PHILOX 110-003: Introduction to Logic
Summer 2019
M, T, W, Th 3:00-3:50
Language Hall 101

Instructor: Rebekah Spera
E-Mail: rspera@emory.edu
Office: Whatcoat Building Cubicle #3
The Whatcoat building is attached to the
Oxford College Mail Center on Whatcoat Street
(across the street from the U.S. Post Office).
Office Hours TBD (or by appointment)

SI: Boying “Shadow” Song
E-mail: shadow.song@emory.edu

Required Texts:

Course Description

“Logic is the beginning of wisdom . . . not the end.”
- Spock (Star Trek IV: The Undiscovered Country)

The ability to reason and evaluate the quality of an argument is an indispensable skill both in and out of the classroom. Whether conscious of it or not, we are constantly engaged in a process of reason-giving, explanation, and persuasion. Studying logics teaches one how to recognize arguments and how to understand what is minimally necessary for good reasoning.

Catalog Description:
Study of correct reasoning, including the recognition, analysis, and criticism of arguments; relevant topics include informal fallacies, syllogistic reasoning, and systems of deduction.

Course Objectives:
This course is designed to introduce students to the basics of logical reasoning. In addition to learning how to analyze arguments in natural language, the student will learn formal logical systems.

Course Outcomes:
By the end of the course, the student will:

- Understand how to identify, analyze, and evaluate arguments, both in academic texts and in popular media
- Understand and be able to apply fundamental principles of deductive and inductive reasoning
- Have developed skills in critically and verbally communicating about their own and others’ arguments
- Have developed skills in formal modern deductive analysis, including the use of Venn diagrams, truth tables, propositional and predicate logic proofs
Course Policy

Homework:
Each class, you must arrive having done the assigned reading (see the course schedule) and having completed the written homework problems.
A small number of problems will be due before almost every class. The assignments will be posted on Canvas and answers must be uploaded by 2:30PM the day they are due. Grading for the homework will be marked acceptable or unacceptable based on a good-faith effort to solve the problems. The solutions to the problems will be posted the same day, and you will be expected to check your answers. No late homework will be accepted.

*It is essential to do these homework assignments seriously and consistently.* Becoming proficient in logic requires diligent and daily practice (it’s a little like math or learning a foreign language in this respect). In addition to being necessary to receive a satisfactory grade on the homework itself, without regular practice, you are likely to do poorly on quizzes and exams.

Quizzes:
Every week a short, in-class, closed-book quiz lasting no more than 30 minutes will be administered on all material covered over the previous week. There will be a total of twelve quizzes throughout the term. There will be no makeup quizzes for this class. If a student is absent on a day with a quiz, the student will get a 0% for that quiz.

Final Exam:
The final exam will be an in-class, closed-book exam on all the material covered during the semester.

Grade Distribution:
Homework: 30%
Participation: 15%
In-Class Quizzes: 30% (2.5% each)
Final Exam: 25%

*Grading Scale:* 94-100 A, 90-93 A-, 87-89 B+, 84-86 B, 80-83 B, 77-79 C+, 74-76 C, 70-73 C-, 67-60 D+, 60-66 D, < 60 F

Classroom Etiquette:
We’re going to talk quite a bit about arguments in this class—and we’ll definitely have a few of our own!—but that doesn’t mean that we don’t have ground rules. In fact, being respectful of one another, even when we disagree, is absolutely crucial to making this an environment in which everyone can learn. There are several ways we can show one another respect; the following are the ones I insist upon:

- We may attack ideas, but never people.
- Listen to others when they’re talking.
- Do not browse the internet or otherwise do activities unrelated to the course on your laptop. Not only does this impede your own ability to learn, it is also distracting to and disrespectful of your fellow classmates who are not dividing their attention. Your cell phone must remain silent and be stored out of sight for the duration of class.
- Work on in-class assignments when provided time to do so. Logic is hard. This is not time-filler; I have specifically set aside time for you to practice working collaboratively on the exercises I assign, and to do so with my assistance. Make wise use of this time. DO NOT take it as an invitation to leave early, pack up your things, chat, etc.

