

Logic

Phil 251A · Prof. J. Dunn

Spring 2011
M,W,F 9:20 - 10:20
Asbury Hall 117
DePauw University

Office: 210 Asbury
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Description

This course is an introduction to symbolic logic. The main goal is to familiarize you with certain formal methods for representing and evaluating deductive arguments. The course covers both sentential logic and predicate logic, with work equally divided between translating sentences into formal notation, and constructing formal derivations and proofs. Time permitting, we will consider the limits of deductive logic and consider some basic inductive logic.

Textbook

► *Symbolic Logic: A First Course (3rd Edition)*, Gary Hardegree, McGraw Hill.

The textbook is available at the campus bookstore and is also available free electronically at:
<http://courses.umass.edu/phil1110-gmh/text.htm>

Grading

Homework Assignments: 13%

Exams (4): 72% (18% each)

Portfolio Project: 15%

Course Requirements

Homework Assignments

There will be regular homework assignments for this course. A complete list of the homework assignment due dates can be found on the course webpage and on the schedule below.

Late homework assignment will rarely be accepted. A late homework assignment prevents me from posting the answers, which is unfair to other students who have turned in their homework on-time. In rare cases late homework may be accepted, but it will always be penalized.

Please staple your homework assignments. Ripped edges and illegible handwriting are signs of sloppiness, so avoid both.

Exams

There are four exams for this course at the end of each of the four units:

Exam 1: 2/28

Exam 2: 3/18

Exam 3: 4/20

Exam 4: 5/16 (finals week)

On the evening of Friday 5/6¹, you have the option of re-taking (an alternate version of) Exam 1, 2, or 3. Your best score will be selected as your grade for that exam. By university policy, Exam 4 must occur during the final exam period, so there is no possibility of retaking this exam.

Portfolio Project: Logic in Real Life

Each student will prepare a portfolio identifying and evaluating the reasoning in eight distinct arguments drawn from your everyday reading. Two arguments must fit into each of the four categories:

I Sound Arguments

II Strong Inductive Arguments

III Unsound Arguments

IV Weak Inductive Arguments/Informal Fallacies

For more information about the project, see the link on the course website or click here.

Other Requirements

You should take control of your experience in this course: what you get out of the course will largely be a function of what you put in to it. Logic is cumulative—a lot like a math course. So, it's very important for you to make arrangements to meet with me if you are falling behind or are confused about something. I'm on campus every day and very happy to discuss this interesting material with you!

I expect everyone to attend class, ask questions, and participate in discussions. If no one asks questions, I will assume I am boring you by going too slowly. Consistent with university policy, you may be dropped from the class if absences are too frequent.

Things You Can Expect From Me

I will give clear and prompt feedback on your work.

I will be available for extra help when needed.

Tutoring

* I strongly recommend that you take advantage of the Quantitative Reasoning Center in the Academic Resource Center, located in 115 Asbury. You should stop by the ARC to see the schedule of when tutors are available.

¹If you have a conflict at this time, we can arrange an alternate re-take time.

Special Considerations

DePauw University is committed to providing equal access to academic programs and university-administered activities and reasonable modifications/accommodations to students with disabilities in compliance with the Americans with Disabilities Act (ADA) of 1990, as amended in 2008. Any student needing special accommodations due to a disability should contact the Coordinator of Student Disability Services, Pam Roberts, 302 Harrison Hall or call (765) 658-6267. It is the responsibility of each student to discuss implementation of approved modifications/accommodations with each faculty member and/or staff member within one week of the date of receiving a modification/accommodation approval memo or within the first two weeks of the academic semester.

Academic Integrity

Academic integrity is very important, and violations are serious offenses, which I take it very seriously. There is a clear Academic Integrity Policy that can be found here:

<http://www.depauw.edu/univ/handbooks/dpuhandbooks.asp?ID=101parentid=100>

It is your responsibility to read the university policy. If you are unclear about what constitutes a violation of academic integrity, it is your responsibility to contact me with any questions so that you are clear about it. Ignorance is not an excuse. If I discover any violations of academic integrity, I will pursue the harshest penalty consistent with university policy.

Logic Schedule

| Date | Reading | Topic | Notes |
|--------|--|------------------------------|--|
| 31-Jan | - | Introduction | |
| 2-Feb | Chapter 1 | Basic Concepts | HW1 Assigned |
| 4-Feb | Chapter 2.1-2.7 | Truth-Functional Connectives | HW1 Due |
| 7-Feb | Chapter 2.8-2.11 | | HW2 Assigned |
| 9-Feb | Chapter 2.12-2.13 | | |
| 11-Feb | Chapter 3 | Validity | HW2 Due HW3 Assigned |
| 14-Feb | Carroll, "What the Tortoise Said to Achilles"* | | |
| 16-Feb | Chapter 4.1-4.10 | Translations in SL | HW3 Due |
| 18-Feb | Chapter 4.11-4.17 | | HW4 Assigned |
| 21-Feb | Chapter 4.18-4.22 | | |
| 23-Feb | Chapter 4.23-4.25 | | HW4 Due |
| 25-Feb | - | Review Day | |
| 28-Feb | EXAM 1 | | |
| 2-Mar | Chapter 5.1-5.5 | Derivations in SL | HW5.1 Assigned |
| 4-Mar | Chapter 5.9-5.11 | | |
| 7-Mar | Chapter 5.12-5.16 | | |
| 9-Mar | Re-read Chapter 5 | | HW5.1 Due HW5.2 Assigned |
| 11-Mar | - | Derivation Practice Day | |
| 14-Mar | Jeffrey, "Truth Trees"* | Truth Trees | Teller, "Truth Trees for Sentential Logic"* (optional) |
| 16-Mar | | | |
| 18-Mar | EXAM 2 | | HW5.2 Due |
| 28-Mar | Chapter 6.1-6.6 | Translations in Monadic PL | HW6 Assigned |
| 30-Mar | Chapter 6.7-6.11 | | |
| 1-Apr | NO CLASS | | |
| 4-Apr | Chapter 6.12-6.17 | | |
| 6-Apr | Chapter 6.18-6.20 | | |
| 8-Apr | Re-read Chapter 6 | | HW6 Due |
| 11-Apr | Chapter 7.1-7.5 | Translations in Polyadic PL | HW7 Assigned |
| 13-Apr | Chapter 7.5-7.10 | | |
| 15-Apr | Re-read Chapter 7 | | HW7 Due |
| 18-Apr | - | Review Day | |
| 20-Apr | EXAM 3 | | |
| 22-Apr | Chapter 8.1-8.6 | Derivations in PL | HW8 Assigned |
| 25-Apr | Chapter 8.7-8.8 | | |
| 27-Apr | Chapter 8.9-8.12 | | |
| 29-Apr | Re-read Chapter 8 | | HW8 Due |
| 2-May | Pullum, "Scooping the Loop Snooper"* | Metalogic | Barker-Plummer, "Turing Machines"* (optional) |
| 4-May | "Introduction to Inductive Logic"* "Statistical Generalizations"* | Inductive Logic | HW9 Assigned |
| 6-May | "Analogical Arguments"* | | EXAM RETAKE (EVENING) |
| 9-May | "Causal Reasoning"* | | |
| 11-May | "Probability and Bayes' Theorem"* | | HW9 Due Projects Due |
| 16-May | EXAM 4 | | |