PHIL-1410: Forms of Reasoning

Spring 2026, University of Virginia

Description & Overview

As humans, we reason constantly and about an array of subjects. We reason when deciding what to believe, to do, and so on. But what does it mean to reason? And what separates good reasoning from bad reasoning? Typically, we reason by means of *arguments*. We argue for the truth of some claim on the basis of evidence. Again, though, we can ask what exactly arguments are and whether there's just one way to argue properly.

In a nutshell, this course introduces students to reasoning and argumentation. It's designed to acquaint students with the basics of argumentation and to develop the requisite skills for identifying and assessing different types of arguments. To this end, we'll look at a combination of formal and informal methods for representing and examining arguments. So, students will become capable of recognizing the logical structure of various arguments, no matter the domain of inquiry.

The course is divided into three parts. For the first unit, we'll get clear on what arguments are and the role of language in ordinary argumentation. From there, we'll practice in the second unit formal methods for representing and evaluating deductive arguments. Finally, the third unit turns to non-deductive argumentation across different subject matters. Here, we'll look at moral and legal reasoning along with the kinds of inductive arguments we encounter in the sciences.

Course Information

Instructor:
C.J. Oswald
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Lecture:
Nau Hall 142
T/Th: 9:30-10:45am

Office Hours:
Cocke Hall 111
T/Th, 11:00am-12:15pm

Readings:
A Concise Introduction to Logic, 14th Ed., by Patrick Hurley

Student Learning Objectives: By the end of this course, students will be able to

- Represent the arguments made in a wide variety of contexts (written articles, scholarly works, commentaries on radio and television, etc.) with appropriate logical symbols
- Identify and evaluate different types of non-deductive arguments, based on (a) the types and quality of evidence offered for the conclusion and (b) the relationship between the evidence and the conclusion
- Evaluate a variety of deductive arguments using Venn diagrams and truth tables
- Describe the relevance of the definitions and meanings of words to making and representing arguments
- Describe the criteria used by scientists in identifying cause-and-effect relationships from empirical data
- Apply concrete problem-solving strategies—both acting as individuals and as members of a team

General Course Policies

Syllabus Policy: A course syllabus is a contract between the instructor and students. Consequently, the policies, requirements, and guidelines listed throughout should be read as promises made to students about what they can expect from the course. However, as instructor, I reserve the right to modify the syllabus as needed to best achieve the course learning objectives. Students will be promptly informed—and likely consulted—regarding any such changes.

Email and Communications: All course announcements will be posted on Canvas. However, to contact me individually, the best way will be through email. When emailing me, please include **"PHIL-1410"** in the subject heading. I plan on responding to all emails within **2 business days** (so excluding weekends and holidays). If you haven't received a response after that period, please feel free to follow up.

Office Hours: Office hours are times set aside and dedicated for meeting with students. You're welcome (and encouraged!) to drop by and discuss whatever you need or want to. Often, students come prepared with questions regarding the course material, assignments, or grades. Yet I'm also happy to discuss philosophy, university life, and related topics. By attending office hours, you can receive more personalized instruction, feedback, and even advice on both the course and being a student. So please don't hesitate to use them!

Screens (and In-Class Materials): Evidence is mounting that the use of digital technologies or "screens" (e.g., laptops, phones, tablets) in educational settings hinders learning. These technologies distract both you and your classmates, preventing you from both attending to the material during class and, accordingly, from absorbing and reflecting on it. So, this will be a **screens-free** classroom: the use of screens within the classroom is prohibited. However, since printing is often costly, I will provide handouts for class discussion. If students require a laptop or tablet for **accessibility** reasons, please inform me as soon as possible.

Honor System: Students are expected to know and follow UVA's Honor System. More information can be found here.

Accommodations for Religious Observances: Students are welcome and encouraged to seek reasonable academic accommodations for religious beliefs and observances. Typically, but not always, this takes the form of excused absences or extensions for assignments. This is so students can observe religious holidays and traditions. Details on UVA's policy for religious observances can be found here.

Accommodations for Students with Disabilities: I have worked to structure this course in accordance with the principles of Universal Design for Learning. This is to help ensure an inclusive learning environment for students with disabilities. However, if students expect or experience any obstacles in this regard, students should feel free to notify me of their concerns. Students are further encouraged to meet with the Student Disability Access Center (SDAC) to request formal accommodations. More information on UVA's policy with respect to this can be found here.

Harassment, Discrimination, and Retaliation: Students are encouraged to familiarize themselves with their rights and responsibilities under UVA's policy, Prevent and Addressing Discrimination and Harassment, which includes provisions against academic retaliation. Students should also know that, as instructor, I am a designated Responsible Employee. This designation requires me to report to UVA's Office for Equal Opportunity and Civil Rights any witnessed or disclosed acts of discrimination or harassment on the basis of protected status. For more information, please consult EORC's website.

