

# LOGIC, REASONING AND PERSUASION

PHIL 730: 101, Section 90

Online, Fall 2019

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Online Office Hours via Canvas conference: Tuesday 7:30 PM – 8:30 PM or by appointment

## I. LEARNING OBJECTIVES

Logic is the study of how to reason correctly. This course is designed to introduce a variety of logical concepts and tools of critical thinking. Based on the principles of reasoning from formal and informal logic, you will learn how to examine critically philosophical and other theoretical issues concerning the nature of reality, human experience, knowledge, value and/or cultural production.

1. Argument analysis: Acquiring skills of identifying parts of arguments (premises, conclusions, inferences); identifying mode (induction, deduction, analogy, etc.); reconstructing/diagramming arguments to reveal the logical structure
2. Argument evaluation: Becoming capable of a systematic evaluation of an argument; assessing the acceptability of premises/reasons; accurately evaluating the relevance of premises/reasons; making judgments about the sufficiency of grounds for a conclusion/contention/thesis.
3. Terminology/theory: Understanding and correctly using the definitions & conceptual foundations of logical analysis: validity, soundness, rhetoric, syllogisms, fallacies, other formal argument patterns.
4. Metacognition: Developing the skills of critical and logical thinkers such as ability to shift perspective, awareness of bias/cognitive limitations, commitment to understanding & transparency, and valuing logic over rhetoric
5. Application: Acquiring substantial transference of technical ability to contexts outside the classroom

## II. REQUIRED TEXT

Robert Arp, Jamie Carlin Watson, *Critical Thinking: An Introduction to Reasoning Well*, **2nd** Edition, ISBN-13: 978-1472595683 ISBN-10: 1472595688

- E-book available from [www.bloomsbury.com](http://www.bloomsbury.com) (recommended); I recommend the publisher's e-book as those from Amazon or Google etc., do NOT keep the page numbers of the physical textbook.
- Additional reading materials will be provided via Canvas.

## III. TECHNICAL SUPPORT

If you have trouble accessing the course material due to technical issues, please visit <https://rutgeronline.desk.com> or contact 848-445-4357 during weekday business hours, or email at [help@oit.rutgers.edu](mailto:help@oit.rutgers.edu).

## IV. COURSE REQUIREMENTS AND GRADING

We will have two course sessions each week. Though this is an online course it will precede as if we meet on Wednesdays and Fridays. There are required readings for each session, which will be accompanied by a lecture note on the topic. The course is designed so that students complete the reading(s), review with lecture notes, and then take a short review quiz “Daily Assignment,” by Wednesday and Friday of the week.

It is very important for you to check the Canvas “**Announcements**” **regularly** for the detailed information about the reading schedule, assignment due dates and so on.

Your final grade will be determined in the following ways:

1. **Attendance – Daily Assignments** ----- 30 %
2. **Quizzes (4 quizzes)** ----- 30 %
3. **Final Exam (online)** ----- 30 %
4. **Participation** (Activities, Homework submission) ----- 10 %

### Grading Scale:

A	100 – 90	B+	89.99 – 85	B	84.99-80		
C+	79.99 – 75	C	74.99 – 70	D	69.99 – 60	F	59.99 – 0

### 1. Attendance: Daily Assignments

Attendance is crucial because logic is extremely accumulative. Attendance will be taken based on your submission of **Daily Assignment** by 9 PM on Wednesdays and Fridays.

#### Attendance Grade Policy

- You will be considered present if and only if your Daily Assignment is a complete work and submitted on time. This means
  - Incomplete work will be count as non-submission → absence.
  - Late submission will be count as non-submission → absence.
- You will be allowed a maximum of two unexcused absences, which means that you can skip your daily assignment two times without any excuse. After this, there will be 15 points deduction to your numerical attendance grade for each missed daily assignment.
- Excused absences are only for religious holidays, serious health problems, and serious family issues. To receive an excused absence, you need to provide appropriate documentation such as a confirmation letter from a health care provider or the office of the Dean of the college.

#### Daily Assignments

- All Daily Assignments will be posted at **Quizzes** on the left menu bar from the Canvas course page.
- Daily Assignments are short review quizzes (5-10 questions) chosen from the questions in the textbook or Lecture Notes. All questions from daily assignments will serve as study questions for quizzes as well as the final exam.
- The due is strictly enforced. You must submit your Daily Assignment work no later than by 9 PM on Wednesday and Friday of the week.

