Philosophical Logic
January 2016
Michael Hartsock, Ph.D.

Logic is that which remains when truth is taken away.

Tom Tymoczko & Jim Henle
Sweet Reason

1 Instructor Information

Instructor: Michael Hartsock, Ph.D.
Department: Philosophy
Office Hours: By Appt.
Classroom: TBD
E-Mail: mhartsock@millikin.edu
Office Location: Shilling Hall 301
Phone: (217) 424-6265
Class Time: 8:30 AM – 3:30 PM, Jan 14–18, 2013

2 Course Information

Course Description: In this course, students will gain an understanding of first-order predicate and modal logics, and develop proficiency in derivations in the relevant systems of logic.

Required Texts: A coursepack will be provided.

Learning Goals

This course is intended to:

1. Provide students with a critical understanding of contemporary formal logic.
2. Develop students literacy in the significance of these logics in contemporary philosophy.
3. Develop students facility in writing clearly and creatively about issues in Philosophy, in general.
4. Develop students facility in oral communication.
Philosophy Department Learning Goal | Course in Relation to Department Learning Goals
---|---
Students will be able to express in oral and written form their understanding of major concepts and intellectual traditions within the field of philosophy. | Facility in logic is crucial to the understanding of major concepts and intellectual traditions in philosophy.

Students will demonstrate their ability to utilize the principles of critical thinking and formal logic in order to produce a sound and valid argument, or to evaluate the soundness and validity of the arguments of others. | Utilizing formal logic will aid student in utilizing formal logic.

Students will demonstrate their ability to complete research on a philosophy-related topic, analyze objectively the results of their research, and present arguments to support their point of view in a variety of venues, including an individually directed senior capstone thesis in philosophy. | This course will facilitate the students ability to present arguments in support of their view in a variety of venues.

### 3 Course Policies

**Coursework** You are expected to show up on time, stay for the entire class, and be prepared.

**Preparedness** You must be prepared for each meeting by having read the relevant material beforehand.

**Email** Email will be our primary mode of communication.

**Academic Alerts** You will receive academic alerts in the event of failing or near failing grades, excessive absences, or other behaviors that threaten your academic success.

### 4 Additional Policies

**Academic Honesty:**
All students are expected to uphold professional standards for academic honesty and integrity in their research, writing, and related performances. Academic honesty is the standard we expect from all students. Read the Student Handbook for further details about offenses involving academic integrity at: http://www.millikin.edu/handbook/. Staley Library also hosts a web site on Preventing Plagiarism, which includes the complete university policy. It is located at: http://www.millikin.edu/staley/services/instruction/Pages/plagiarism-faculty.aspx. Visit and carefully read the Preventing Plagiarism web site.

The Faculty has the right and the responsibility to hold students to high ethical standards in conduct and in works performed, as befits a scholar at the university. Faculty members have the responsibility to investigate all suspected breaches of academic integrity that arise in their courses. They will make the determination as to whether the student violated the Academic Integrity Policy. Should the faculty member determine that the violation was intentional and egregious, he or she will decide the consequences, taking into account the severity and circumstances surrounding the violation, and will inform the student in writing, forwarding a copy of the letter to the Registrar and to the Dean of Student Development.

This letter will be destroyed when the student graduates from the University unless a second breach of integrity occurs, or unless the first instance is of sufficient magnitude to result in failure of the course, with an attendant XF grade recorded in the transcript. If an XF is assigned for the course, the faculty letter of
explanation becomes a permanent part of the students record. If a second violation occurs subsequent to
the first breach of integrity, the Dean of Student Development will begin disciplinary and judicial processes
of the University, as outlined in the Student Handbook.

If a student receives an XF for a course due to academic dishonesty, this remains as a permanent grade
and cannot be removed from the transcript. However, students may repeat the course for credit toward
graduation. Some programs and majors have more explicit ethical standards, which supersede this Policy,
and violation of which may result in dismissal from some programs or majors within the University. If you
have difficulty with any assignment in this course, please see me rather than consider academic dishonesty.

Americans with Disabilities Act:

Please address any special needs or special accommodations with me at the beginning of the semester or as
soon as you become aware of your needs. If you are seeking classroom accommodations under the Americans
with Disabilities Act, you should submit your documentation to the Office of Student Success at Millikin
University, currently located in Staley Library 014.

5  Grading

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Description</th>
<th>Points possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter quizzes</td>
<td>One for each chapter</td>
<td>100 points each</td>
</tr>
<tr>
<td>Final exam</td>
<td>Cumulative exam</td>
<td>300 points</td>
</tr>
</tbody>
</table>

Grading Scale

Standard +/- grading will be used. Provided is a list for quick reference:

- 97-100 A+  
- 94-96 A  
- 90-93 A-  
- 87-89 B+  
- 84-86 B  
- 80-83 B-  
- 77-79 C+  
- 74-76 C  
- 70-73 C-  
- 67-69 D+  
- 64-66 D  
- 60-63 D-  
- 0-59 F   


6 Schedule

We will cover these topics in order.

1. Truth-Functional Logic
2. Truth Trees
3. Generality
4. Multiple Generality
5. Identity
6. Functions
7. Uncomputability
8. Undecidability
9. Incompleteness
10. Propositional Modal Logic
11. Quantified Modal Logic

Topics are subject to change based on course needs.