



# PHIL 155: INTRODUCTION TO SYMBOLIC LOGIC

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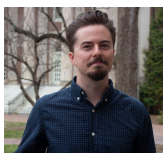
## INTRODUCTION

Welcome to PHIL 155, Introduction to Symbolic Logic. This is a first course in formal logic, and no background is required. Formal logic has had a tremendous success and influence since it was developed in its present form about 125 years ago. It is the inspiration for many artificial languages, including programming languages, and it has been successfully used in mathematics, leading to results that could not be achieved without it. Formal logic is also very important in the study of natural languages and in the analysis of valid or invalid forms of argument and reasoning.

We won't discuss all these issues in any detail in this course, but we will cover a fairly substantial introduction to these issues. In particular, we will cover, in depth, "propositional" and "quantificational" logic, with applications. We won't be able to cover much of the "metatheory" of these systems. That will have to be left for a more advanced course.

## YOUR INSTRUCTOR

### PHILIP BOLD



Department of Philosophy

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Phil received a BA in philosophy from Brown University (2015) and



Phil received a BA in philosophy from Brown University (2013) and an MA in philosophy from UNC-Chapel Hill (2017). Phil is currently working on a dissertation in Ancient Greek Philosophy, specifically on Plato's *Republic*.

## Communicating with your instructor

Please use the discussion forum to post questions, and do not hesitate to contact me by email if you need help completing your assignments or understanding course content. I will aim to respond to emails and forum questions within 24 hours. Please check your email regularly for updates on my availability and communication schedule.

## REQUIRED TEXTBOOK

The required text and software package for the course is:

David Barker-Plummer, Jon Barwise, and John Etchemendy, *Language, Proof and Logic*, 2nd edition, ISBN 978-1575866321

You are responsible for purchasing the correct edition and materials for this course. If you purchase textbooks from [UNC Student Stores](#), make sure to use the 990 or 994 course section to ensure you obtain the correct materials. You can find information on how to purchase textbooks and required materials on the [Textbooks](#) page of the Friday Center website.

The course text comes with accompanying software that will be essential for this course. **Important:** The software contained in this package comes with an ID number that works for only one student. This ID will be required when you submit your assignments. That means that you need to buy a new copy of the second edition of the textbook. **If you purchase your textbook elsewhere, be sure to get the second edition of the book. Search using the ISBN 978-1575866321. Do not buy a used copy of the book—you won't be able to submit your work.**

The software will run on almost all computers that run one of the Windows, Mac, or Linux operating systems. The details of the system requirements are in the software manual, but they should only be a problem in special cases.

**TIP:** The whole 600-page book is contained as a .pdf file on the accompanying software disc that came with it, and so is the software manual. These will be put on your computer when you install the software. Thus, if you wish, you can access the book via your computer. You can also purchase a paperless version of this book online—with a PDF of the textbook and all software—but *without* the physical textbook. See the [OpenProof Courseware](#) site for purchasing options. This option is advisable if you have a hard time getting a physical copy of the textbook on time (it is also slightly cheaper)

The book contained in this package is our main text, and the software that comes with it

is essential for doing exercises and submitting your homework. We will cover Parts I and II of this book. Part III is more advanced and can't be covered in an introductory course on the subject.

## LIBRARY SERVICES

Students enrolled in Carolina Courses Online have access to the UNC Library System. Visit [Distance Education Library Services](#) to access a wide array of online services and resources including e-reserves, online databases, online journals, online books, and live help with research and library access. Most online resources require you to log in with your Onyen and password. If you have any trouble finding the resource that you need or logging in to a resource, you can contact the library through the contact information at [Distance Education Library Services](#). You can chat live about your problem, or send an email to request assistance.

## COURSE REQUIREMENTS

Your course grade is based on the following:

Problem Sets (12)	85 percent
Final Exam	15 percent
<b>TOTAL</b>	<b>100 percent</b>

Your grade is based on how many of these problems you are able to solve, as well as how you do on the final exam. For each problem set you will be able to earn a certain number of points. For the final exam you will be able to earn more points. Your final grade is solely determined by the number of points you get. Grades will not be curved, but will be assigned according to the percentage of points earned out of points possible on the homework problems and final exam:

94-100:	A
90-93:	A-
87-89:	B+
84-86:	B
80-83:	B-
77-79:	C+
74-76:	C

70-73:	C-
67-69:	D+
64-66:	D
60-63:	D -
0-59:	F

It is important that you turn your assignments in on time. If an emergency arises, and you won't be able to turn in your assignment on time (for medical reasons and so on), you must contact me 24 hours before the assignment is due. Unexcused late assignments will get a penalty of two points per day. Late assignments will not be accepted if submitted more than two days after the due date.

Every problem will be worth one point unless stated otherwise. If you get it right, you will get the point; if not, you will get no points. Many problems we do are fairly easy, but some are hard.

## PROBLEM SETS

You will be required to complete a problem set for most lessons. Solving these problems can only be done with a good understanding of the material from that week. Solutions to the problems must be submitted by **5:00 pm Eastern Time on the last day of the lesson**, unless stated otherwise. We will go over the details of how all this is done in the first week's lecture.