Grading, Requirements, and Assignment Policies

AI and Original Work: Much of philosophy's value stems from practicing it. By doing philosophy, we contribute to a collective intellectual project while also enhancing and refining our capacities for rational thought, communication, and so on. That is, there's value in doing the work independent of material outcomes (e.g., grades, jobs, etc.). As such, I require all students to submit their own, original work. The use of either generative AI programs (e.g., chatbots and other LLMs) or AI tools that significantly shape the writing (e.g., Grammarly) is therefore prohibited. If, for whatever reason, I suspect submitted work may not be your own, I may invite you for an interview regarding both the material and process. This interview will be treated as an oral examination counting for **50%** of your grade on the relevant assignment.

Revisions and Resubmissions: We learn and improve most when we have opportunities to correct--what we come to learn are--our mistakes. To facilitate this, students are granted **three** opportunities to revise and resubmit their work in light of my feedback. This policy applies to the following assignments: In-Class Quizzes, Homework Sets, Exam 1, Exam 2.

In-Class Assignments: The vast majority of students' grades for this class is determined by in-class assignments. These range from basic participation to group work, quizzes, and the exams. Accordingly, it's important that students attend class whenever feasible. If extenuating circumstances result in an excused absence, make up work will be made available. For quizzes and exams, this will involve simply re-scheduling these for a later date. For group assignments, a modified version will be assigned that will be completed on students' own time. Deadlines for make-up work will be established on a case-by-case basis.

Late/Missing Assignments and Extensions: Since much of the work in this course will be completed in-class, late work won't be much issue. Nevertheless, students are expected to submit all assignments by their designated deadline. Late submissions for homework assignments aren't allowed. However, I'm fairly lenient in granting extensions for out-of-class assignments. So long as I'm asked within a reasonable time frame (e.g., not a few hours before the deadline), I'll typically grant an extension, the length of which will depend on student circumstances.

Grading Scheme:

A+	99-100
A	93-98.9
A-	90-92.9
B+	87-89.9
B	83-86.9

B-	80-82.9
C+	77-79.9
C	73-76.9
C-	70-72.9
D+	67-69.9

D	63-66.9
D-	60-62.9
F	0-59

Assignments: Below are the assignments that students will complete for this course, along with their corresponding weight.

- *Class Attendance & Participation (10%):* Becoming more comfortable with philosophy requires active participation, so mere attendance will not suffice for learning the relevant material. For this class, in particular, we'll be practicing the kinds of problems that students will be expected to complete for the homework and exams. Moreover, many of the assignments are designed to be completed in class. As such, it's important that students are present in class whenever

feasible and that the reading has been completed ahead of time. Relevant passages and problem sets via handouts will be provided during class. If class must be missed for whatever reason, please simply let me know ahead of time.

- *In-Class Group Work (20%):* Throughout the semester, students will complete **6** group assignments. These assignments will be distributed around the halfway point during the corresponding lecture and are to be completed in class. The assignments are thus designed to be completed within 30-45 minutes. The content of these assignments will vary, but will typically consist of a number of problems or exercises that your group is to collaborate on in solving. Some of these will be straightforward multiple-choice problems with others requiring short-form answers or responses. In this regard, the group assignments are designed to represent low-stakes opportunities for practice and can thus help solidify the material in a collaborative learning context. See course schedule for dates.

- *In-Class Quizzes (10%):* Throughout the semester, students will also complete **5** in-class quizzes. All quizzes will be distributed toward the end of class and are designed to be completed within 10-15 minutes. The quizzes will typically consist of two or three short-form questions, which can be answered in a few (two to four) sentences each. See course schedule for dates.

- *Homework Sets (15%):* To ensure students are still engaged in the course outside of class, there will be **5** sets of homework. The homework sets are designed to elicit reflection on the course material itself, its importance, and your own relation to it. In this regard, the problems and questions posed will be a mixture of (a) the kinds of questions that students will encounter during group work and (b) more detailed short-form questions. The homework sets will be completed on Canvas and are to be submitted by 11:59pm on the corresponding due date (see course schedule).

- *Exams (45%):* This course will have **three** in-class exams. The first two will occur during normal class time, with the third being taken during finals week. Each exam will only cover material in the corresponding unit. So, there will be no comprehensive exams. The exams will be weighted equally.

