PHILOS 1500.02

Introduction to Logic (Online)

Instructor: Eric de Araujo   **Office:** University Hall 214

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Texts & Materials

Required Textbooks:

- *Critical Thinking: An Introduction to the Basic Skills*, Hughes, Lavery, and Doran (CT)

- *Forallx*, P.D. Magnus (available on Carmen)

     Any additional materials will be made available on Carmen.

Course Description

     This course is an introduction to logic through the examination of argumentation. Arguments are the means by which we advance debates across human endeavors. We will find arguments, dissect their structure, assess their logical properties, and construct our own. This course will cover both deductive and non-deductive forms of argument and introduce elements of propositional logic.

Course Goals & Objectives

By completing this course, students will be able to:

A. Identify and interpret arguments by

   1.   distinguishing arguments from other uses of language,

   2.   interpreting the author's meaning,

   3.   distinguishing between deductive and non-deductive arguments,

   4.   classifying statements by their logical properties, and

   5.   distinguishing between premises and conclusions.

B. Deconstruct and represent arguments by

   5.   distinguishing between premises and conclusions,

   6.   restating premises and conclusions in a standard form,

7. diagraming the logical relationships in an argument,

8. translating statements into propositional logic, and

9. identifying and stating missing elements of arguments.

C. Assess the logical strength of arguments by

8. distinguishing between strong and weak forms of inductive argument,

9. identifying common fallacies and rhetorical techniques that mask poor reasoning,

10. determining the truth and falsity of premises,

11. determining whether deductive arguments are valid/invalid and sound/unsound,

12. determining logical relations using truth tables in propositional logic,

13. deriving conclusions from premises using natural deduction,

14. understanding the conventions and constraints of argumentation in a variety of domains, and

15. constructing counterarguments and counter-examples.

D. Construct original arguments by

15. applying deconstructive, representational, and assessment skills in the construction of novel arguments,

16. using clear and concise language to present logical structure, and

17. anticipating and responding to criticism.

This course also meets the *General Education Goal and Expected Learning Outcomes* for "Quantitative Reasoning" in the following ways:

E. (*General Education Goal*) "Students [will] develop skills in quantitative literacy and logical reasoning, including the ability to identify valid arguments, and use mathematical models by:

1. Students comprehend[ing] mathematical concepts and methods adequate to construct valid arguments. (see Goal D above)

2. Students comprehend[ing] mathematical concepts and methods adequate to understand inductive and deductive reasoning. (See Goal A above)

3. Students comprehend[ing] mathematical concepts and methods adequate to increase their general problem solving skills. (See Goal C above)

Schedule

Here is the schedule we hope to follow. The course is divided into topical modules. Each module (after the introductory one) will have a similar structure and span 10 days. The first table shows what each day in a module looks like. The second table shows the order and dates for each module. The last table lists the assignments that occur outside of the module structure. I will communicate any changes to the schedule as needed.

Sample Module

Day	1	2	3	4	5	6	7	8	9	10
Reading	Complete Assigned Reading & Reading Quiz									
Initial Post	Post on Entry Discussion						Post on Exit Discussion			
Discussion Engagement		3 Engagements in Entry Discussion						3 Engagements in Exit Discussion		
Notes				Notes Released						
Assignment			Assignment Description Released	Work on Assignment						Assignment Due
Practice Quiz								Complete Optional Practice Quiz		

Schedule of Modules

Dates	Module	Topic	Reading	Goals
1/7–10	0	Welcome & Introduction	None	
1/11–20	1	Arguments & Logic	Chapter 1 in CT	A
1/21		MLK Day		
1/22–31	2	Meaning	Chapters 2 & 3 in CT	A, B
2/1–10	3	Informal Structure of Arguments	Chapter 4 in CT	A, B
2/11–20	4	Formal Structure of Arguments	Chapter 2 in forallx	A, B
2/21		Break for Exam 1 (over Modules 1–3)		
2/22–3/3	5	Assessing Adequacy of Arguments	Chapters 5, 7, & 8 in CT	C

