

# Intro to Logic

Phil. 110  
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## Instructor Information

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## Course Description

Logic is the science of reasoning; it is the formal study of entailment, or inference. If I tell you that (1) Boston is in Massachusetts and that (2) Massachusetts is in New England, then you ought to infer that (3) Boston is in New England. This is because sentences (1) and (2) together entail sentence (3). This is the sort of thing that you will learn in this course – you will learn how to judge when some set of sentences (the premises) entail some other sentence (the conclusion).

This is a course in formal, symbolic logic. This means that we will be working with formal languages. You already have some experience working with a formal language; elementary school arithmetic is done in a formal language. For example, instead of writing “Two plus two equals four,” we use special symbols and write “ $2 + 2 = 4$ .” Along the same lines, instead of writing “John is tall,” we will use special symbols and write “Tj.” You will learn two different formal languages in this course – the language of sentential logic and the language of predicate logic. Much of our time will be spent translating English statements into symbolic notation, and learning how to determine whether an argument is valid using formal proof techniques.

## Text

The text for this course is the second edition of Gary Hardegree’s *Symbolic Logic: A First Course*. Happily, you will have access to a free, online version of the text.

## Grading

There will be four exams, each worth 100 points. That means 400 total points. Final grades will be assigned according to the following scale:

Grade	Points
A	380-400
A-	360-379
B+	340-359

B	320-339
B-	300-319
C+	280-299
C	260-279
C-	240-259
D+	220-239
D	200-219
F	0-199

There will be no make-up exams and no extra credit. But there will be a way to improve your score. If you are unhappy with your score on either exam 1 or exam 3, then you are welcome to take exam 5. Exam 5 will be very similar to exam 3. If you decide to take exam 5, then I will drop the lowest of exams 1, 3, and 5. Similarly, if you are unhappy with your score on either exam 2 or exam 4, then you are welcome to take exam 6. Exam 6 will be very similar to exam 4. If you decide to take exam 6, then I will drop the lowest of exams 2, 4, and 6.

### **More Exam Information**

The dates of the exams are indicated in the schedule below. On the morning of each exam, I will put the exam on Blackboard. You will have all day to work on it (probably around 12 hours). You may use the book, slide shows, and your notes while taking the exam. After you are finished with the exam, you will then need to email it to me.

The exams are Microsoft Word documents. You will need some version of Word to take this course. The exam documents also have built in macros. A macro is, essentially, a special shortcut. In the exam documents, pressing the “F” keys (F1, F2, F3, etc.) will allow you to insert special logical symbols.

To take the exams, you may need to tell Word to enable macros. You may also need to install a simple font that contains logical symbols. To do this, follow these instructions:

- 1) Go to the practice exam folder on Blackboard and open Practice Exam 0. Look to see what happens.
- 2) Do you see a bunch of logical symbols (an upside down A, a backwards E, an arrow, a double arrow, etc.)? If yes, then great. If no (if you see a bunch of question marks where the logical symbols are supposed to be) then you’ll probably need to install a special logic font. Don’t worry, this is easy to do. If you have a PC, simply Ctrl + Click [here](#) to download the font. Save the file to your desktop (or wherever you want). Then simply drag the downloaded font file into the “fonts” folder on your

computer. The fonts folder is located in the control panel. You should now be able to see the logical symbols in Practice Exam 0. If you have a Mac, you can install the logic font by following [these](#) instructions.

- 3) Now click in one of the green boxes and press some of the “F” keys (F1, F2, etc.). When you press these keys, are logical symbols displayed? If yes, then great. If no, then you’ll probably have to enable macros. If you have Word 2007 or 2010, you may see a yellow bar at the top of the document that says something like “Security Warning – Macros have been disabled.” If you see this, then click the “Enable Content” button on the yellow bar. That should get the macros to work. If you have an older version of Word, go to Tools/Macro/Security/Security-Level, and then set the level to medium or low. That should get the macros to work.
- 4) Now complete Practice Exam 0 and send it to me.
- 5) If none of this helps and you can’t complete Practice Exam 0, don’t worry. Send me an email and let me know what problem you’re having. I’ll try to help. We’ll work something out.