- NO credit will be given for late submission. Reading assignments and Daily Assignment questions will be posted in advance of the due date, so it will be possible for you to complete the work early if you have a conflict.
- All Daily Assignments will remain open until the last day of the semester for your review purpose.

## 2. Quizzes and Final Exam

There will be **four quizzes** and **one final** exam at the end of the course. They will be available from **Quizzes** on the left menu bar of the course page.

- Quiz release dates are scheduled on **Fridays, September 27<sup>th</sup>, October 25<sup>th</sup>, November 15<sup>th</sup>, and December 6<sup>th</sup>.**
- Quizzes will be released at 9 AM Friday and you are required to submit your quiz answers by 11:59 PM of the next day, Saturday. There will be a time limit and only one attempt will be given unless notified. You can use your resources such as the assigned readings, lecture notes while taking the quizzes.
- The final exam is scheduled on **December 13<sup>th</sup>** (online exam, with the online proctoring system, the exam time will be set up individually)
- The final will be cumulative.

## 3. Participation

There will be 2 – 4 low stake class activities or homework assignments.

The schedule and more details will be posted on the “Announcement” at least 5 days before the due date.

- Late submission will be allowed for class activities and homework assignments with partial credits.

## V. ACADEMIC INTEGRITY

Any activities that violate academic integrity will not be tolerated. Violators are subject to the terms and conditions specific to this course as well as the fullest extent of disciplinary action that Rutgers University allows and/or recommends. For the current academic integrity policy, visit: <http://academicintegrity.rutgers.edu/academic-integrity-policy/>

## VI. ACCOMMODATION FOR STUDENTS WITH DISABILITIES

Please feel free to reach out to for any issues. For more information, visit Rutgers office of disability service at <https://ods.rutgers.edu>

## VII. COURSE TOPICS AND SCHEDULE

### **UNIT 1 The Basics of Good Reasoning - Ch1, 2, 6 & Supplementary Readings**

- The Basic Concepts
  - Arguments/Non Arguments
  - Identifying Arguments: diagramming method
  - Necessary and Sufficient Condition
- Argument Analysis
  - Deductive and Inductive Arguments

-Validity, Soundness, Cogency, Strength

**UNIT 2 Deductive Reasoning - Ch 3, 4, 5, 6**

- a. Basic Categorical Logic
- b. Basic Propositional Logic
- c. Truth Table and Validity Test
- d. Rules of deductive Inference
- e. Formal Fallacies

**UNIT 3 Inductive Reasoning - Ch7, 10 & Supplementary Readings**

- a. Probability
- b. The problem of induction
- c. Informal Fallacies

**Application & Discussion\***

- a. Gambler’s fallacy
- b. Defense of God’s existence
- c. Rental Agreement
- d. Fake News

**Course Schedule**

*\*Schedule of readings and assignments will be offered via Canvas Announcement bi-weekly. The schedule is subject to change.*

	Session	Readings	Topics		Assignments & Due
Week1	Session1	Course Introduction			<b>Daily Assignment Due 9/6</b> A mock quiz; Textbook order; Navigation of the webpage
	Session2	<b>Unit 1</b> Supplemen tary Material	Introduction	Supplementary Reading “The scope of logic”; Lecture Note 1	<b>Daily Assignment Due 9/10</b> - Questions/Examples from Lecture Note 1
Week2	Session3	<b>Unit 1</b> Ch. 1	Claims; Different types of claims; Operators	Textbook pp. 3 – 19; Lecture Note 2	<b>Daily Assignment Due 9/13</b> Some questions chosen from the questions in <i>Getting familiar with...</i> (GFW) on pp.11-12, pp.17-18
	Session4		Quantifiers; Evidence; Arguments;	pp. 20 – 37; Lecture Note 3	<b>Daily Assignment Due 9/17</b> Questions from GFW on p.19, pp.26-27, pp.32-33