3/4–9 Spring Break 3/17–20	6	Critiquing Arguments	Chapters 14 & 15 in CT	C
3/21–30	7	Constructing Arguments	Chapters 17 & 18 in CT	D
3/31	Break for Exam 2 (over Modules 4–6)			
4/1–10	8	Truth Tables	Chapter 3 in forallx	C
4/11–20	9	Natural Deduction	Chapter 6 in forallx	C
Finals Week	Exam 3 (over Modules 7–9)			

Non-Module Assignments

Date	Major Assignment Due
1/12	Pre-Course Reflection
2/20–22	Exam 1
3/30–4/1	Exam 2
4/6	Essay Draft
4/13	Peer Review
4/22	Post-Course Reflection
4/24	Final Draft
4/25–27	Exam 3

Grading

Exams	*24%*		*Essay*	*22%*	
Exam 1	8%		*Draft*	4%	
Exam 2	8%		*Critique*	4%	
Exam 3	8%		*Final Draft*	14%	
Reading Quizzes	*10%*		*Reflections*	*4%*	
Module Activities	*20%*		*Pre-Reflection*	2%	
Discussion	*20%*		*Post-Reflection*	2%	

Course Mechanics

Here is how I plan to accomplish the goals of the course:

Reading Quizzes

Each module begins with a relevant reading. In the first three days of the module, you will need to complete the reading and the accompanying reading quiz. This is a short multiple choice question to ensure you comprehended the material. You will be graded half on accuracy and half on completion.

Discussion

A major part of our collaborate learning will be our discussions. We will be using Carmen's discussion feature to do this. Each module will begin with an Entry Discussion and end with an Exit Discussion. The goal is to use our dialogue to help us better understand and be able to apply the material we learning in that module. Use this as an opportunity to test out your thoughts, ask questions, and help your classmates through difficult concepts.

Entry Discussions are your first opportunity to reflect on the reading material for that module. You will be asked to respond to a prompt in a way that demonstrates engagement with what you read. Exit Discussions are your opportunity to reflect back on what you've learned from all the module activities. For both Entry and Exit discussions you will be asked to provide an original initial post, and 3 substantive engagements with your classmates.

For modules 7, 8, and 9 I will be asking you to provide thorough and critical feedback to one of your classmates as part of your engagement. The class will be divided into 3 groups and assigned either module 7, 8, or 9. For that module, one of your engagements in each discussion for that module should provide constructive feedback to your classmate. I will grade this engagement separately and provide feedback on your Entry Discussion engagement so it can improve in your Exit Discussion engagement.

Additionally, each module will have a clarification discussion. If as we go through the module things are unclear, you can use this to solicit specific help from your classmates or me. Think of this as raising your hand in class. Posting in the clarification discussion is optional. However, participation here won't go unnoticed.

Instructor's Notes

Th   ese are what they sound like. These are my notes on the module material. Think of them as the equivalent of lecture notes in a traditional class. These notes summarize, synthesize, and emphasize the reading material in the module. They will be released the day after the reading quizzes and initial entry post is due.

Module Activities

Each module will have an activity for you apply some of the concepts and skills we learn in each module. Some of these will be individual assignments you will upload to Carmen. Others will be collaborative projects

you do complete on Carmen. A description for each module assignment is released on the third day and must be turned in on the eighth day.

Practice Quiz

Each module will end with an optional practice quiz. This is to help you gauge your familiarity with the module. My goal is that these quizzes will indicate to you how prepared you are for the examination of the material.

Exams

There will be three exams throughout the course. Each exam will be on 3 modules. Although some module material builds on previous modules, the exams are meant to be independent of one another. I will provide a study guide with the necessary terms or skills for each quiz. The exam for 1–3 occurs after module 4, for 4–6 after module 7, and for 7–9 during final exams week.

You will have 3 days in which to complete each exam. Normally a module begins the day after a previous module ends. However, for each exam I build in a one day gap. So you can complete the exam on the final day of a module, on the exam break day, or on the first day of the next module.

