

PHIL 155: Introduction to Mathematical Logic

PHIL 155
Summer Session I 2015
M-F 9:45-11:15
Caldwell Hall, Room 105

Instructor Information

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Office Hours: TBD (and by appointment)

Course Description

Philosophy 155 is an introduction to symbolic logic. Logic is centrally concerned with *arguments*, good and bad. If an argument is a good one, its conclusion will logically follow from its premises – and we say that the argument is *valid*. It is not always easy to tell whether an argument is valid or not. Thus, we will develop formal techniques that will help us to determine the validity of arguments in a rigorous way. This will require the introduction of special formal languages, and we will learn how to translate between English and these formal languages. We will study two systems of logic: we will begin with *sentential logic*, and then move on to a richer system of logic, *quantificational logic*.

Honor Code

In this class, the Honor Code is taken very seriously and all infractions will be reported to the Honor Council. You may work together on the homework, but you may not *copy* each other's homework. (Copying will not help you prepare for exams.)

Course Text

The text used for this course is *An Introduction to Symbolic Logic* by Terence Parsons. It is available for free through the software we will be using. The course will cover the first three chapters of the book. Time permitting, the course may also cover topics in Chapter 4.

Logic 2010 (Course Software)

Homework assignments are submitted online using UCLA's "Logic 2010" program (<http://logicx.humnet.ucla.edu/>). So a working computer with access to the internet is a requirement for this course. Students need to download, install, and register for this program ASAP. You will need to know your UNC Student ID number and pick a password when you register with the system. Students who have not registered for the program after the first three days of class will be dropped from the course.

Because I will often work through problems in class using the Logic 2010 program, it is recommended, but not required, that students bring a laptop to class.

Course Website

There are two websites for this course. The most important website for the course is the Logic 2010 student page, which I will call the "Program Site":

<https://logiclx.humnet.ucla.edu/Logic/Student/Course>.

Students must register for the Logic 2010 program before they can access the Logic 2010 course website. The Logic 2010 website lists the homework assignments and records student grades for those assignments. It also contains a section (under the "Documents" tab) with many helpful documents explaining how to use the Logic 2010 program. The second course website is the UNC Sakai site for this course. The Sakai site will mainly be used for announcements and for posting documents.

Course Requirements

Homework assignments: 30%

Midterm 1: 20%

Midterm 2: 20%

Final: 25%

Class attendance/participation: 5%

Homework

There will typically be a homework assignment assigned every day, due ten minutes before the next lecture. Late homework assignments receive no credit unless a valid excuse is communicated (if possible) well in advance of the deadline for the assignment.

Homework assignments can be accessed through the Logic 2010 program (by clicking on the "Assignments" button on the Main Menu) or by signing in to the Logic 2010 student page. Homework assignments must be submitted over the internet to the Logic 2010 database directly from the logic software. Please make sure that your computer is connected to the internet before submitting your assignment. Further instructions for using the program and for submitting homework to the database are available under the "Documents" tab on the Logic 2010 website.

Exams

There will be two midterms and a final. The exams are open-note and open-book. You will NOT be able to use the software to take the exams.

Course Schedule

In the first third of the course (up until the first midterm), we will cover a sentential logic with negation and conditional symbols. The second third of the course (up to the second midterm) will cover an expanded sentential logic with conjunction, disjunction, and biconditional symbols. In the final third of the course, we will study a richer logic with existential and universal quantifiers. Homework assignments will be made available day to day based on how quickly we cover material in class. Midterms will be announced one week in advance.