PHIL 240: Introduction to Logic
(Section 512, Spring 2009)

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Office Hours: TR 3:40 – 4:30 *and by appointment*

Course Text (Required)

C. Stephen Layman, *The Power of Logic*, McGraw-Hill, 2005, Third Edition.

Course Description

This course gives you a basic introduction to logic and enables you to evaluate arguments systematically. We will start with *Statement Logic* (SL), study the method of truth tables (Chapter 7), and become proficient at constructing proofs in SL (Chapter 8). We will then study a more powerful logic, namely *Predicate Logic* (PL) (Chapter 9). We will use the finite universe method to demonstrate invalidity for arguments, and learn to construct proofs in PL.

Course Format

Suggested Problems In each class, I will give you a list of *suggested problems* to finish on your own after class. Almost all of the problems in the textbook can be found on the website of the textbook: http://www.poweroflogic.com/cgi/menu.cgi. You are responsible for keeping up with these problems throughout the semester. You are also encouraged to ask questions about them when you encounter difficulty.

Assignments (10-20%) *There are no quizzes in this class.* Instead, you will hand in *some* of the **suggested problems** as assignments. You have to hand in about 10 assignments in this semester. Depending on the length and the difficulty, each assignment accounts for 1% or 2% of the course grade. The problems in these assignments are likely to be the more difficult problems from each section. Because I assume you will keep up with the suggested problems, in most cases, I will let you know which problems you should submit about *two days* before the deadline. If you know the materials well, you should be able to complete each assignment in 25 minutes. Some assignments will be done **in class** as group projects. Each of these projects accounts for 2% of the course grade.

Extra-credit Assignments (10%) There will be two extra-credit assignments. Each of them accounts for 5% of the course grade.

Exams (80%) There will be three exams. The final exam is comprehensive, with emphasis on Ch.9. You are allowed to refer to your textbooks or notes in the exams. The problems in the exams will be similar to the problems you find in the textbook.

So, if you are able to keep up with the suggested problems, you need not make special preparations for the first and the second exams, which are not comprehensive. There will be no review sessions before the first and the second exams.

Course Webpage Class notes and solutions to exams can be found on phil240.wordpress.com

***Power of Logic* Web Tutor** http://www.poweroflogic.com/cgi/menu.cgi .This webpage is particularly useful for practising *proofs* (to be covered in Ch.8 and Ch.9)

Grading Policy

Course grade will be assigned on the basis of 3 exams and assignments according to the following weighting:

First Exam (25%)
Second Exam (25%)
Final Exam (30%)
Assignments (10% – 20%)
Extra-credit Assignments (10%)

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Total: 110%

Grading scale: A = 90% or better, B = 80% or better, C = 70% or better, D = 60% or better, F = less than 60%.

Policy regarding make-up exams and late work: unless you miss the exams because of university-approved absences, make-up exams will not be provided for you. Be sure to send me an email to let me know the dates on which you are absent, why you are absent, and the dates on which you can do a make-up exam. Unless you hand in assignments late due to excused absences or opt to finish more problems, your score for your late assignment will be lowered by 50%.

On Plagiarism: because there are multiple ways of solving a particular problem and it is not easy to determine which one is *the most common* approach, copying can be easily detected. Plagiarism of any form will not be tolerated.

Lecture and Exam Schedule

Week 1

1/20 (T) Introduction
1/22 (R) Ch 1.1: Statement, Argument, Validity, Soundness

Week 2

1/27 (T) Ch 1.2-1.3: Argument Forms and Counterexamples
1/29 (R) **Assignment #1** on Ch 1.1 Due; Ch 7.1 Introduction to Statement Logic (SL)

Week 3

2/3 (T) Ch 7.1: Well-formed Formulas (wffs) in SL & Translations
2/5 (R) **In-class Group Assignment #1** on Ch 7.1 and Ch 1.1

Week 4

2/10 (T) Ch 7.2-7.3: Truth Tables and Validity
2/12 (R) **Assignment #2** on Ch 7.1 Due; **In-class Group Assignment #2** on Ch 7.2-7.3; Ch 7.3-7.5

Week 5

2/17 (T) Ch 7.5; Ch 8.1: Proofs in SL
2/19 (R) Ch 8.1: Proofs in SL

Week 6

2/24 (T) **Assignment #3** on Ch 8.1 Due; Ch 8.2: Proofs in SL
2/26 (R) **Exam #1 (Ch 1.1 – Ch 8.1)**

Week 7

3/3 (T) Please collect your graded exam in class; Ch 8.2: Proofs in SL
3/5 (R) Ch 8.3: Proofs in SL

Week 8

3/10 (T) Ch 8.3-8.4: Proofs in SL
3/12 (R) **Assignment #4** on Ch 8.1-8.3 Due; Ch 8.4-8.5: proofs in SL

Spring Break

Week 9

3/24 (T) **Assignment #5** on Ch 8.1-8.5 Due (2%); Ch 8.6 and Review of Ch 8
3/26 (R) **In-class Group Assignment #3** on Ch 8

Week 10

3/31 (T) Ch 9.1: Introduction to Predicate Logic (PL);
4/2 (R) **Exam #2 (Ch 8)**
4/3 (F) No Class, as usual. Extra Office Hours for Issues Concerning Grades (by appointment)

Week 11

4/6 (M) No Class, as usual. Last day for students to drop courses with no penalty.
4/7 (T) Please collect your graded exam in class; Ch 9.1: Wffs in PL and Translations
4/9 (R) Ch 9.2: Invalidity and Finite Universe Method

Week 12

4/14 (T) Ch 9.2-9.3: Finite Universe Method and Proofs in PL
4/16 (R) **Assignment #7** on Ch 9.1-9.2; Ch 9.3: Proofs in PL

Week 13

4/21 (T) **Assignment #8** on Ch 9.3; Ch 9.4: Proofs in PL
4/23 (R) Ch 9.4: Proofs in PL

Week 14 (catch-up week)

4/28 (T) **In-class Group Assignment #4** on Ch 9
4/30 (R) **Assignment #9** on Ch 9.4; Q&A

Week 15

5/5 (T) Review; Announcement about the Final Exam; Course Evaluation

Final Exam

5/13 (T) Location: HECC 209; Time: 1 – 3pm

*The final exam is comprehensive, with emphasis on Ch 9.

How to Do Well in This Class

- Keep up with the Assigned Problems
- Ask Questions in Class, by Emails, or during Office Hours
- Ask for Help Early
- Use the *Power of Logic* Web Tutor to Improve your Precision

Academic Integrity Statement

AGGIE HONOR CODE
"An Aggie does not lie, cheat, or steal or tolerate those who do."

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to

follow the philosophy and rules of the Honor System. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. For additional information please visit: http://www.tamu.edu/aggiehonor

Americans with Disabilities Act (ADA) Policy Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Cain Hall or call 845-1637.