

PHIL 2500: Symbolic Logic
Every Day, 9:30 a.m. – 12:15 p.m.; **115** Peabody Hall

Instructor: Yuri Balashov

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Office hours: Every Day 9:00–9:30 a.m.; 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*, 5th ed. (2009).

We aim to cover chapters 1, 2, 3, 5, 7, and 10. Additional resources, including answers to selected exercises, are available at www.mhhe.com/bergmann5e.

WORK IN THE COURSE:

In style, this course resembles a math course. And just like in a math class, learning logic is cumulative: if you miss an idea early, do expect a snowball effect. For this reason, the course is designed with extensive homework, 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 **absolutely essential** for you to study the sections of the book very carefully and **prior** to the class for which they are assigned, trying to understand every single step. The most difficult points in the material will, of course, be addressed in the lectures and you should not hesitate to ask all the remaining questions there. You should expect to spend at least **1.5 hour** studying outside of class for **each** hour spent in class. **This means about FOUR hours of daily homework.**

You should also try to do **as many exercises** from the text as you can. The exercises will not be handed in or graded, but you should be prepared **to contribute to their solution** in our almost daily **workshops** (see below). Occasionally we will do some of the exercises in lectures. The answers to about 50% of the exercises are available at www.mhhe.com/bergmann5e.

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. This is hard, so please estimate your powers realistically before you make your final decision to take or not to take this course.**

FORMAT:

Almost each class meeting will be divided into a **lecture** and a **workshop**, with a short break in-between. The purpose of the workshops is to go over as many exercises as possible. The class will be divided into small groups (2–4 students in each, depending on the final enrollment). Each group will be responsible for a particular workshop. This means that the group will present a good portion of “**starred**” exercises (i.e., those to which there are no solutions at www.mhhe.com/bergmann5e), assigned for that day, in the classroom, explaining

each step to the rest of the class and answering any questions we might have. The task should be **equally divided** among the members of the group (taking into account both the number of exercises and their level of complexity). **Each member** of the group must **submit (in writing)** his or her portion of the **completed** exercises **prior** to the scheduled workshop at which they are to be presented. I will, of course, be ready to help at any point. But the group should make an excellent effort.

I will distribute the list of small groups and their workshop assignments for the first half of our course on the first day of class. Thus the groups will have the advantage of knowing well in advance when their workshop will take place and will, thus, have an opportunity to prepare thoroughly. I will certainly be available (during my office hours) for help with this.

Every student's performance at a workshop will be graded **separately**.

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

Thus there will be **four in-class exams** during the course. Together, they will constitute **90%** of your final grade in the course. The remaining **10%** will be based on your **workshop performance, submitted workshop exercises, and your general participation** in class.

ATTENDANCE AND HELP OUTSIDE CLASS:

There is no formal attendance requirement. But it is **not possible** to succeed in a symbolic logic course unless you are **with it at any moment**: attend lectures/workshops, work regularly on the material at home, and complete a **considerable** portion of the exercises. **Don't let yourself lag behind! Lagging behind will precipitate a disaster faster than you think.**

I will be holding my office hours **every day** from 9:00–9:30 a.m. If your schedule conflicts with them, let me know so that we can set up an appointment at a mutually convenient time. Please understand that my office hours are **for you to use**. I am 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 me **outside class** if you **do not attend** class.

Obviously, this is a **very intensive course!** It will put **a lot of pressure** on everyone, including myself. Learning symbolic logic **in three weeks** can only be compared to learning **calculus** in the same amount of time. Well, this is the way things are. We all will have to do our best. Students for whom this course is their only engagement in the next three weeks will be ideally situated for the hard work this class requires.

HONOR CODE:

Please refer to: <http://www.uga.edu/honesty>

WEB:

This course has a web site with the lecture notes I will be using in class and other helpful materials: <http://yuri.myweb.uga.edu/phil2500.html>

PHIL 2500: Symbolic Logic, May Session 2009

Schedule for the First Half of the Course

May 12, Tuesday	Introduction and course mechanics. §§1.1–1.7. Exercises 1.3E, 1.4E, 1.5E, 1.6E, 1.7E
May 13, Wednesday	§§2.1, 2.2, 2.4. Exercises 2.1E, 2.2E, 2.4E
May 14, Thursday	§§3.1–3.3. Exercises 3.1E, 3.2E, 3.3E (workshop)
May 15, Friday	§§3.4–3.6. Exercises 3.4E, 3.5E, 3.6E (workshop) Review of Chapters 1–3; Exam 1 Samples
May 18, Monday	Exam 1 (60 min) §5.1. Exercises 5.1.1E, 5.1.2E, 5.1.3E, 5.1.4E, and 5.1.5E.
May 19, Tuesday	§§5.2, 5.3. Exercises 5.3E (workshop)
May 20, Wednesday	§§5.3, 5.4. Exercises 5.3E, 5.4E (workshop) Review of Chapter 5; Exam 2 Samples (workshop)
May 21, Thursday	Exam 2 (75 min) §§7.1–7.3. Exercises 7.2E, 7.3E

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Schedule for the Second Half of the Course

May 22, Friday	§§7.4–7.5. Exercises 7.4E, 7.5E (workshop)
May 25, Monday	No class. Memorial Day
May 26, Tuesday	§§7.6–7.7. Exercises 7.6E, 7.7E (workshop)
May 27, Wednesday	§7.8. Exercises 7.8E Review of Chapter 7, Exam 3 samples (workshop)
May 28, Thursday	Exam 3 (75 min) §10.1 (pp. 532–535).
May 29, Friday	§10.1 (pp. 536–550). Exercises 10.1E §10.2. Exercises 10.2E
June 1, Monday	§10.2. Exercises 10.2E (workshop)
June 2, Tuesday	Class Evaluations §§10.3. Exercises 10.3E (Workshop) Review of Chapter 10, Exam 4 sample
June 3, Wednesday	Exam 4 (90 min)