

## PHIL 2500: Symbolic Logic

Lecture: Mon, Wed 10:10 am – 11:00 am; **B2 Main Library**

Discussion Sections: Fri, 220 Peabody Hall. Please check your schedule

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Office hours: W: 11:15 am – 12:30 pm;  
and by appointment

### COURSE OBJECTIVES:

The goal of this course is to teach the basics of formal symbolic logic and its connection to argumentation and natural language. You will learn how to formalize arguments and evaluate them for validity.

### REQUIRED TEXT:

- Bergmann, Moor and Nelson, *The Logic Book*, 6<sup>th</sup> ed. (2014) (978-0078038419)

We aim to cover chapters 1, 2, 3, 5, 7, and 10. Additional resources, including answers to about 50% of the exercises, are available at [www.mhhe.com/bergmann6e](http://www.mhhe.com/bergmann6e)

### WORK IN THE COURSE:

Both in content and style, this course resembles a math course. And just like in a math class, learning logic is cumulative: if you miss an idea early, you should expect a snowball effect. For this reason, the course is designed with daily work, regular tests, and self-tests. It is extremely important that you approach the course in the right way.

*Reading and homework.* In our lectures we will be moving at a brisk and ever-increasing pace. The text, on the other hand, is thorough and slow-moving. For this reason, it is essential for you to study the readings very carefully and prior to the class for which they are assigned, trying to understand every single step. The most difficult points of the material will, of course, be addressed in the classroom and you should not hesitate to ask all the remaining questions in lectures and discussion sections. You should expect to spend at least two hours studying outside of class for each hour spent in class.

You should also try to complete as many exercises from the text as you can. These exercises will not be handed in or graded, but you should be prepared to go over any of them in your small discussion sections. Occasionally we will do some of the textbook exercises in lectures. The answers to about 50% of the exercises are available at [www.mhhe.com/bergmann6e](http://www.mhhe.com/bergmann6e).

It is safe to say that, as in a typical math class, you will not succeed in this course unless you master the material to the extent that will allow you to solve any arbitrarily chosen problem. Continual practice is the only way to achieve this level.

**FORMAT:** Mon, Wed: Lecture; Fri: Meetings in small discussion sections led by your TA; please check your schedule. Section meetings will focus on clarifying difficult issues in our material and on problem-solving strategies.

### TESTS AND GRADING:

For testing purposes, the material will be divided into four blocks:

1. Sentential logic symbolization and syntax, and truth-table techniques
2. Derivations in sentential logic
3. Predicate logic symbolization and syntax
4. Derivations in predicate logic

In addition to the final exam, two in-class 50-min exams will be given on each block except the last one (there will be only one such exam on block 4). Every other exam will be an optional retake over the material from the previous exam (the same material but different problems). Thus you will have two chances to take exams on blocks 1, 2, and 3 *before* the final, and one chance at block 4. The final exam is also optional and will consist of four parts, each one a retake of an exam on one of the four blocks of the material. You may take as many or as few of these retakes as you want. But your grade for every block will be the **LAST** one you receive on that block, **NOT** the highest one. Each exam is worth 100 points. Your final grade in the class will be based on the sum total of the *last* retakes (including the final retakes) on each block.

For example, suppose you get a 72 on Exam 1A, retake it and get a 76 on Exam 1B. Then you make an 86 on Exam 2A and do not retake it. You miss Exam 3A and get a 79 on Exam 3B (i.e. the retake of Exam 3A). You make 61 on Exam 4A. On the final, you take Exams 1C, 3C, and 4B and make, respectively, 81, 75, and 77. Your **LAST** grades for the four blocks are, therefore: 81, 86, 75, and 77. Your overall grade for the course is 319 = B–.

This approach gives you an opportunity to improve your standing throughout the course and learn from mistakes. At the same time, you have to bear the risk associated with the retakes.

Since so many retake opportunities are built into our grading system, *there will be no other make-up exams for absences, regardless of whether you have a good excuse or not.* In particular, the **Final Exam in this class will take place Wednesday, May 2, 2018, 8:00 am – 11:00 am.** Please plan accordingly.

#### **ATTENDANCE AND HELP OUTSIDE CLASS:**

Experience shows that it is not possible to succeed in a symbolic logic course unless you are with it at every moment, i.e. attend lectures and section meetings, work regularly on the material at home, and complete a considerable portion of the exercises. Don't let yourself lag behind.

David Bowles and I will be holding our regular office hours. If your schedule conflicts with them, let us know so we can set up an appointment at a mutually convenient time. Please understand that our office hours are for you to use. We are always willing to talk to you, explain things in greater detail than is possible in class, and help you in any other way. At the same time, *do not expect any help from us outside class if you do not attend class.*

#### **HONOR CODE:**

You should feel free to study and work with other students outside class. But no copying or other assistance during exams will be tolerated. If you are caught giving or taking assistance on an exam, you will lose all the points for that and all preceding exams and will be referred to the Vice President for Academic Affairs. The statement of the UGA Academic Honesty Policy can be found at: <https://ovpi.uga.edu/academic-honesty>

#### **WEB:**

This course has a website with the lecture notes we will be using in class and other helpful materials: <http://www.yuribalashov.com/PHIL2500/phil2500.html>