

Logic

Professor: Christopher Hom
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Office: PHIL 265D
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TA's:

Katie Hudson
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OH's: M 1-2, W 2:30-3:30 @ PHIL 262

Jakob Nelson
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OH's: M 10-11, W 4-5 @ PHIL 262

Course Description:

A central aspect of reasoning is the ability to give arguments for one's conclusions. Logic is the formal representation of arguments, so mastering logic is essential for good reasoning. In this course, we will investigate the underlying, logical form of sentences and the deductive relations that hold between them, thus giving us deeper insight into the notion of logical inference from premises to conclusion. The course will present three logical systems, each in increasing expressive power: sentential logic, monadic quantificational logic, and polyadic quantificational logic. For each system, we will closely examine the syntax of the system, its relation to English, and its particular semantic features (e.g. satisfiability, validity, implication and equivalence).

Attendance at lectures is mandatory. Your likelihood of failing the class increases substantially with every lecture you miss. If you think you will miss more than three lectures this semester, this is probably not the class for you.

Expected Learning Outcomes:

1. Acquisition of effective, critical thinking skills.
2. Understanding of basic formal mechanisms of first-order logic.
3. Ability to demonstrate (1-2) in clear, concise problem-solving.

Methods for Assessing the Expected Learning Outcomes:

Exams, exam practice problems, problem sets, in-class logic labs and discussion.

Meeting Time: T, Th 9:30-10:50 AM

Location: MCOM 75

Text: *Deductive Logic (DL)*, by Warren Goldfarb (required)

Assignments: Homework (25%)
Attendance/participation (10%)
Midterm exams (3, 15% each)
Final exam (20%)

Course Schedule

(*All dates are subject to revision)

Date	Topic/Reading	Date	Topic/Reading
8/30	<i>Wk1 – Introduction, Sentential Logic (SL)</i>	10/25	<i>Wk9 – (Intro to PQ Syntax)</i> Read DL (149-165)
9/1	Read DL (1-28)	10/27	MIDTERM 2
9/6	<i>Wk2 – SL cont'd.</i> Read DL (29-35), Logic Lab 1	11/1	<i>Wk10 – Polyadic Quantificational (PQ)</i>
9/8	Read DL (37-59)	11/3	Logic Lab 6
9/13	<i>Wk3 – SL cont'd. (Semantics)</i> Logic Lab 2	11/8	<i>Wk11 – PQ cont'd. (Semantics)</i> Read DL (167-198)
9/15		11/10	
9/20	<i>Wk4 – SL cont'd. (Semantics)</i> Read DL (61-67)	11/15	<i>Wk12 – Natural Deduction</i> Logic Lab 6
9/22		11/17	
9/27	<i>Wk5 – SL cont'd. (Intro to MQ)</i> Read DL (91-121)	11/22	<i>Wk13 – Natural Deduction (cont'd.)</i> MIDTERM 3
9/29	MIDTERM 1	11/24	THANKSGIVING
10/4	<i>Wk6 – Monadic Quantificational (MQ)</i>	11/29	<i>Wk14 – Natural Deduction (cont'd.)</i>
10/6	Read DL (123-138)	12/1	
10/11	<i>Wk7 – MQ cont'd. (MQ translation)</i> Logic Lab 4	12/6	<i>Wk15 – Last Lecture</i> Course Evaluations
10/13	Read DL (139-146)		
10/18	<i>Wk8 – MQ cont'd. (Semantics)</i>	12/8	REVIEW (unofficial, 7:00-8:30 PM, location TBA)
10/20	Logic Lab 5	12/10	FINAL EXAM – 7:30am – 10:00am

General Course Policy

Attendance and participation (10%)

Attendance to lectures and discussion sections will be taken each meeting. **Six or more total unexcused absences will result in your disqualification from the course curve.**

Lecture Slides

Lecture slides will be emailed to you each weekend prior to the week's lectures. You should print them out and bring them to lecture. Merely reading the lecture slides are not an adequate substitute for attending lecture, and most slides require completing information from lecture.

Reading

You are expected to come to class every day having read and understood the assigned material. There is less reading in this course than in most other courses, but you have to read more closely than in other courses. You should plan on rereading sections after lecture to be sure that you have understood the concepts. The course is primarily about skill acquisition and problem solving, so constant practice will be necessary to master the material.

Discussion Sections

You will meet for weekly, 50-minute discussion sections with your TA. This is a tremendous opportunity to ask questions and practice working problems. Attendance is mandatory and part of your attendance grade.

709	W 11:00 AM - 11:50 AM	ENG/PHIL 152	Jakob
710	W 12:00 PM - 12:50 PM	ENG/PHIL 152	Katie
711	W 12:00 PM - 12:50 PM	ENG/PHIL 308	Jakob
712	W 1:00 PM - 1:50 PM	ENG/PHIL 151	Katie

Logic Lab

On many lectures, we will devote the second half of class to solving problems together and discussing any questions you might have.

Homework (25%)

There will be weekly/bi-weekly problem sets. Answers will be posted online.

Exams (65% total)

Midterm 1 – Thursday, September 29

Midterm 2 – Thursday, October 27

Midterm 3 – Tuesday, November 22

Final Exam – Saturday, December 10 7:30 – 10:00am

Students are required to pass each and every exam in order to pass the course. We will discuss exams in greater detail as their dates get closer. Practice problems and model answers will be made available prior to each exam.

Students With Disabilities

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office in 335 West Hall or 806-742-2405.

Academic Integrity

Given the rise in cases of academic misconduct, I make it a general policy to refer all such cases to the Dean's office with a recommendation for the fullest sanctions, as well as automatic failure for the course. Please familiarize yourself with TTU's statement on academic integrity and come speak with me if you have any questions:

<http://www.depts.ttu.edu/studentjudicialprograms/academicinteg.php#>

There will be no late homework accepted, or alternate exam times without a serious, documented family or medical emergency.

Notification must be made to both your TA and Professor Hom within 24 hours of such an emergency, as the situation permits.