Failure to comply with these policies will affect a student’s participation grade.
Attendance Policy:

It is necessary that the student make every effort to be present both physically and mentally for every class. Thus, attendance is mandatory and is a component of the participation grade. That being said, sometimes things do come up, so a student is permitted a maximum of three absences no questions asked over the course of the semester. Beyond this maximum, in addition to affecting their participation grade, on days that a student is absent they will not get credit for the homework due that day. Tardiness will also negatively affect a student's participation grade.

Academic Misconduct

Academic misconduct will not be tolerated; students must adhere to the Honor Code of Oxford College. All violations will be reported to the Honor Council, in accordance with the Code. Infractions of the Honor Code include plagiarism, cheating, seeking or giving unauthorized assistance, and lying related to academic matters. Further information on Honor Code infractions and procedures are available in the Oxford College Student Handbook, and online: http://oxford.emory.edu/audiences/current_students/Academic/academic-success-student-honor-code/index.dot Should a student have a question about permissible behavior or academic integrity, they may contact me.

Inclusivity & Civil Discourse in the Classroom

Oxford College of Emory University’s ideals of inclusivity require that we foster an environment where people of diverse backgrounds, identities, abilities, and ideologies are affirmed, respected, and seen as a source of strength; where we strive to learn together, and ultimately thrive communally. If we at all fail to support these ideals, then we encourage discussion towards improvement, and we hope that this statement affirms your right to seek those discussions via dialogue with faculty, staff, your peers, and the use of the “Speak Up!” system when needed.

We believe the manner in which we interact with each other is critical to cultivating and maintaining a meaningful and effective intellectual environment. We encourage a climate of respect and inclusiveness that welcomes and embraces community members with diverse backgrounds and life experiences. We deliberately seek multiple perspectives and support the free and open exchange of ideas and civil discourse. We affirm the inherent dignity in all of us and we strive to maintain a climate of justice marked by respect for each other. Our community can only continue to thrive when we approach each conversation with an open mind and when each member can contribute fully.

Disability and Access:

If you have a documented disability and have anticipated barriers related to the format or requirements of this course, or presume having a disability (e.g. mental health, attention, learning, vision, hearing, physical or systemic), and are in need of accommodations for this semester, we encourage you to contact the Office of Accessibility Services (OAS) to learn more about the registration process and steps for requesting accommodations at oas_oxford@emory.edu.

If you are a student that is currently registered with OAS and have not requested or received a copy of your accommodation notification letter, please notify OAS immediately. Students who have accommodations in place are encouraged to coordinate sometime with me during the first week of the semester to communicate your specific needs for the course as it relates to your approved accommodations. Accommodations are not implemented until the instructor is provided an accommodation letter and discusses the accommodation plan for this course face to face with the OAS student. In order to receive consideration for reasonable accommodations, students must contact OAS and complete the registration process. Faculty may not provide disability accommodations until an accommodation letter has been processed; accommodations are not retroactive. All discussions with OAS and faculty concerning the nature of your disability remain confidential. Contact OAS for more
Religious Holidays:
I am happy to accommodate students' academic needs related to religious holidays. However, please make every effort to notify me about your religious holiday needs within the first two weeks of the semester. If you need guidance negotiating your needs related to a religious holiday, the College Chaplain, Rev. Lyn Pace, ppace@emory.edu, Candler Hall 202, is willing and available to help. **Please be aware that Rev. Pace is not tasked with excusing students from classes or writing excuses for students to take to their professors.**

