# **Logic and Critical Thinking: Recitation**

# **PHIL 2050.101**

# **F 10:00 - 10:50**

Instructor: **Ben Larsen** Term: **Spring 2023**

Office: **ENVS 372a** Rm: CHEM 253

Office hours: Monday 3:30-5:30 Email:**ben.larsen@unt.edu**

**Course Description/Objectives:**

This is a required class to be taken in conjunction with Philosophy 2050.001.

The overall course is designed to be an introduction to the methods, content, history and importance of logical reasoning. We will begin with an introduction to logic and informal fallacies, proceed to learn the syntax, semantics and translations for sentential logic, and end with logical proofs.

The goal of a recitation is to provide an opportunity for class meetings where students can ask more questions and work with the instructor on problems regarding the material. So the format for these smaller gatherings will primarily be discussion and working exercises.

***Hint for Success***: Set aside extra time to review with your friends. Find folks in your recitation who are willing to form a study group. There is only so much we can do in a short class like this to help you work through problems you may have with the homework or understanding the material.

***Text:***

*A Concise Introduction to Logic*, Patrick Hurley 13th Edition (Cengage, 2017).

**Attendance**

We will be taking attendance in this recitation. Failure to attend recitation affects your grade in two ways: (1) because you do not get the extra time working with the concepts/problems and (2) because it is part of your attendance/participation grade for the entire course. For this course, you are expected to be ***on time*** and attend ***every regular class and each recitation***. Attendance will be taken 5 minutes after the start time of class- if you are not present when attendance is taken, you will be counted absent for the day.

***Excessive absences will lower your grade***. Owing to the contingencies of life, you are permitted 5 absences for this ***course overall***, after which each subsequent absence will lower your final attendance grade by one letter grade. PLEASE NOTE: the 5 absences are for the overall course, Monday and Wednesday lecture meetings and Friday recitations. If you are absent, there is no need for documentation explaining the absence- all absences will be treated the same.

**Schedule**

|  |  |
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| **Week 1, Chapter 1: Basic Concepts** |  |
| 1/18 Vocabulary; Informal Logic |  |
| 1/20 Arguments, Induction vs. Deduction | 1.1-1.3 |
| **Week 2, Chapter 1: Basic Concepts** |  |
| 1/23 Induction vs. Deduction | 1.1-1.3 |
| 1/25 Validity, Soundness, Strength, Cogency | 1.4-1.5 |
| 1/27 Validity, Soundness, Strength, Cogency | 1.1-1.5 |
| **Week 3, Chapter 3: Informal Fallacies** |  |
| 1/30 Validity, Soundness, Strength, Cogency\*Last day to drop a course without it showing up on transcripts\* | 1.4-1.5 |
| 2/1 General Fallacies, Fallacies of Relevance | 3.1-3.2 |
| 2/3 Fallacies of Relevance, Weak Induction | 3.1-3.2 |
| **Week 4, Chapter 3: Informal Fallacies** |  |
| 2/6 Weak Induction, Presumption, Ambiguity, Grammatical Analysis | 3.3-3.4 |
| 2/8 Fallacies in Ordinary Language | 3.5 |
| 2/10 Exam Review |  |
| **Week 5, Chapter 4: Categorical Propositions** |  |
| 2/13  | **EXAM 1** |
| 2/15 Quantity, Quality, Distribution, Venn Diagrams | 4.1-4.3 |
| 2/17 Categorical Propositions, Venn Diagrams | 4.1-4.3 |
| **Week 6, Chapter 4: Categorical Propositions** |  |
| 2/20 Venn Diagrams, Square of Opposition | 4.3 |
| 2/22 Functions | 4.4 |
| 2/24 Propositions and Functions | 4.3-4.5 |
| **Week 7, Chapter 5: Categorical Syllogisms** |  |
| 2/27 Form, Mood, Figure, Venn Diagrams | 5.1-5.2 |
| 3/1 Rules and Fallacies | 5.3 |
| 3/3 Categorical Syllogisms | 5.1-5.3 |
| **Week 8, Chapter 5: Categorical Syllogisms** |  |
| 3/6 Enthymemes | 5.6 |
| 3/8 Sorites (if time); Exam Review | 5.7 |
| 3/10 | **EXAM 2** |
| **SPRING BREAK** |  |
| 3/13-3/18, no classes |  |
| **Week 9, Chapter 6: Propositional Logic** |  |
| 3/20 Symbols, Translation, Truth Tables | 6.1-6.2 |
| 3/22 Propositional Language | 6.1-6.2 |
| 3/24 Symbols, Truth Tables, Propositional Language | 6.1-6.2 |
| **Week 10, Chapter 6: Propositional Logic** |  |
| 3/27 Truth Tables for Propositions | 6.3 |
| 3/29 Truth Tables for Arguments | 6.4 |
| 3/31 Truth Tables continued | 6.3-6.4 |
| **Week 11, Chapter 6: Propositional Logic** |  |
| 4/3 Indirect Truth Tables for Sets of Propositions | 6.5 |
| 4/5 Indirect Truth Tables for Arguments | 6.5 |
| 4/7 Indirect Truth Tables for Sets of Propositions and for Arguments\*Last day to withdraw from a course\* | 6.5 |
| **Week 12, Chapter 7: Natural Deduction** |  |
| 4/10 Rules of Implication I | 7.1 |
| 4/12 Rules of Implication II | 7.2 |
| 4/14 Rules of Implication | 7.1-7.2 |
| **Week 13, Chapter 7: Natural Deduction** |  |
| 4/17 Rules of Replacement I | 7.3 |
| 4/19 Rules of Replacement II | 7.4 |
| 4/21 Rules of Replacement | 7.3-7.4 |
| **Week 14, Chapter 7: Natural Deduction** |  |
| 4/24 Conditional Proof Strategy | 7.5 |
| 4/26 Indirect Proof Strategy | 7.6 |
| 4/28 Conditional & Indirect Proof Strategies | 7.5-7.6 |
| **Week 15, Chapter 7: Natural Deduction** |  |
| 5/1 Proving Logical Truths | 7.7 |
| 5/3 Catch-up/Exam Review |  |
| 5/5 Reading Day, Recitation OPTIONAL |  |
| **Week 16: Finals Week** |  |
| 5/6 SATURDAY, 8:00-10:00 CHEM 253 | **EXAM 3** |