full of BS. In this course we will look primarily at formal logic, which uses a formal language to symbolize arguments. You will learn how to identify the structure of an argument, discern valid from invalid arguments, and use various methods to prove that an argument is valid, such as truth tables, Venn diagrams, and proofs. We will begin the semester with a brief look at informal logic, focusing on fallacies that occur in common, everyday language and on translating English sentences into logical form.

## Textbook:

Harry J. Gensler, *Introduction to Logic*, second edition. ISBN 978-0-415-99651-8

## Grading:

Homework:	15 %
Attendance:	10 %
Quizzes:	25 %
Midterm:	25 %
Final:	25 %

There will be eleven quizzes over the course of the semester. I will drop your lowest quiz score, so the final quiz grade will include ten quizzes. **There will be no make up quizzes.**

Homework will be graded for completion. You must show consistent effort, but you do not need to get every problem right. In order to get an 'A,' do all of the problems every week all the way through. A 'B' grade would be doing most of the problems or not attempting to finish the problems once you encounter difficulty. Try again if you get stuck, and show me the process you went through. You will not be graded down for incorrect answers, only for lack of work. If you miss class on a Monday, turn your homework in on Tuesday.

I might occasionally assign other reading or homework besides the weekly problem sets from the textbook, and may offer opportunities for extra credit. I will provide details then and make sure those instructions are available on Blackboard.

## **Weekly Schedule:**

For most weeks, the schedule will be as follows:

Homework will be due on Monday. On that day we will go over problems from the homework and questions about the reading. Come prepared to ask about anything you didn't understand in the textbook and homework questions that were difficult for you. Some Mondays might also include an extra activity or group reading about logic. Tuesdays will begin with a quiz covering the previous week's material, and should take about half the class period. The other half will be devoted to new material. On Wednesdays we will also cover new material. The earlier you can start the reading for this material—during the first few days of the week, or even the weekend—the better. Thursdays will be review days for extra help and practice.

## **Attendance Policy:**

As most Thursdays will be review days, if you feel comfortable with the material and have been receiving consistently high quiz scores, I do not require you to attend. However, if I see you struggling with the material and feel that you would benefit from the extra class time, I will ask you to start coming on those days. I highly encourage you to attend even if you do feel comfortable with the material—you can always benefit from extra practice, helping your classmates, and getting a jumpstart on your homework. Procrastinators should embrace this time to lighten their Sunday-night load!

Attendance is mandatory Mon-Wed, and on select Thursdays indicated on the schedule below. You are allowed three absences during the semester, so cash them in wisely. For each absence beyond that number, I will deduct 1% of your attendance grade. (I will make an exception for extenuating circumstances, such as a prolonged illness. Please talk to me as soon as an issue like this arises.)

## **Accommodations:**

If you need any disability accommodations, please let me know so that I can help you acquire the arrangements you need. You might also want to contact the Office of Disability Services, Administration Building, Suite 110, phone: (404) 727-9877.

## **Honor Code:**

Don't cheat. Please feel free to work together on homework, but don't just copy someone's completed work. Look at the answers in the back of the book for a pointer when you get stuck and in order to double-check your work, but don't just copy all the problems included there. Bottom line: it will help you to use your resources (which include other people), but it won't help you on the exams if you spend all your time copying. A formal version of Emory's honor code can be found here: [http://catalog.college.emory.edu/academic/policy/honor\\_code.html](http://catalog.college.emory.edu/academic/policy/honor_code.html).

### **Week 1: Aug. 27-28, Introduction**

Wed – Class Introduction  
Thurs – Introduction to Logic

Reading: 1.1-1.3, 4.1-4.2  
Homework: 4.2a odd

### **Week 2: Sept. 2-4, Fallacies**

Mon – **No Class** (Labor Day)  
Tues – Review Reading and Homework, New Material: Fallacies  
Wed – New Material: Fallacies, continued  
Thurs – New Material: Fallacies, Argument Analysis, **Mandatory Attendance**

Reading: 4.4-4.5, 16.1  
Homework: Find and bring in fallacies

### **Week 3: Sept. 8-11, Syllogistic Logic**

#### **Normal Week:**

Mon – Review Reading and Homework  
Tues – **Quiz** on Old Material: Fallacies; New Material: Syllogistic Logic  
Wed – New Material: Star Test for Validity  
Thurs – Review, In-Class Work (Optional Attendance)

