

INTRODUCTION TO LOGIC

PHIL 0500

Fall 2025

TuTh 11:00-11:50 in Alumni Hall, 7th floor Auditorium

Instructor: **T. J. Berry**

Office: 1017F CL

E-mail: tberry@pitt.edu

Office Hours: W 2:00-3:15 and by appointment.

RECITATIONS

Recitations will meet begin in the second week of classes. Students are required to attend recitation once per week, except when Pitt is closed on the relevant day. Please attend the recitation that you enrolled in.

The recitation leaders are Tomas Albergo and Sebastian Evans.

Here are the details of the six recitations:

M	1:00-1:50	339 CL	Albergo
M	2:00-2:50	339 CL	Albergo
M	3:00-3:50	227 CL	Albergo
Th	1:00-1:50	221 CL	Evans
Th	2:00-2:50	221 CL	Evans
Th	3:00-3:50	221 CL	Evans

Please attend the recitation that you enrolled in.

COURSE DESCRIPTION

PHIL 0500 provides an introduction to the concepts and methods of modern deductive logic. A full treatment of sentential logic and the basics of monadic predicate logic will be covered. PHIL 0500 satisfies the Dietrich School of Arts and Sciences General Education Requirement in Formal or Quantitative Reasoning.

COURSE OBJECTIVES

- Students will learn basic logical concepts, such as argument, counterexample, validity, soundness, sentential operator, and quantifier.
- Students will acquire the ability to translate English language sentences into a logical language.
- Students will master techniques for establishing the validity and invalidity of arguments, including the truth table method, the proof method, and the natural interpretation method.

MATERIALS

The text for the course is a series of unpublished lessons that are posted on Canvas. Also posted to Canvas are practice exercises and answers to those marked with an asterisk taken presented in Virginia Klenk's *Understanding Symbolic Logic*, 5th Edition. Lecture slides will be posted.

SCHEDULE

Reading the lessons assigned for the week should be done in advance of the lectures. Material introduced in the reading will be covered in the class, and homework problems will be assigned for the end of the week.

26 August	Lesson 1	Analyzing English Sentences
28 August	Lesson 1	Developing Logical Symbols
2 September	Lesson 2	Symbolizing English Sentences
4 September	Lesson 2	Symbolizing English Sentences
9 September	Lesson 3	Checking Validity with Truth Tables
11 September	Lesson 3	Checking Validity with Truth Tables
16 September	Lesson 4	Checking Other Properties with Truth Tables
18 September		Review
23 September		Test 1
25 September	Lesson 5	Inference Rules for Proofs
30 September	Lesson 5	Inference Rules for Proofs
2 October	Lesson 6	Replacement Rules for Proofs
7 October	Lesson 6	Replacement Rules for Proofs
9 October	Lesson 7	Conditional Proof and Indirect Proof
14 October	Lesson 7	Conditional Proof and Indirect Proof
16 October	Lesson 7	Proving Theorems and Invalidity
21 October		Review
23 October		Test 2
28 October	Lesson 8	Symbolizing Singular Sentences and Simple Quantified Sentences
30 October	Lesson 9	Symbolizing Categorical Sentences
4 November	Lesson 9	Symbolizing Categorical Sentences
6 November	Lesson 10	Symbolizing Complex Subjects and Predicates
11 November	Lesson 10	Quantifier Form and Truth-Functional Compounds
13 November	Lesson 11	The Proof Method for Monadic Predicate Logic
18 November	Lesson 11	The Proof Method for Monadic Predicate Logic
20 November	Lesson 11	The Proof Method for Monadic Predicate Logic

2 December Lesson 12 Providing Natural Interpretations to Prove Invalidity
4 December Review

10 DECEMBER FINAL EXAM 12:00-1:50

COURSE REQUIREMENTS

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| 1. Test 1 (23 September) | Weight: 20% |
| 2. Test 2 (23 October) | Weight: 20% |
| 3. Final Exam (10 December) | Weight: 35%. |
| 4. Homework (dates listed below) | Weight: 15% |
| 5. Recitation attendance/participation | Weight: 10% |

Tests and Final Exam. Each test will focus only on the lessons covered since the previous test (or since the start of the course for the first test). However, because most of the material builds upon what has gone before, the final exam will be implicitly cumulative. Make-up tests will be given only to students presenting documentation of a sufficient reason for missing the test.

Homework. Homework assignments will be posted on Sundays and will be due by noon on the following Friday. The eleven homework assignments will be due on September 5, September 12, September 19, October 3, October 10, October 17, October 24, November 7, November 14, November 21, and December 5. Your TA will tell you how to submit your homework assignments. You may work with others on the homework assignments, but please note that doing your own work on the homework problems is advisable because you will be working alone when you take the tests. Homework assignments are worth 20 points. Late homework will lose 2 points for each day of lateness and will not be accepted at all if more than 48 hours late.

Practice problems. For each lesson, practice problems are posted and the answers to problems marked with an asterisk ("starred" problems) are provided at the end of the pdf. You are advised to complete some starred exercises prior to attempting the assigned homework.

Attendance/participation. Students are **required** to attend and participate in recitation. Participation may take the form of doing problems at the board. Students are not required to attend lecture, but attending is highly recommended.

DIABILITY RESOURCE SERVICES

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services, 140 William Pitt Union, 412-648-7890, as early as possible in the term. Disability Resources and Services will verify your disability and determine reasonable accommodations for this course.

ACADEMIC INTEGRITY POLICY

Cheating/plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity, noted below, will be required to participate in the outlined procedural process as initiated by the instructor. A minimum sanction of a zero score for the quiz, exam or paper will be imposed. (For the full Academic Integrity policy, go to www.provost.pitt.edu/info/ai1.html.)

E-MAIL COMMUNICATION POLICY

Each student is issued a University e-mail address (username@pitt.edu) upon admittance. This e-mail address may be used by the University for official communication with students. Students are expected to read e-mail sent to this account on a regular basis. Failure to read and react to University communications in a timely manner does not absolve the student from knowing and complying with the content of the communications. The University provides an e-mail forwarding service that allows students to read their e-mail via other service providers (e.g., Hotmail, AOL, Yahoo). Students that choose to forward their e-mail from their pitt.edu address to another address do so at their own risk. If e-mail is lost as a result of forwarding, it does not absolve the student from responding to official communications sent to their University e-mail address. To forward e-mail sent to your University account, go to <http://accounts.pitt.edu>, log into your account, click on **Edit Forwarding Addresses**, and follow the instructions on the page. Be sure to log out of your account when you have finished. (For the full E-mail Communication Policy, go to www.bc.pitt.edu/policies/policy/09/09-10-01.html.)

OTHER POLICIES

While class is in session, you may use laptops but not phones. Laptop users should refrain from using Facebook, playing games, and engaging in any activities that might distract other students.

To ensure free and open discussion, students may **not** record classroom lectures, discussion and/or activities without the advance written permission of the instructor. Any such recording properly approved in advance may be used solely for the student's own private use.

The instructor may decline to answer substantive questions via e-mail, because such questions are best addressed in office hours. E-mail contact should be used to set up appointments and ask administrative questions.