

# PHIL 1440: Introduction to Logic

Spring 2014

section 002: MWF 9:00 – 10:50am, DUAN G2B60  
section 001: MWF 11:00 – 11:50am, ECON 205

## Syllabus

### Instructor

Chad Vance  
[chad.vance@colorado.edu](mailto:chad.vance@colorado.edu)

Office Hours: MW 12:45 – 2:15pm  
Buchanan's Coffee (on the hill)

### What Is This Class About?

This is a logic course, designed to give you a basic understanding of how to think critically, with the overall goal of giving you the tools required to be able to reason properly, better argue for what you believe, and investigate questions regarding the nature of our world, and how to live rightly in it. The course will be divided into three units:

*First Unit: Reasoning and Arguments.* We will examine the structure of proper reasoning, and various famous forms of proper argumentation, and learn to recognize this sort of reasoning when we come across it.

*Second Unit: Fallacies.* In this section, we will discuss some of the most common mistakes in reasoning that people make when drawing inferences and making conclusions about the world, and learn to recognize these sorts of mistakes when we see them.

*Third Unit: Propositional Logic, Induction, & Application.* In light of the tools we have acquired in the first two sections, we will then make a more rigorous attempt at formalizing various arguments, while further broadening our understanding of how to reason properly. We will end the unit by examining some actual philosophical arguments that have been given by philosophers, in order to get some sense of how philosophers use logic and reasoning in practice—one for the conclusion that God exists, and another for the conclusion that you are probably a moral monster.

### Required Text

*A Concise Introduction to Logic*, 11<sup>th</sup> edition, edited by Patrick Hurley, 2012, Wadsworth-Cengage Publishing; ISBN: 978-0-8400-3417-5

Required readings not found in our textbook will be posted under "Assigned Readings" as .pdf files on the course website, here:

<http://rintintin.colorado.edu/~vancecd/phil1440/phil1440.html>

## Course Requirements

1. *Exams (60%)*. You will take three unit exams (20% each).
2. *Homework (25%)*. You will be assigned 15 homework assignments, generally due on Mondays at the beginning of class. Your lowest homework score will be dropped; i.e., your 14 best scores will constitute your homework assignment grade (~2% each).
3. *Case Study Assignment (5%)*. You will complete one assignment requiring you to identify the argument made, and any fallacies of reasoning committed, within one article, paper, or advertisement, etc., that you select (more details: TBA).
4. *Participation (10%)*. A portion of your grade will depend on your ability to come to class (on time and prepared), participate in class discussion, and refrain from being disruptive, falling asleep, sending text messages, or surfing the internet.

## Course Policies

### Academic Integrity

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council ([honor@colorado.edu](mailto:honor@colorado.edu); 303-725-2273). More information on the Honor Code can be found at: [honorcode.colorado.edu/about-honor-code/definitions](http://honorcode.colorado.edu/about-honor-code/definitions)

NOTE: *Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member (i.e., you will automatically receive an F for the course) as well as non-academic sanctions (e.g., academic probation, suspension, or expulsion).*

### Disability Services

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and [colorado.edu/disabilityservices](http://colorado.edu/disabilityservices).

### Religious Observances

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments, or required attendance. Please let me know well in advance about any such conflicts, so we can resolve them. For more information, see [colorado.edu/policies/fac\\_relig.html](http://colorado.edu/policies/fac_relig.html).

### Classroom Behavior

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. See policies at [colorado.edu/policies/classbehavior.html](http://colorado.edu/policies/classbehavior.html).

### Discrimination and Harassment

The University of Colorado at Boulder policies on Discrimination and Harassment, Sexual Harassment and Amorous Relationships apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, creed, religion, sexual orientation, gender identity, gender expression, pregnancy, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the campus resources available to assist individuals regarding discrimination or harassment can be obtained at [colorado.edu/odh](http://colorado.edu/odh).

## Course Schedule

Below is a schedule of the topics that we will cover, along with which reading(s) you should complete for each class meeting. There are section numbers next to the readings found in our textbook. Readings not found in the text are marked: (pdf). Please note the **case study due date** and **exam dates** in bold.

