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.
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

- E-book available from 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://rutgersonline.desk.com or contact 848-445-4357 during weekday business hours, or email at 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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100 – 90</td>
</tr>
<tr>
<td>B+</td>
<td>89.99 – 85</td>
</tr>
<tr>
<td>B</td>
<td>84.99-80</td>
</tr>
<tr>
<td>C+</td>
<td>79.99 – 75</td>
</tr>
<tr>
<td>C</td>
<td>74.99 – 70</td>
</tr>
<tr>
<td>D</td>
<td>69.99 – 60</td>
</tr>
<tr>
<td>F</td>
<td>59.99 – 0</td>
</tr>
</tbody>
</table>

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 27th, October 25th, November 15th, and December 6th.
   - 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 13th (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
   a. The Basic Concepts
   - Arguments/Non Arguments
   - Identifying Arguments: diagramming method
   - Necessary and Sufficient Condition
   b. 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 - Ch 7, 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.*

<table>
<thead>
<tr>
<th>Session</th>
<th>Readings</th>
<th>Topics</th>
<th>Assignments &amp; Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session 1</td>
<td>Course Introduction</td>
<td></td>
<td>Daily Assignment Due 9/6&lt;br&gt; A mock quiz; Textbook order; Navigation of the webpage</td>
</tr>
<tr>
<td>Session 2</td>
<td>Unit 1 Supplementary Material</td>
<td>Introduction</td>
<td>Daily Assignment Due 9/10&lt;br&gt; Questions/Examples from Lecture Note 1</td>
</tr>
<tr>
<td>Session 3</td>
<td>Unit 1 Ch. 1</td>
<td>Claims; Different types of claims; Operators</td>
<td>Daily Assignment Due 9/13&lt;br&gt; Some questions chosen from the questions in Getting familiar with… (GFW) on pp.11-12, pp.17-18</td>
</tr>
<tr>
<td>Session 4</td>
<td></td>
<td>pp. 20 – 37; Lecture Note 3</td>
<td>Daily Assignment Due 9/17&lt;br&gt; Questions from GFW on p.19, pp.26-27, pp.32-33</td>
</tr>
<tr>
<td>Week</td>
<td>Session</td>
<td>Unit</td>
<td>Topic</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>Week 3</td>
<td>Session 5</td>
<td>Unit 1</td>
<td>Ch. 2</td>
</tr>
<tr>
<td></td>
<td>Session 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 4</td>
<td>Session 7</td>
<td>Unit 1</td>
<td>Supp. Material</td>
</tr>
<tr>
<td></td>
<td>Session 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 5</td>
<td>Session 9</td>
<td>Unit 2 -1</td>
<td>Ch. 3</td>
</tr>
<tr>
<td></td>
<td>Session 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 6</td>
<td>Session 11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Session 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 7</td>
<td>Session 13</td>
<td>Unit 2 -2</td>
<td>Ch. 4</td>
</tr>
<tr>
<td></td>
<td>Session 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 8</td>
<td>Session 15</td>
<td>Unit 2 -2</td>
<td>Ch. 5</td>
</tr>
<tr>
<td>Week</td>
<td>Session</td>
<td>Quizzes &amp; Daily Assignments</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-----------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| Week 9 | Session 16 | Quiz 2, 10/25  
Questions from Exercises on p.111 (only A and B) and from Daily Assignments, Examples from Lecture Notes |
|        | Session 17 | Truth tables for operators  
pp. 145-151  
Lecture Note 13  
Daily Assignment Due 11/01  
Questions from GFW on pp. 150-151 |
|        | Session 18 | Using truth tables to test for validity: The long method  
pp. 151-155  
Lecture Note 14  
Daily Assignment Due 11/05  
Questions from GFW on pp. 155-156 |
| Week 10 | Session 19 | **Unit 2 -2**  
Ch. 6  
Deductive inference; Four basic rules of valid inference  
pp. 168-175  
Lecture Note 15  
Daily Assignment Due 11/08  
Questions from GFW on pp. 174-175 |
|        | Session 20 | Four more rules of valid inference  
pp. 176 – 185  
Lecture Note 16  
Daily Assignment Due 11/12  
Questions from GFW on pp. 184 - 185 |
| Week 11 | Session 21 | Practice  
TBA  
TBA |
|        | Session 22 | Quiz 3, 11/18  
Questions from Exercises on pp. 133-137, Exercises on pp.163-165 (only A, B, and C) and from Daily Assignments, Examples from Lecture Notes |
| Week 12 | Session 23 | **Unit 2 -2**  
Ch. 6  
Eleven valid rules of replacement  
Three mistakes to avoid  
pp. 186 – 189  
pp. 198 – 203  
Lecture Note 17  
Daily Assignment Due 11/22  
Questions from GFW on p. 189 & pp. 202 - 203 |
|        | Session 24 | Practice  
Lecture Note 18  
Daily Assignment Due 11/26  
TBA |
| Week 13 | Session 25 | **Unit 3**  
Ch. 7  
Inductive arguments;  
Inductive strength;  
Types of probability  
pp. 213 – 224  
Lecture Note 18  
Home Assignment II Due 12/3  
TBA & Questions from Exercises A and B on pp. 235-236 |
|        | 11/29 | Thanksgiving Holiday |
| Week 14 | Session 26 | **Unit 3**  
Ch. 10  
From Formal and informal fallacies to Argumentum ad ignorantiam  
pp. 316 – 339  
Daily Assignment Due 12/6  
Questions from GFW on pp. 338-339 |
|        | Session 27 | Quiz 4, 12/06  
TBA |
| Week 15 | Session 28 | **Unit 3**  
Ch. 10  
From Circular argument to Composition and division  
pp. 339 - 349  
Daily Assignment Due 12/13  
Questions from Exercises A on pp. 349 - 351 |
|        | Session 29 | Final Exam 12/13  
(online) |