Course Topics, Readings, and Schedule

Topic	Week	Day	Readings	Assignments
Course Introduction	1	1.13	No Reading	
Facts, Opinions, and Otherwise	1	1.15	No Reading	
Part 1: Arguments & Language				
Arguments: Components of Arguments, and their Varieties	2	1.20	Hurley, Chapter 1: "Basic Concepts" - Sec 1.1-1.3	
Arguments: Validity & Soundness	2	1.22	Hurley, Chapter 1: "Basic Concepts" - Sec 1.4-1.6	*Quiz 1 (In Class)*
Thinking about Language: Speech Acts and Meaning	3	1.27	Hurley, Chapter 2: "Meaning and Definition" - Sec. 2.1-2.2	
Thinking about Language: Defining Terms	3	1.29	Hurley, Chapter 2: "Meaning and Definition" - Sec. 2.3-2.5	*Group Work 1 (In Class)*

Fallacies: Fallacies of Relevance and Weak Induction	4	2.3	Hurley, Chapter 3: "Informal Fallacies" - Sec. 3.1-3.2	
Fallacies: Fallacies of Presumption and Ambiguity	4	2.5	Hurley, Chapter 3: "Informal Fallacies" - Sec. 3.4-3.5	*Group Work 2 (In Class)* *Homework 1 (**Due 2.8 by 11:59pm**)*
Review	5	2.10	*No Readings*	
Exam 1	5	2.12	*No Readings*	*Exam 1 (In Class)*
Part 2: Deductive Reasoning & Propositional Logic				
Categorical Reasoning: Relating Categories	6	2.17	Hurley, Chapter 4: "Categorical Propositions" - Sec. 4.1-4.3	*Quiz 2 (In Class)*
Categorical Reasoning: Categorical Syllogisms	6	2.19	Hurley, Chapter 5: "Categorical Syllogisms" - 5.1-5.2	*Homework 2 (**Due 2.22 by 11:59pm**)*
Propositional Logic: Symbolizing Propositions	7	2.24	Hurley, Chapter 6: "Propositional Logic" - Sec. 6.1-6.2	*Quiz 3 (In Class)*
Propositional Logic: Symbolizing Propositions (cont.)	7	2.26	Hurley, Chapter 6: "Propositional Logic" - Sec. 6.1-6.2	*Group Work 3 (In Class)*

Spring Recess	8	3.3-3.5	No Class	
Propositional Logic: Truth Tables	9	3.10	Hurley, Chapter 6: "Propositional Logic" - Sec. 6.3-6.5	
Propositional Logic: Truth Tables (cont.)	9	3.12	Hurley, Chapter 6: "Propositional Logic" - Sec. 6.3-6.5	*Group Work 4 (In Class)* *Homework 3 (**Due 3.15 by 11:59pm**)*
Review	10	3.17	No Readings	
Exam 2	10	3.19	No Readings	*Exam 2 (In Class)*
Part 3: Non-Deductive Reasoning & Scientific Inquiry				
Arguments from Analogy: On Analogical Arguments	11	3.24	Hurley, Chapter 9: "Analogy and Legal and Moral Reasoning" - Sec. 9.1	
	11	3.26	**Class Cancelled**	
Arguments from Analogy: Analogies in Law and Morality	12	3.31	Hurley, Chapter 10: "Causality and Mill's Methods" - Sec. 10.1-10.2	*Group Work 5 (In Class)*

Causal Reasoning: Identifying Causes	12	4.2	Hurley, Chapter 10: "Causality and Mill's Methods" - Sec. 10.1-10.2	*Quiz 4 (In Class)*
Probability: The Nature of Probability	13	4.7	Hurley, Chapter 11: "Probability" - Sec. 11.1	*Quiz 5 (In Class)*
Probability: Calculating Probabilities	13	4.9	Hurley, Chapter 11: "Probability" - Sec. 11.2	*Homework 4 (**Due 4.12 by 11:59pm**)*
Statistical Reasoning: Making Sense of Statistical Evidence	14	4.14	Hurley, Chapter 12: "Statistical Reasoning" - Sec. 12.1-12.4	
Statistical Reasoning: Representing Statistical Evidence and Information	14	4.16	Hurley, Chapter 12: "Statistical Reasoning" - Sec. 12.5.12.6	*Group Work 6 (In Class)*
Scientific Reasoning: Hypotheticals	15	4.21	Chapter 13: "Hypothetical/Scientific Reasoning" - Sec. 13.1-13.2	
Scientific Reasoning: Hypotheses	15	4.23	Chapter 13: "Hypothetical/Scientific Reasoning" - Sec 13.3-13.4	*Homework 5 (**Due 4.26 by 11:59pm**)*
Course Wrap-up	16	4.28	*No Readings*	
Exam #3	17	5.4	*No Readings*	*Exam 3 (from 2-5pm)*