Reading: 2.1-2.5  
Homework: 2.1a 1-10, 2.2a, 2.2b, 2.2c, 2.3a 1-10, 2.4a even, 2.5a 1-10

### **Week 4: Sept. 15-18, Syllogistic Logic**

Normal Week, New Material: Venn Diagrams, Harder Translations

Reading: 2.6-2.8  
Homework: 2.7a 1-10, 2.6a, 2.3a 11-20 (using Venn instead of—or in addition to—Star Test)

### **Week 5: Sept. 22-25, Propositional Logic**

Normal Week, New Material: Propositional Logic Intro, Truth Tables

Reading: 6.1-6.2, 6.5-6.6  
Homework: 6.1a even, 6.5a 1-6, 6.6a even

### **Week 6: Sept. 29 – Oct. 2, Propositional Logic**

Normal Week, New Material: Truth-Assignment Test, Harder Translations

Reading: 6.7-6.9  
Homework: 6.7a even, 6.7b 1-10 (use truth-assignment OR truth table), 6.8a 1-10, 6.9a 1-5

### **Week 7: Oct. 6-9, Propositional Logic**

Normal Week, New Material: Inference Rules

Reading: 6.10-6.13  
Homework: 6.10a odd, 6.11a odd, 6.12a odd, 6.13a

### **Week 8: Oct. 16, Review**

Mon-Tues – **No Class** (Fall Break)  
Wed – **No Class** (Have some Extra Fall Break!)  
Thurs – Homework Review and Review for Midterm, **Mandatory Attendance**

### **Week 9: Oct. 20-23, Propositional Logic**

Mon – **Midterm**

Tues, Wed – New Material: Propositional Proofs

Thurs – Review (Opt. Attendance)

Reading: 7.1

Homework: 7.1a even, 7.1b 1-10

### **Week 10: Oct. 27-30, Propositional Logic**

Normal Week, New Material: Propositional Refutations, Harder Proofs and Refutations

Reading: 7.2-7.4

Homework: 7.2a even, 7.3a 5-8, 7.4a 5-8, 7.4b 1-6

### **Week 11: Nov. 3-6, Predicate Logic**

Normal Week, New Material: Predicate Translations, Proofs, Refutations

Reading: 8.1-8.3

Homework: 8.1a odd, 8.2a odd, 8.3a odd, 8.3b 1-4

### **Week 12: Nov. 10-13, Predicate Logic**

Normal Week, New Material: Harder Translations and Proofs

Reading: 8.4-8.5

Homework: 8.4a odd, 8.5a 1-7, 8.5b 5-9

### **Week 13: Nov. 17-20, Predicate Logic**

Normal Week, New Material: Identity

Reading: 9.1-9.2

Hw: 9.1a even, 9.2a odd, 9.2b 1-5

### **Week 14: Nov. 24-26, Predicate Logic**

Mon – Review Homework

Tues – Quiz: Embedded Predicate Translation and Identity Translation

Wed-Thurs – **No Class** (Thanksgiving Break)

**Hw: Read 9.3 and 9.4 by Tuesday, Dec 2.** No homework problems for these sections until next weekend. Also use this weekend to do the extra credit if desired. **Extra credit due Monday, Dec. 1.**

### **Week 15: Dec. 1-4, Predicate Logic**

Mon – First  $\frac{1}{2}$  of class will be doing identity proofs together, second  $\frac{1}{2}$  **Quiz: Identity Proofs**  
New Material: Relations

Reading: **9.3-9.5**, you should have 9.3 and 9.4 read by Tuesday of this week

Homework: 9.3a 1-15, 9.4a 10-25, 9.5a odd

### **Week 16: Dec. 8-9, Review**

Mon – Homework Review

Tues – Review for Final, **Mandatory Attendance**

**Final Exam: Thursday, 12/11, 11:30am – 2:00 pm in Bowden 118**

**Grading Scale:**

Emory College does not allow a final grade of A+, nor grades to rise above 100% / 4.0 with additional extra credit. The maximum grade in the class will be 100%.

92 – 100 = A	4.0
90 – 91.9 = A-	3.7
87 – 89.9 = B+	3.3
82 – 86.9 = B	3.0
80 – 81.9 = B-	2.7
77 – 79.9 = C+	2.3
72 – 76.9 = C	2.0
70 – 71.9 = C-	1.7
67 – 69.9 = D+	1.3
60 – 66.9 = D	1.0