Logic · Phil 251A

Prof. Jeffrey Dunn

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 online at:
`http://courses.umass.edu/phil110-gmh/text.htm`

Course Requirements

Homework Assignments

There will be regular homework assignments for this course. An up-to-date list of the homework assignments can be found on the course webpage. Announcements about homework assignments will also be made in class.

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.

Exams

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

Exam 1: 9/22
Exam 2: 10/11
Exam 3: 11/8
Exam 4: 12/15

Friday, 12/3 will be exam re-take day. You may elect to re-take (an alternate version of) Exam 1, 2, or 3 on this day. 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.

Other Requirements

You should keep up with the readings, attend class, and participate in discussions. Consistent with university policy, you may be dropped from the class if absences are too frequent.

You should also make arrangements to meet with me if you are falling behind or are confused about something.

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.

Grading

| Homework Assignments: | 20% |
| Exams (4): | 80% (20% each) |

Exam Re-take Day: The first three exams are given in class. On 12/3 you have the opportunity to re-take *one* of the first three exams. (The questions will be changed, but the content will be the same). If you do better on the retake exam, your new score will replace your old one. If you do worse, you retain your old score.

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 115 Asbury to see the schedule of when tutors are available.

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 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. The *minimum* penalty for violations of Academic Integrity is a 0 on the relevant assignment and a further reduction in your overall grade.

Tentative Schedule

Sentential Logic: Validity and Translations		
Date	**Topic**	**Reading**
8/25	Basic Concepts	–
8/27		Ch 1 **HW1 Assigned**
8/30	The Language of Sentential Logic	Ch 2.1-2.7 **HW1 Due**
9/1		Ch 2.8-2.11 **HW2 Assigned**
9/3		Ch 2.12-2.13
9/6	Validity	Ch 3 **HW2 Due**
9/8		Ch 3
9/10	Translations	Ch 4.1-4.10
9/13		Ch 4.11-4.17
9/15		Ch 4.18-4.22
9/17		Ch 4.23-4.25
9/20	Review Day	(come with questions)
9/22	**Exam 1**	**Exam 1**

Sentential Logic: Derivations		
9/24	Simple and Direct Derivations	Ch 5.1-5.5 **HW5.1 Assigned**
9/27		Ch 5.6-5.8
9/29		Re-read: Ch 5.1-5.8
10/1	Conditional and Indirect Derivations	Ch 5.9-5.11 **HW5.1 Due** **HW5.2 Assigned**
10/4		Ch 5.12-5.16
10/6		Re-read: Ch 5.9-5.16
10/8	Review Day	(come with questions) HW5.2 Due
10/11	**Exam 2**	**Exam 2**
Predicate Logic: Validity and Translations		
10/13	Single Quantifiers/Monadic Predicates	Ch 6.1-6.6
10/15		Ch 6.7-6.11
10/25		Ch6.12-6.17
10/27	Multiple Quantifiers/Monadic Predicates	Ch 6.18-6.20
10/29	Quantifiers with Polyadic Predicates	Ch 7.1-7.3 **HW6 Due** **HW7 Assigned**
11/1		Ch 7.4-7.7
11/3		Ch 7.8-7.10
11/5	Review Day	(come with questions) **HW7 Due**
11/8	**Exam 3**	**Exam 3**

	Predicate Logic: Derivations	
11/10	Derivations in Predicate Logic	Ch 8.1-8.6 **HW8 Assigned**
11/12		Ch 8.7-8.8
11/15		Ch 8.9-8.12
11/17	Decidability	Pullum, "Scooping the Loop Snooper" Barker-Plummer, "Turing Machines" **HW8 Due**
11/19	Overflow/Review Day	(come with questions)
	Inductive Logic	
11/22	Mill's Methods	Skyrms, excerpt *Choice & Chance* (on Moodle) **HW9 Assigned**
11/29		Skyrms, excerpt *Choice & Chance* (on Moodle)
12/1		Skyrms, excerpt *Choice & Chance* (on Moodle)
12/3	**Exam Re-Take**	**Exam Re-Take**
12/6	Probability	TBA
12/8		TBA
12/10	Wrap-Up	**HW9 Due**
12/15	**Exam 4**	**Exam 4**

Last updated: August 24, 2010