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](http://www.bloomsbury.com) (recommended) - Amazon Kindle or Google e-book does NOT keep the page number of the physical textbook.
- Additional reading assignments will be provided via Canvas.

III. Course Requirements and Grading

Your final grade will be determined in the following ways:

1. Attendance  ................................................................. 10 %
2. Class Participation ....................................................... 15 %
   In-class Activities, Discussions
3. Daily Assignments ....................................................... 15 %
4. Quizzes & Exams  ......................................................... 10 %
   Quizzes
   Midterm ................................................................. 20 %
   Final ................................................................. 30 %
Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</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 (10 %)

You are expected to arrive on time and to stay for the entire class. Irregular attendance adversely affects your understanding of the course material and your ability to earn strong grades.

❖ Policy on Attendance Grade

- **Attendance will be taken at the beginning of each class.**
  - You will be allowed a maximum of 2 unexcused absences, after which every missed class will result in 15 points deduction from your numerical attendance grade.
  - Excused absences are only for religious holidays, serious health problems, and serious family issues. To receive an excused absence, you must provide appropriate documentation.
  - **Rutgers Self-Reporting Absence Application**
    If you expect to miss one or two classes, please use the University absence reporting website https://sims.rutgers.edu/ssra/ to indicate the date and reason for your absence. An email is automatically sent to me.

- **Excessive lateness will negatively affect your grade.**
  - You will be allowed a maximum of 2 lateness, after which every lateness will result in 15 points deduction from your attendance grade.
  - If you came late, it is your responsibility to make sure that you are counted as present.
  - Lateness that exceeds 20 minutes will count as an absence.
  - Leaving class early without notice will count as lateness.

- **Extra Credit:** 15 pt will be added to your attendance grade if you attended every class meeting on time.

2. Class Participation (15%)

There will be some **In-Class Activities** (e.g., group class discussion, exercise quiz, in-class writing practice, etc.) and low-stake **home assignments**. In-class activities schedule will always be notified in advance.

❖ Policy on Participation Grade

- Full credits will be given to any on-time submission of in-class activities or home assignments.
- There will be NO make-up for in-class activities if you missed any of them due to unexcused absence or tardiness.
- Home assignment can be submitted late for partial credit.
- Also refer to VI. Classroom Conduct for participation grade factors.

3. Daily Assignments (15%)

**Online Daily Assignments** for (almost) **every** class meeting will help you keep track of the course very effectively. The due is 10:45 AM (10 minutes before the class begins). Daily Assignments consist of 5-10 review questions from “Getting Familiar with” practice from the textbook or lecture notes.
Policy on Incomplete/Late/Missed Daily Assignment

- You are allowed to skip two of the daily assignments, after which there will be 15 point deduction for each missing daily assignment.
- Submission due (10:45 AM) will be strictly forced; no make-up or partial credits, no exception.
  - "complete" and "on time" daily assignment submission → full credit (5pt each)
  - "incomplete" or "late" submission or "non-submission" → no credit (0pt out of 5pt)
- Extra Credit (15pt to your Daily Assignment Grade) - for those who submit all Daily Assignments, complete, on time

4. Quizzes and Exams (60 %)

Three Quizzes (10% of your final grade, Online, scheduled on Thursdays, February 20th, March 12th, April 23rd)
Midterm (20% of your final grade, Regular schedule, Thursday, April 2nd)
Final (30% of your final grade, 8AM – 11AM, Monday, May 11th) The final exam will be accumulative but it will focus more on the material from the second half of the class.

Policy on Missed Quizzes and Exams
- You are responsible for making sure that the final exam does not conflict with your schedule. Double-check your schedule now.
- NO early/make-up exams will be given unless you have one of the three excuses listed above.
- Unless you contact me in advance or within 24 hours after the exam(s), you will not be allowed to take make-up exam even if you had excusable reason.

IV. COURSE WEBSITE & EMAIL COMMUNICATION

1. Please view your course website (Canvas) on a regular basis.
   - Monthly reading schedule and important announcements (schedule changes, quiz notice and assignment guidelines, etc.) will be posted on Canvas.
   - Canvas will also automatically update your assignment submission, grades etc.
   - If you by any chance were absent and need an update on the course schedule, please check out Canvas Announcement FIRST before message/email me.