| <b>Unit One</b> |   | <b>Reasoning and Arguments</b>                                |
|-----------------|---|---|
| <b>Week 1</b>   |   |   |
| Mon 1/13        | Introduction: Being rational              | • Video: <a href="#">TEDx Talk: Why People are Irrational</a> |
| Wed 1/15        | Arguments, Validity & Soundness           | §1.1 – 1.2 & §1.4 (stop on pg. 47 at "Inductive Arguments")   |
| Fri 1/17        | No new topics                             | No new readings   |
| <b>Week 2</b>   |   |   |
| Wed 1/22        | The Counterexample Method                 | §1.5  |
| Fri 1/24        | Constructing Arguments, part 1            | §§5.6 & 1.6   |
| <b>Week 3</b>   |   |   |
| Mon 1/27        | Categorical Propositions                  | §§4.1 – 4.2   |
| Wed 1/29        | Venn Diagrams, part 1                     | §4.3  |
| Fri 1/31        | No new topics                             | No new readings   |
| <b>Week 4</b>   |   |   |
| Mon 2/3         | Conversion, Obversion, and Contraposition | §4.4  |
| Wed 2/5         | Traditional Square of Opposition          | §4.5  |
| Fri 2/7         | No new topics                             | No new readings   |
| <b>Week 5</b>   |   |   |
| Mon 2/10        | Categorical Syllogisms                    | §4.7 & §5.1   |
| Wed 2/12        | Venn Diagrams, part 2                     | §5.2 (stop on pg. 274 at "Aristotelian Standpoint")           |
| Fri 2/14        | No new topics                             | No new readings   |
| <b>Week 6</b>   |   |   |
| Mon 2/17        | Constructing Arguments, part 2            | §§5.4 – 5.5   |
| Wed 2/19        | Review: Unit One Exam                     | No new readings   |
| Fri 2/21        | <b>UNIT ONE EXAM</b>                      | No new readings   |
| <b>Unit Two</b> |   | <b>Fallacies</b>  |
| <b>Week 7</b>   |   |   |
| Wed 2/26        | Meaning and Language                      | §2.1  |
| Wed 2/26        | Intension and Extension of Terms          | §2.2  |
| Fri 2/28        | No new topics                             | No new readings   |
| <b>Week 8</b>   |   |   |
| Mon 3/3         | Fallacies of Relevance                    | §3.1 – §3.2   |
| Wed 3/5         | Deduction vs. Induction                   | §§1.3 – 1.4 (note: pgs. 44-47 assigned in week 1)             |
| Fri 3/7         | No new topics                             | No new readings   |

|  |  |  |
|--|--|--|
| <b>Week 9</b>  |  |  |
| Mon 3/10   | Fallacies of Weak Induction                                  | §3.3   |
| Wed 3/12   | Fallacies of Presumption, Ambiguity, and Grammatical Analogy | §3.4   |
| Fri 3/14   | No new topics  | No new readings  |
| <b>Week 10</b>   |  |  |
| Mon 3/17   | Detecting and Avoiding Fallacies                             | §3.5   |
| Wed 3/19   | Review: Unit Two Exam  | No new readings  |
| Fri 3/21   | <b>UNIT TWO EXAM</b>   | No new readings  |
| <b>Spring Break</b>  |  |  |
| 3/24 – 3/28  | Spring Break   | No new readings  |
| <b>Unit Three: Propositional Logic, Induction, &amp; Application</b> |  |  |
| <b>Week 11</b>   |  |  |
| Mon 3/31   | Logical Operators  | §6.1   |
| Wed 4/2  | Truth Functions  | §6.2   |
| Fri 4/4  | No new topics  | No new readings  |
| <b>Week 12</b>   |  |  |
| Mon 4/7  | Truth Tables for Propositions                                | §6.3   |
| Wed 4/9  | Truth Tables for Arguments                                   | §6.4   |
| Fri 4/11   | No new topics  | No new readings  |
| <b>Week 13</b>   |  |  |
| Mon 4/14   | Argument Forms and Fallacies                                 | §6.6   |
| Wed 4/16   | Game Theory & Expected Value                                 | • Pascal, "The Wager" (pdf)  |
| Fri 4/18   | No new topics  | No new readings  |
| <b>Week 14</b>   |  |  |
| Mon 4/21   | Explanatory Power vs. Prior Probability                      | §11.2.6: "Bayes' Theorem"<br>• Collins, "A Scientific Argument for the Existence of God" (pdf) |
| Wed 4/23   | The Problem of Induction                                     | §1.3   |
| Fri 4/25   | No new topics<br><b>DUE: Case Study</b>                      | No new readings  |
| <b>Week 15</b>   |  |  |
| Mon 4/28   | Case Study: Famine Relief                                    | • Singer, "Famine, Affluence, & Morality"  |
| Wed 4/30   | No new topics  | No new readings  |
| Fri 5/2  | Review: Unit Three Exam                                      | No new readings  |
| Tue 5/6  | <b>UNIT THREE EXAM (11am class)</b>                          | Section 001: 7:30pm – 10:00pm  |
| Wed 5/7  | <b>UNIT THREE EXAM (9am class)</b>                           | Section 002: 7:30pm – 10:00pm  |