

PHIL 120: SYMBOLIC LOGIC I
Summer 2009

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Office Hours: W 12pm-1pm [in HSS 8009] and TH 1pm-2pm [in SOLIS 105] or by
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Course Description and Course Objectives

In this course, we will learn how to determine, of any proposed argument that may be represented in first-order predicate logic, whether or not it is deductively valid. To this end, we will learn how to symbolize arguments formulated in English by learning how to symbolize the English sentences that constitute the premises and conclusions of these arguments; we will learn the rules of a natural deduction system and learn how to apply those rules to determine the logical status of any argument symbolized in accordance with those rules; and we will also learn semantic methods for determining validity and invalidity. Those who acquire the knowledge and skills taught in this course will be able to distinguish between good and bad reasoning in the most rigorous way possible.

[Note: If you are a philosophy major, PHIL 10 is a prerequisite for this course. If you are *not* a philosophy major and you have *not* taken PHIL 10, you need to speak with me *ASAP*.]

Required Text

Terence Parsons, *An Introduction to Symbolic Logic*. The introduction to the “TerryText”, as we will call it, may be found at:

<http://logic2k.humnet.ucla.edu/UPLOAD/CORE/Text0.pdf>

Further chapters may be found by replacing “Text0” with “Text1” (for Chapter 1), “Text2” (for Chapter 2), and “Text3” (for Chapter 3), in the URL above. For Chapter 4, you should replace “Text0” with “Text4(2)” in the URL.

Please Note: The Terrytext is based on the system of Donald Kalish, Richard Montague, and Gary Mar, *Logic: Techniques of Formal Reasoning*, which is **not** required for the course, but which can still be used as a helpful reference tool and source of logic problems.

Course Units and Reading Assignments

Note: This is the *order* in which we will be covering the relevant material. The unit numbers do *not* correspond to the lectures.

1. Symbolization in the Language of Chapter I
Reading: TerryText, Introduction and Chapter 1, Sections 1-3
2. Derivations in the System of Chapter I
Reading: TerryText, Chapter 1, Sections 4-10
3. Symbolization in the Language of Chapter II
Reading: TerryText, Chapter 2, Sections 1-3
4. Derivations in the System of Chapter II
Reading: TerryText, Chapter 2, Sections 2-5 and 8-9
5. Truth-Value Analysis of Sentences and Arguments
Reading: TerryText, Chapter 2, Sections 10-11
6. Symbolization in the Language of Chapter III
Reading: TerryText, Chapter 3, Sections 1-2 and 4-5
7. Bondage and Freedom
Reading: TerryText, Chapter 3, Section 3
8. Derivations in the System of Chapter III
Reading: TerryText, Chapter 3, Sections 6-9
9. Invalidity: Counterexamples
Reading: TerryText, Chapter 3, Section 10
10. Symbolization in the Language of Chapter IV
Reading: TerryText, Chapter 4, Sections 1-2
11. Derivations in the System of Chapter IV
Reading: TerryText, Chapter 4, Section 3
12. Invalidity: Counterexamples
Reading: TerryText, Chapter 4, Section 9

Course Requirements

- * Homework: 20% [for details, see below]
- * Mid-Term: 30% [in class, open book, Thursday, July 16]
- * Final: 50% [Saturday, August 1, 11:30am-2:30pm]

Homework

There will be one or two (more often, two) homework assignments due before lecture on each of the following days: 7/2, 7/7, 7/9, 7/14, 7/21, 7/23, 7/28, and 7/30.

Late assignments will not be accepted unless a valid excuse is communicated to me (if possible) substantially before the assignment is due. [For how to submit homework assignments for credit, see Computer Program: Logic2000 below.]

Computer Lab

SOLIS 105, open 24 hours, door code required evenings and nights (I will provide you with the door code). Avoid times when lab has been reserved for another course (which, in this case, is most of the day on most days – evenings are open). Lab information is available at:

<http://acs.ucsd.edu/student/>

[Simply click on *ACMS Computer Labs*, then *View All Labs*, and look for Solis 105.]

To log on to a lab computer, type in your UCSD e-mail user name and password. If your password is longer than eight characters, type in the first eight characters. [If you don't know your UCSD email *password*, find a computer that gives you access to the internet without requiring a password—e.g., at the library—and go to <http://acs.ucsd.edu> and click on “Need a Password?”. With the help of your PAC number, you will be able to reset your email password.]

Computer Program: Logic2000

There is a computer program, Logic2K, associated with the course. It is installed on the server at the computer lab in SOLIS 105. It is *also* available for remote use. In order to use the program remotely, you need to download, install, and run Logic2K on a Windows PC (or a Mac, such as a MacBook Pro, that runs Windows) that has access to the internet (if you have a Macintosh that doesn't run Windows, you can download, install, and run the program if you have Virtual PC with Microsoft Office, a program that is available from Microsoft). Instructions for downloading, installing, and running Logic2K are available at:

<http://logic2k.humnet.ucla.edu/download.html>

(Make sure you follow ALL the instructions. You need to know your UCSD Student ID number and pick a Logic Password in order to register as a user. DO NOT FORGET YOUR LOGIC PASSWORD.)

Homework assignments are accessible through the program (by clicking on “Assignments” on the Main Menu) or by going to:

<http://logic2k.humnet.ucla.edu/logicstudent.cfm>

[Note that you must register as a user either at the lab or by downloading the program to your computer in order to gain access to the Homework Assignments webpage.]

Homework assignments MUST be submitted OVER THE INTERNET to the Logic2000 database directly. [So make sure that your computer is connected to the internet before you submit your homework to the database.] Your work will be automatically recorded in the database. Instructions for using the program and for submitting homework to the database are available once you start running the program.

Printing at the Computer Lab

There is a per page charge for using the lab laserprinter. To use the laserprinter, you must learn about your laserprinting account (info at AP&M 2113) and put down a deposit.

Blue Books

You will need to bring blue books to the mid-term and final examinations. The exams are open-note, open-book. (But good luck to you if you don't memorize the relevant rules and strategies.)

Important Notes

* The Academic Honor Code must be observed in this course. Anyone caught cheating will receive an automatic F in the course, and will be referred to the Council of Deans for the heaviest possible penalty.

* **Laptops and other electronic devices may be used in class as a means of accessing the Logic2000 computer program and as a means of taking notes on the lecture, but may not be used for any other purpose.**

* If accommodations are needed for a disability, please notify me as soon as possible.

* If any course requirement conflicts with a religious requirement or university-related obligation, please notify me as soon as possible.