Logic, Reasoning, and Persuasion

730:101:04, Fall 2014
Scott Hall 116, MW 1:10-2:30pm
Instructor: Cherie Braden; cherie.braden@gmail.com

Meeting Outside of Class: I’ll be in the Barnes & Noble on Somerset (either in the café or on the second floor by the windows that overlook Somerset) from noon to 1 pm on Wednesdays, or you can make an appointment with me for another time.

All readings will be available on or through the course website, which is on Sakai (PHIL101:04 F2014). https://sakai.rutgers.edu/portal/site/0c552fa2-a18c-4a1f-b973-a1d0cef86d7d

Overview
Per Course Catalog: 01:730:101 LOGIC, REASONING, AND PERSUASION (3) Development of skills in reasoning. Consideration of what an argument is, how arguments go wrong, and what makes an argument valid. Application of techniques for clarifying meaning, evaluating, and constructing arguments. Credit not given if student has already taken 01:730:201.

As the catalog entry suggests, this class is all about arguments. We’ll work on evaluating the arguments of others and constructing our own. Our goal in this course is not to become logicians: it’s to become better reasoners, both forwards (in constructing arguments and solving problems) and backwards (in evaluating the arguments of others and retracing the steps taken to a conclusion).

We won’t be doing a lot of memorization, but certain terms are important to remember. You’ll find a file called Vocabulary on Sakai. I will update it every time we learn new terms. Always be prepared to use and define these terms on quizzes and exams!

Assessment
30% Homework Assignments
20% Surprise-ish Quizzes
20% Midterm
20% Final
10% Participation

Homework Assignments
There will be thirteen homework assignments over the course of the semester. They are designed to help you practice the material we’re learning. You will find these posted on Sakai by the day they are assigned. None of these grades will be dropped. Ten points will be deducted per day for a late assignment. If you have a good reason not to meet a deadline, please contact me in advance and explain.

Surprise-ish Quizzes
There will be 8 quizzes in total. When averaging the quiz grades, I will drop your two lowest scores. Quizzes can ONLY be taken if you are in class when I give them out; you can’t make them up later. They can consist of:
1. Questions designed to see whether you did the reading. Any quiz could have this type of question. Do the reading, and you can’t go wrong here.
2. Questions about terms from the Vocabulary file on Sakai.
3. Tasks that require you to demonstrate a particular skill we’ve been learning (e.g. constructing truth tables). If I intend to include something like this on a quiz, I will warn you.
4. Arguments for you to analyze (given what you’ve learned thus far, and according to specific instructions).
Midterm & Final

The midterm and the final will have a similar format. They will each consist of several parts:

1. Evaluate an argument. (Short essay)
   You will be given a passage to read and be asked to identify the argument or arguments it contains, their parts, how the parts are connected, what sort of reasoning is involved, instances of fallacious reasoning, etc. You’ll also be expected to evaluate the evidence presented in the passage and to identify hidden assumptions. Is the argument valid? In what ways could it be improved? Use the concepts and vocabulary we’ve learned thus far to write your response.

2. Construct an argument. (Short essay)
   For this section, you will choose a claim (from a list of options provided) and argue for or against it. Be careful in your choice. This is not a persuasive essay: the claim you choose to argue must be concludable through valid argumentation involving true premises. I will provide clarifying examples online. Your goal in this section is to validly reason your way to a true conclusion, not merely to demonstrate your rhetorical skills.

3. Short answer and multiple choice concerning vocabulary and concepts we’ve learned.

4. Extra Credit Puzzle

Participation

This consists of engaging in class discussion, asking questions, and otherwise demonstrating your involvement in the material.

Sakai

Homework assignments and all readings will be available on Sakai. If you can’t access Sakai, let me know right away. Links to articles mentioned in the syllabus will also be available on Sakai. I strongly recommend downloading readings and assignments several classes in advance to avoid last-minute technical difficulties!

Attendance

You will receive a zero on any quiz you miss (they cannot be made up), and any unexcused absence will negatively impact your participation grade. Communication is key – please email me before class if you must miss. Five (5) unexcused absences will earn you an F in the course.

Academic Integrity

Don’t cheat. Don’t lie. Don’t plagiarize. See the following link for more information on the university’s policy: http://academicintegrity.rutgers.edu/academic-integrity-policy#I_AcademicIntegrity

Disability Accommodation

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: https://ods.rutgers.edu/students/documentation-guidelines. If the documentation supports your request for reasonable accommodations, your campus’s disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: https://ods.rutgers.edu/students/registration-form.

Course Plan

*All readings and assignments are available on or through Sakai.
*The homework in the column on the right is to be done before the class on the row underneath it. For example, “Read Hurley on Arguments” is the assignment to be done in preparation for the class on 9/8. *Check and know the updated vocabulary list on Sakai before EVERY class.