2. Contact me via Canvas message system ("inbox").

3. When you write a regular email, make sure the *subject line* of your email contains a) Your full name and b) your course name and meeting time.
   Eg. "Justin Bieber_Logic MTH10:35am_office hour"
   Eg. "Justin Timberlake_Logic MTH 12:35pm_Quiz"

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 the link: http://academicintegrity.rutgers.edu/academic-integrity-policy/
VI. CLASSROOM CONDUCT
1. It is paramount that we respect each other.
2. If you arrive late or must leave early, please be discreet and minimize the disruption.
3. Laptops are permitted provided they are used for course purpose only.
4. NO distraction to others:
   - No texting, No phone ringing, No music, No social media, No online shopping, No tv stream, No video games, etc.
   - If you are expecting an emergency call, please let me know before the start of class and sit near the door and discretely be excused to take the call.
   - NO smelly food

   ❖ N.B I reserve the right to ask students to leave the class for the day or completely dis-enroll from the course for continuous disrespectful or abusive behavior toward an individual or group.

VII. ACCOMMODATIONS –OFFICE OF DISABILITY SERVICE
For any assistance, please don’t hesitate to consult with me, for more information please visit the office of disability service (https://ods.rutgers.edu)

VIII. COURSE TOPICS AND IMPORTANT DATES
*Schedule of readings and assignments will be offered via Canvas Announcement bi-weekly. The schedule is subject to change.

UNIT 1 The Basics of Good Reasoning - Ch1, 2, 6 and part of Ch10 & 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
c. Formal and Informal Fallacies

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

UNIT 3 Inductive Reasoning - Ch7, 8 & Supplementary Readings
a. Probability
b. The problem of induction
c. Generalization, Analogy, Causation

Application & Discussion*
a. Gambler’s fallacy
b. Defense of God’s existence
c. Rental Agreement
d. Fake News
e. Logical Puzzles
IMPORTANT DATES

1/27  (Monday)  Mock Daily Assignment Due
1/30  (Thursday) First Daily Assignment Due
2/10  (Monday)  In-class activity I
2/20  (Thursday) Quiz 1 (Online, No in-class meeting)
   - More details will be announced. Canvas – Online Quiz 1 page will be
     open from 6 PM, 2/19 (Wednesday) and closed at 11:59 PM, 2/20.
3/12  (Thursday) Quiz 2 (Online, No in-class meeting)
   - More details will be announced. Canvas – Online Quiz 2 page will be
     open from 6 PM, 3/11 (Wednesday) and closed at 11:59 PM, 3/12.
3/16  (Monday)  No Class  (Spring Recess)
3/19  (Thursday) No Class  (Spring Recess)
4/2   (Thursday)  Midterm  (regular class)
4/23  (Thursday) Quiz 3 (Online, No in-class meeting)
   - More details will be announced. Canvas – Online Quiz 2 page will be
     open from 6 PM, 4/22 (Wednesday) and closed at 11:59 PM, 4/23.
5/4   (Monday)  Last Class: Final exam review
5/11  (Monday)  Final  (8 AM – 11PM)

KNOW YOUR GRADE

Canvas’s grade projection for your final grade is NOT accurate. Refer to Canvas grade function only
for the number of absences/lateness, numerical grades for individual assignments.
Refer to the “Policies” for each grading factors in pp.2-3. Your final grade will be determined by
information below. MS excel worksheet will be provided at the end of the term.

1. Attendance 10%:
   My attendance grade: (__________ / 100)
   Number of absence ______________ (dates absent: _________________________)
   Number of lateness ______________ (dates late: ___________________________)
   - No deduction if you have 2 or less absence and lateness, respectively.

2. Participation 10%:
   My Participation grade: (__________ / 100)
   In-class activity 1 (9/19) (   ) pt + _______________ (   ) pt + _______________ (   ) pt
   _______________ (   ) pt + _______________ (   ) pt + general participation (   ) pt

3. Daily Assignments 20%
   My Daily Assignment grade: (__________ / 100)
   Number of missing/late Daily Assignments ________ (dates you missed: ______________)
   - No deduction if you miss 2 or less, apply -10 pt from the 3rd per missing/late D.A)

4. Quizzes and Exams
   Quizzes  10 %  ________ pt (Quiz1 ______ pt + Quiz2 _____ pt + Quiz3 _____ pt)
   Midterm 20%  ________ pt
   Final       30%  ________ pt