Week3	Session5	<b>Unit 1</b> Ch. 2	Extraneous material; Implicit claims	pp. 44 – 54; Lecture Note 4	<b>Daily Assignment Due 9/20</b> Questions from GFW on pp. 49-50, p.54
	Session6		Ambiguity and vagueness; Argument from; Two types of argument	pp. 55 – 74; Lecture Note 5	<b>Daily Assignment Due 9/24</b> Questions from GFW on p.59, pp.63-64, pp.70-71
Week4	Session7	<b>Unit 1</b> Supplementary Material	Diagramming Arguments	Lecture Note 6	<b>Daily Assignment Due 9/27</b> Questions from Lecture Note 6 and supplementary Readings
	Session8	<b>Quiz 1, 9/27</b> Questions from Exercises on pp. 38-41, Exercises on pp. 75-77 & from Daily Assignments & examples from Lecture Notes			
Week5	Session9	<b>Unit 2 -1</b> Ch. 3	Categories; Relating categories to one another; Standard-form categorical claims	pp. 81 – 92; Lecture Note 7	<b>Daily Assignment Due 10/4</b> Questions from GFW on pp.84-85, p.92
	Session10		The traditional square of opposition	pp. 93 – 97; Lecture Note 8	<b>Daily Assignment Due 10/8</b> Questions from GFW on p.97 & practice questions from Lecture Note 8
Week6	Session11		Conversion, obversion, and contraposition; Translation tips	pp. 97 – 101; Lecture Note 9	<b>Daily Assignment Due 10/11</b> Questions on Lecture Note 9
	Session12		Practice	TBA	<b>Home Assignment I TBA</b>
Week7	Session13	<b>Unit 2 -2</b> Ch. 4	A new language, Translating English	pp. 117-126; Lecture Note10	<b>Daily Assignment Due 10/18</b> Questions from GFW on pp.125-126
	Session14		Tips for translating more difficult phrases; Translating arguments	pp. 127-133; Lecture Note11	<b>Daily Assignment Due 10/22</b> Questions from GFW on pp.130-131
Week8	Session15	<b>Unit 2 -2</b> Ch. 5	Constructing truth tables	pp. 140-145 Lecture Note12	<b>Daily Assignment Due 10/25</b> Questions from GFW on pp.144-145

	Session16	<b>Quiz 2, 10/25</b> Questions from Exercises on p.111 (only <b>A</b> and <b>B</b> ) and from Daily Assignments, Examples from Lecture Notes			
Week9	Session17		Truth tables for operators	pp. 145-151 Lecture Note13	<b>Daily Assignment Due 11/01</b> Questions from GFW on pp. 150-151
	Session18		Using truth tables to test for validity: The long method	pp. 151-155 Lecture Note14	<b>Daily Assignment Due 11/05</b> Questions from GFW on pp. 155-156
Week10	Session19	<b>Unit 2 -2</b> Ch. 6	Deductive inference; Four basic rules of valid inference	pp. 168-175 Lecture Note15	<b>Daily Assignment Due 11/08</b> Questions from GFW on pp. 174-175
	Session20		Four more rules of valid inference	pp. 176 – 185 Lecture Note16	<b>Daily Assignment Due 11/12</b> Questions from GFW on pp. 184 - 185
Week11	Session21		Practice	TBA	TBA
	Session22	<b>Quiz 3, 11/18</b> Questions from Exercises on pp. 133-137, Exercises on pp.163-165 (only <b>A, B,</b> and <b>C</b> ) and from Daily Assignments, Examples from Lecture Notes			
Week12	Session23	<b>Unit 2 -2</b> Ch. 6	Eleven valid rules of replacement Three mistakes to avoid	pp. 186 – 189 pp. 198 – 203 Lecture Note17	<b>Daily Assignment Due 11/22</b> Questions from GFW on p. 189 & pp. 202 - 203
	Session24		Practice	Lecture Note18	<b>Daily Assignment Due 11/26</b> TBA
Week13	Session25	<b>Unit 3</b> Ch. 7	Inductive arguments; Inductive strength; Types of probability	pp. 213 – 224 Lecture Note18	<b>Home Assignment II Due 12/3</b> TBA & Questions from Exercises A and B on pp. 235-236
	11/29		Thanksgiving Holiday		
Week14	Session26	<b>Unit 3</b> Ch.10	From Formal and informal fallacies to Argumentum ad ignorantiam	pp. 316 – 339	<b>Daily Assignment Due 12/6</b> Questions from GFW on pp. 338-339
	Session27		<b>Quiz 4, 12/06</b> TBA		
Week15	Session28	<b>Unit 3</b> Ch. 10	From Circular argument to Composition and division	pp. 339 - 349	<b>Daily Assignment Due 12/13</b> Questions from Exercises A on pp. 349 - 351
	Session29		<b>Final Exam 12/13 (online)</b>		