<table>
<thead>
<tr>
<th>Day</th>
<th>Topic</th>
<th>Homework</th>
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<tbody>
<tr>
<td>Wednesday 9/3</td>
<td>Review Syllabus; Learn Basic terms in argumentation; Discuss Relationship Between Problem-Solving and Critical Thinking</td>
<td>Read “Hurley on Arguments”</td>
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<tr>
<td>Monday 9/8</td>
<td>Practice Identifying Arguments; Polya’s Principles Video: Monty Python</td>
<td>Read “Feldman on Rational Belief” Assignment 1: Feldman Exercises</td>
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<td>Wednesday 9/10</td>
<td><strong>Assignment 1 Due</strong> Deduction and closed systems Prep for Playing “Euclid the Game”</td>
<td>Play through Level 10 in Euclid the Game (euclidthegame.org). One of these proofs will be on the midterm.</td>
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<td>Monday 9/15</td>
<td>Euclid’s System; Hidden Assumptions – Filling in the Blanks</td>
<td>Assignment 2: Both Sides of a Debate</td>
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<td>Wednesday 9/17</td>
<td><strong>Assignment 2 Due</strong> Group work and class discussion for Assignment 2</td>
<td>Read “An Illustrated Book of Bad Arguments”; Do Assignment 3 after reading.</td>
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<td>Monday 9/22</td>
<td><strong>Assignment 3 Due</strong> Truth Tables</td>
<td>Assignment 4: Making Truth Tables</td>
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<td>Wednesday 9/24</td>
<td><strong>Assignment 4 Due</strong> Recognizing and Using Argument Strategies; Basic Rules of Inference</td>
<td>Assignment 5: Exercises from Barker-Plummer et al.</td>
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<td>Monday 9/29</td>
<td><strong>Assignment 5 Due</strong> Recognizing Inference Chains; Process of Elimination Problem-Solving Game: Crossing the River</td>
<td>Read “Swartz on Necessary and Sufficient Conditions”</td>
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<td>Wednesday 10/1</td>
<td>Necessary and Sufficient Conditions</td>
<td>Assignment 6: Conditions Worksheet. Read Feldman Chapter 7 pp167-195 (Stop before B. Ambiguity and Arguments)</td>
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<td>Monday 10/6</td>
<td><strong>Assignment 6 Due</strong> Rules of Argument Evaluation</td>
<td>Read Feldman Chapter 7 pp 195 - 215</td>
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<td>Wednesday 10/8</td>
<td>Metaphors as Tools and Metaphors as Traps</td>
<td>Read SEP Article “Analogy and Analogical Reasoning” Sections 1-3.5 Assignment 7: Analogy Argument</td>
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<td>Monday 10/13</td>
<td><strong>Assignment 7 Due</strong> Practice Evaluating Arguments</td>
<td>Read Kline 39-44 and do the exercises at the end (Assignment 8).</td>
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<td>Wednesday 10/15</td>
<td><strong>Assignment 8 Due</strong> Deduction vs. Induction</td>
<td>Read Hurley Chapter 13</td>
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<td>Monday 10/20</td>
<td>Review for Midterm (Midterm will cover material through 10/13)</td>
<td>NO HOMEWORK</td>
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<td>Wednesday 10/22</td>
<td>Midterm</td>
<td>Read Einstein 16-22; Read New Yorker article “Trial by Fire”</td>
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<td>Monday 10/27</td>
<td>Introduction to Scientific Method</td>
<td>Assignment 9: Science in the News</td>
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<td>Wednesday 10/29</td>
<td><strong>Assignment 9 Due</strong> Limitations of Scientific Method</td>
<td>Review “Fallacies in the Name of Science”</td>
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**Monday 11/3**
- Watch Relativity Video
- Abduction and Theoretical Desiderata
- Read Poundstone 13-32. AFTER you do the reading, play with “Conway’s Game of Life”

**Wednesday 11/5**
- What Are Facts?
- Complexity and Uncertainty
- Assignment 10: Paradoxes and Puzzles

**Monday 11/10**
- **Assignment 10 Due**
- Discuss Paradoxes and Puzzles; Probability: Liar’s Dice
- Assignment 11: Beyond a Reasonable Doubt

**Wednesday 11/12**
- **Assignment 11 Due**
- Intuitions & Probability: The Birthday Problem; The Monty Hall Problem; Lesson in Calculating Probability
- Assignment 12: Probability Worksheet
- Read Lewis Carroll excerpts (Chapter 3 and Chapter 7 of Alice in Wonderland)

**Monday 11/17**
- **Assignment 12 Due**
- Precision and Ambiguity in Meaning
- Read Collins & Pinch Chapter 8

**Wednesday 11/19**
- Class Discussion: Evidence in the Vaccination Debate
- Read Hurley Chapter 12 Assignment 13

**Monday 11/24**
- **Assignment 13 Due**
- Statistical Reasoning & Errors
- NO HOMEWORK

**Wednesday 11/26**
- NO CLASS

**Monday 12/1**
- Speculative Reasoning and Rationalizing
- Read Kahneman 1

**Wednesday 12/3**
- Problem Solving Practice: Permutation & Combination: Playing with Rubik’s Cubes
- Read Kahneman 2

**Monday 12/8**
- Synthesis of Material Covered

**Wednesday 12/10**
- Review for Final Exam

**Wednesday 12/17**
- FINAL EXAM 8-11am

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**Bibliography**


"Conway's Game of Life - Javascript/Canvas Implementation." Conway's Game of Life - Javascript/Canvas