## DISCUSSION FORUMS

The discussion forum is for questions, comments, and discussion on the material of the week. I will participate in the forum by answering questions, making clarificatory comments, posting additional examples, and so on. You might participate in the forum by asking a question or making a comment on the material we are covering in the lesson or by addressing questions or comments that were posted by me or other students. I expect that there will be quite a bit of activity in the discussion forum. Please use the forum to aid in your understanding of the material.

## FINAL EXAM

Your final exam will be posted in the Final Exam section of the Sakai site. See the Schedule (accessible via the left-hand sidebar of the Sakai site) for times and dates. The final exam is worth 15 percent of your final grade.

### Warning: This is not a self-paced study course!

This course requires you to submit weekly assignments and take a final exam—that is all you are officially required to do. You are required to submit these assignments with the rest of the class on certain days. Please keep in mind that you can not do the

assignments on your own time, sometime during the semester. Late assignments will be penalized (see above). If you have problems accessing the course pages, or installing the software, you will have to take care of them right away. Get help if any technical problems come up (see [Contacts](#), in the navigation bar at left). Your first assignment is due during the first week of the course.

## ACADEMIC POLICIES

By enrolling as a student in this course, you agree to abide by the University of North Carolina at Chapel Hill policies related to the acceptable use of online resources. Please consult the [Acceptable Use Policy](#) on topics such as copyright, net-etiquette, and privacy protection.

As part of this course, you may be asked to participate in online discussions or other online activities that may include personal information about you or other students in the course. Please be respectful of the rights and protection of other participants under the UNC-Chapel Hill [Information Security Policies](#) when participating in online classes.

When using online resources offered by organizations not affiliated with UNC-Chapel Hill, such as Google or YouTube, please note that the terms and conditions of these companies and not the University's Terms and Conditions apply. These third parties may offer different degrees of privacy protection and access rights to online content. You should be well aware of this when posting content to sites not managed by UNC-Chapel Hill.

When links to sites outside of the unc.edu domain are inserted in class discussions, please be mindful that clicking on sites not affiliated with UNC-Chapel Hill may pose a risk for your computer due to the possible presence of malware on such sites.

## HONOR CODE

You are bound by the UNC-Chapel Hill Honor Code, which says:

"It shall be the responsibility of every student at The University of North Carolina at Chapel Hill to obey and support the enforcement of the Honor Code, which prohibits lying, cheating, or stealing when these actions involve academic processes or University students or academic personnel acting in an official capacity."

The Honor Code applies to all of your work in this course. For more on the Honor Code, see the [Honor System](#).

For our course, the Honor Code means that you must solve all the problems that you are assigned yourself. You may not turn in solutions done by others. Being in violation of the Honor Code is a serious matter, and I very much hope that no issues will arise here.

## OFFICE OF ACCESSIBILITY/SPECIAL ACCOMMODATIONS

If you are a student with a documented disability, you can receive services through [Accessibility Resources & Service](#). You must self-identify through Accessibility Resources to receive services or accommodation from either of these offices.

Accessibility Resources works closely with programs, offices, and departments throughout the University to help create an accessible environment.

The office is located in Suite 2126 of the Student Academic Services Building (SASB), 450 Ridge Road, Chapel Hill, NC, and is open from 8 am to 5 pm Monday through Friday. You can contact them by phone at 919-962-8300 or 711 (NC-RELAY), or by email at [accessibility@unc.edu](mailto:accessibility@unc.edu).

**Course Instructor: Phil Bold**

**Course Author: Thomas Hofweber, PhD**

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Send comments and questions to [fridaycenter@unc.edu](mailto:fridaycenter@unc.edu).





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## COURSE SCHEDULE

**Important:** We will go through this material at a good pace, and you will have to spend some time learning it all and doing the assigned exercises. This course is not as easy as you might think from reading the first chapter. The material will quickly get more and more complicated, and it is important that you stay on top of it. **Do not fall behind.** All the later material depends on the previous lessons, so falling behind could make things very difficult for you. **You should expect to spend at least ten hours per lesson on this course.**

Solutions to problems must be submitted by 5:00 pm Eastern Time on the last day of the lesson.

Lesson	Dates	Topic
Lesson 1	June 24-25	Introduction; Atomic Sentences
Lesson 2	June 26-27	The Logic of Atomic Sentences
Lesson 3	June 28-30	The Boolean Connectives
Lesson 4	July 1-2	The Logic of Boolean Connectives
Lesson 5	July 3, July 5	Methods of Proof
<i>Holiday</i>	<i>July 4</i>	
Lesson 6	July 6-7	Formal Proofs
Lesson 7	July 8-9	Conditionals
Lesson 8	July 10-11	The Logic of Conditionals
Lesson 9	July 12-	Introduction to Quantification

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Lesson 10	July 15-16	The Logic of Quantifiers
Lesson 11	July 17-18	Multiple Quantifiers
Lesson 12	July 19-21	Methods of Proof
Lesson 13	July 22-23	Formal Proofs
Lesson 14	July 24-25	Final Exam Review and Look Ahead
<b>Final Exam</b>	<b>July 30</b>	Posted in the Final Exam section (see left-hand navigation bar) at <b>9 am ET on July 30. Due by 11:30 pm ET the same day.</b>