Exams will be given online using the Carmen quiz system. For exams I will be using the proctoring software *Proctorio* provided by the university. This is an extension for the Google Chrome browser that records the environment in which you take the exam. This is the only time you would need to use Chrome if you prefer to use other browsers. You can also choose to have the exam proctored on campus. If you decide not to use Proctorio to take your exams, please let me know so we can arrange for this alternative.

Essay & Peer Review

One of the goals of this course that you be able to apply the skills we learn to write your own argumentative essay. In addition, you will be able to practice your criticism of arguments by helping other students improve their essay. You will write a draft of your essay, and then review drafts with peers. You will then use this feedback to revise your final essay.

Course Reflections

These reflection papers are an opportunity for you to reflect on the importance of the logical skills you learn in the course. At the beginning of the course, I'll ask you what to reflect on what you think logic is, why it is important, what skills you are looking to learn, etc. At the end of the course, I will ask you to look back on what you've learned in a similar reflection.

Office Hours

Office hours tend to be an underutilized resource (unless something is due soon). You are welcome to come and chat about anything related to the course. Office hours can be a good way to clear up misconceptions

and better understand how you are doing in the course. I will be in my office on the Columbus campus weekly. I can make appointments to meet either on campus or virtually if you cannot make my regular hours.

Policies

Technology

This course is entirely online. As such, you will need reliable technical resources to complete the course. You will need a computer with a browser on which you can access Carmen and all its functions. You will also need reliable broadband internet access. Parts of the course might require you to communicate with me or your classmates. As such it is highly recommended you either have or have ready access to a webcam, microphone, and a quiet space. These are also things you need if you take the exam with our proctoring software.

Additionally, you will need word processing software and the ability to convert such documents into PDFs. You might also need or be willing to get access to online communication software (like Skype) or cloud productivity software (like Google Docs).

Participation

This course requires your regular participation. This does not mean you need to be on our Carmen page every day. However you need to devote some time to it every 2 or 3 days. Otherwise you cannot complete the parts of the modules in sequence and interact with your classmates in a timely manner.

This course is designed to give you a generous amount of flexibility in when you decide to participate. If there are extraordinary and unavoidable circumstances that limit your participation, please let me know as soon as possible so we can decide how to proceed.

Lastly, remember that the classmates you are interacting with are human beings like you. I hope our discussions are thought provoking and that we challenge ourselves and one another. However, I expect you to know the difference between constructive criticism and disrespect. Relatedly, remember that because of our inability to rely on visual cues from one another, there is potential for misinterpretation. In our welcome module I will ask you to affirm your commitment to keeping our interactions with one another productive and respectful.

Accommodations

I want everyone to be able to learn and apply the logical skills covered in this course. To that end, I will accommodate students who have a documented disability (including mental health, chronic or temporary medical conditions) and have registered with Student Life Disability Services. Please correspond or meet with me as soon as possible at the beginning of the term to discuss the accommodations that will be implemented. If you have not already registered, please contact SLDS at 614-292-3307 or slds@osu.edu as soon as possible.

Academic Integrity

As far as I can tell, the opportunities for academic misconduct are during exams and writing your essay. To ensure integrity during exams we will use the proctoring software or an alternative proctoring arrangement. The exams are closed book and closed note. In writing assignments, a common breach of academic conduct on a

paper is plagiarism. This includes copying another's work or failing to appropriately attribute an idea to someone. These issues will be explained further when we discuss the essay. However, you are responsible for understanding and adhering to the University's policies on academic misconduct found in the University's Code of Student Conduct. Further, I am *obligated* to report instances where I suspect academic misconduct to the Committee on Academic Misconduct (COAM). If COAM determines that you have committed academic misconduct, the consequences can be severe. Please contact me if you are unsure about what this means or have any questions.

Here are some relevant resources on the matter:

- The Committee on Academic Misconduct web pages: http://oaa.osu.edu/coam.html

- Ten Suggestions for Preserving Academic Integrity: http://oaa.osu.edu/coamtensuggestions.html

- Eight Cardinal Rules of Academic Integrity: http://www.northwestern.edu/provost/policies/academic-integrity/cardinal-rules.html