Class Schedule:
Note: This schedule is tentative and is subject to revision at the instructor's discretion.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>W 8/28</td>
<td>Introduction: What is logic?</td>
<td>2-10</td>
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<tr>
<td>Th 8/29</td>
<td>Logic, arguments, and evidence</td>
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<td>M 9/2</td>
<td><strong>No Class – Labor Day</strong></td>
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<tr>
<td>T 9/3</td>
<td>Implicit Premises and reconstructing arguments</td>
<td>52-57</td>
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<td>W 9/4</td>
<td>Diagramming Arguments</td>
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<td><strong>End of Add/Drop Period</strong></td>
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<tr>
<td>Th 9/5</td>
<td>Diagramming Arguments</td>
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<tr>
<td>M 9/9</td>
<td>Quiz 1</td>
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<td>T 9/10</td>
<td>Deductive and Inductive Arguments</td>
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<td>W 9/11</td>
<td>Deductive and Inductive Arguments</td>
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<td>Th 9/12</td>
<td>Deductive and Inductive Arguments</td>
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<td>M 9/16</td>
<td>Quiz 2</td>
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<td>T 9/17</td>
<td>Informal Fallacies: Fallacies of Relevance</td>
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<td>W 9/18</td>
<td>Informal Fallacies: Fallacies of Weak Induction</td>
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<tr>
<td>Th 9/19</td>
<td>Informal Fallacies: Fallacies of Presumption, Ambiguity, and Grammatical Analogy</td>
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<td>M 9/23</td>
<td>Quiz 3</td>
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<tr>
<td>T 9/24</td>
<td>Categorical Propositions</td>
<td>194-201</td>
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<tr>
<td>W 9/25</td>
<td>Modern Square of Opposition, Venn Diagrams</td>
<td>203-209</td>
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<tr>
<td>Th 9/26</td>
<td>The Traditional Square of Opposition and Venn Diagrams</td>
<td>217-225</td>
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<td>M 9/30</td>
<td>Quiz 4</td>
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<tr>
<td>T 10/1</td>
<td>Translating Categorical Propositions</td>
<td>229-241</td>
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<tr>
<td>W 10/2</td>
<td>Categorical Syllogisms</td>
<td>247-252</td>
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Th 10/3  
Diagramming Syllogisms

M 10/7  
Quiz 5
Rules and Fallacies
Readings: 269-275

T 10/8  
Translating Categorical Arguments
Readings: 286-291

W 10/9  
Translating Categorical Arguments cont.
Readings: 293-298

Th 10/10  
Categorical Arguments and Enthymemes
Readings: 298-303, 307-310

M 10/14  
No Class – Fall Break

T 10/15  
No Class – Fall Break

W 10/16  
Quiz 6
Introduction to Propositional Logic
Readings: 317-325

Th 10/17  
Translations and WFF
Readings: 329-334

M 10/21  
The Semantics of Logical Operators
Readings: 338-345

T 10/22  
Truth Tables for Propositions
Readings: 351-363

W 10/23  
Truth Tables for Arguments
Readings: 364-377

Th 10/24  
Truth Tables Review

M 10/28  
Quiz 7
Proofs and Natural Deduction: Rules of Implication I
Readings: 391-399

T 10/29  
Proofs and Natural Deduction
Readings: 406-408

W 10/30  
Proofs and Natural Deduction: Rules of Implication II
Readings: 412-417

Th 10/31  
Proofs and Natural Deduction: Rules of Implication Review

M 11/4  
Quiz 8
Proofs and Natural Deduction: Rules of Replacement I
Readings: 424-432

T 11/5  
Proofs and Natural Deduction Review

W 11/6  
Proofs and Natural Deduction: Rules of Replacement II
Readings: 439-444

Th 11/7  
Proofs and Natural Deduction Review

M 11/11  
Quiz 9
Proofs and Natural Deduction: Conditional Proof
Readings: 453-458

T 11/12  
Proofs and Natural Deduction: Indirect Proof
Readings: 462-464

W 11/13  
Proofs and Natural Deduction Review

Th 11/14  
Proofs and Natural Deduction Review

M 11/18  
Quiz 10
Proving Logical Truths
Readings: 467-469

T 11/19  
Proving Logical Truths Review

W 11/20  
Proofs and Natural Deduction Review

Th 11/21  
Proofs and Natural Deduction Review

M 11/25  
Quiz 11
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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>T 11/26</td>
<td>Introduction to Predicate Logic</td>
<td>473-480</td>
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<tr>
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<td>Rules for Instantiation and Generalization</td>
<td>482-489</td>
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<tr>
<td>W 11/27</td>
<td>Predicate Logic Review</td>
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<td>Th 11/28</td>
<td><strong>No Class – Thanksgiving Break</strong></td>
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<td>M 12/2</td>
<td>Quiz 12</td>
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<td>Rules for Change of Quantifier</td>
<td>493-494</td>
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<tr>
<td>T 12/3</td>
<td>Conditional and Indirect Proofs</td>
<td>497-500</td>
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<td>W 12/4</td>
<td>Predicate Logic Review</td>
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<tr>
<td>Th 12/5</td>
<td>Review Session</td>
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<tr>
<td>M 12/9</td>
<td>Review Session</td>
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**FINAL EXAM DATE TBA**

*The first sentence on this syllabus is true.*