### **Office Hours and Contacting Me**

I will be holding “office hours” every Tuesday from 11am-noon. That means I’ll be on Blackboard at that time. Feel free to chat with me about anything related to the course. You can do that by clicking on the “Who’s Online” Course Tool in Blackboard and sending me a chat invitation. You are also welcome to chat with me any other time I’m Blackboard. You can also send me questions via email. I’ll try to respond promptly.

### **Blackboard**

This course will be conducted entirely through Blackboard. You should familiarize yourself with it. You should also check it often. I will often use it to make announcements. If you have an issue with Blackboard, please use the 24/7 UMass Online Help Desk and Tech Support (1-888-300-6407). You can also use the [Live Text Chat](#) feature they offer. Or you can try looking at their [Self-Help Site](#).

### **Academic Dishonesty**

You can find the UMass academic honesty policy [here](#). Acts of academic dishonesty will be subject to the maximum penalty allowed by this policy.

### **Schedule**

Since this is an online course, you are free to work through the course material whenever and however you want. However, I have put together a schedule you may want to use to pace yourself:

<u>Date</u>	<u>Reading</u>	<u>Slide Show #1</u>	<u>Exercises</u>
June 5	Chapter 1	1	A-C
June 6	Chapter 2	2	A-C
June 7	Chapter 3	3	A-D
June 8	Chapter 4	4, 5, 6	A-D
June 11	<b>Exam 1</b>		
June 12	Chapter 5.1-5.5	7	A
June 13	Chapter 5.6-5.8	8	B, C
June 14	Chapter 5.9-5.12	9, 10	D-F
June 15	Chapter 5.13-5.16	11	G, H
June 18	<b>Exam 2</b>		
June 19	Chapter 6.1-6.10	12	A-D
June 20	Chapter 6.11-6.16	13	E-G
June 21	Chapter 6.17-6.20	14	H-I
June 22	Chapter 7.1-7.5	15	A-D
June 25	Chapter 7.6-7.10	16	E-G ( <b>now optional</b> )
June 26	Study and Review		
June 27	<b>Exam 3</b>		
June 28	Chapter 8.1-8.6	17	A, B
June 29	Chapter 8.7-8.9	18	C, D
July 2	Chapter 8.10-8.12	19	E, F
July 3	Chapter 8.13-8.14	20	G, H
July 4	Holiday!		
July 5	Study and Review		
July 6	<b>Exam 4</b>		
July 9	<b>Exam 5 (Optional)</b>		
July 10	<b>Exam 6 (Optional)</b>		

### **Frequently Asked Questions**

**Q: How much work will this class require?** A: This is a complete course. I will cover in five weeks what is ordinarily covered in a whole semester. So be prepared to devote some serious time to this course. If you plan on doing all of the work, then you'll likely need to spend several hours a day on this course.

**Q: How do I do well in this class?** A: To do well in the course, you'll want to do two things. First, you'll want to read the textbook. The textbook will be your primary source of information. It is the backbone of the course. You may also want to look at the slide shows that I've put online; viewing these may help you better understand the book. Second, you'll want to do the practice exercises at the end of each chapter of the book. The exam questions will be very much like the practice exercises. If you can do all of the

practice exercises, you should do well on the exams. Notice that the answers to all of the practice exercises are also in the textbook. This allows you to check your work. Once you get the basics down, you'll find that a logic exercise is a lot like a Sudoku puzzle, or a crossword puzzle. In this respect, the exercises can be kind of fun. Just think of them as puzzles.

**Q: What's more important, reading the book or going over the slide shows?** A:

Reading the book. The slide shows often repeat things found in the book, sometimes in a less technical way. However, you probably won't be able to understand the slide shows without reading the book. Still, they may be of some use to you. (Note: in case you can't get the slide shows to work, pdf versions of them are also available online.)

**Q: How hard is it to get an A in this class?** A: That, of course, depends on the student. Some students pick up logic fairly easily. Others don't pick it up quite as quickly. However, I think that most students can do well in this class *if* they do the work. How *long* it will take to do all of the work will vary from student to student.

**Q: I missed an exam or I turned an exam in late. Now what?** A: I will accept late exams, though there will be a penalty. Exams that are turned in more than 12 hours late will receive no credit. If you know ahead of time that you need to miss an exam, let me know as soon as possible.

**Q: I've read the book and tried to do the practice exercises, but I can't solve them. I'm lost and confused. What should I do?** A: Send me an email or chat with me online during my office hours (or any other time). Tell me what problem you're having. I'll try to help you.