PHIL 107: Logic and Reasoning
Winter 2007

Syllabus

| Winter 2007: | MW 10:00 – 11:35, F 10:00 – 10:40, Upjohn Library 307 |
| Instructor: | Prof. Ashley McDowell |
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| Office Hours: | MTWF 1:00-2:00 and by appointment |


Note on Moodle: this course website will be the location for homework assignments, answers, and grade-posting, and will include lots of information – go to https://moodle.kzoo.edu/ and find our course, and get yourself logged on.

Note on email: I will be sending email to the class alias, which only knows your K email address. Make sure your K email is forwarded to whatever account you use regularly, if that’s different.

Description:

This course has two complementary components: an introduction to formal logic, and a study of ways to reason better. These are two ways to approach the subject of thinking well.

Formal logic is the art of converting arguments into symbolic notation, in order to determine the strength and soundness of support for conclusions. To learn logic one must learn the symbols, argument constructions, and ways to distinguish good from bad logical form. This involves working through arguments and proofs in a systematic way. To learn to do this, you will be doing a substantial number of homework problems.

To learn reasoning and critical thinking, one must learn to pay attention to the structure and strength of reasons for conclusions. We will study “informal fallacies” and other pitfalls of poor reasoning. We will study some of the most common types of arguments, such as causal and inductive ones, and learn to better construct and evaluate different kinds of arguments. Again, you’ll be doing a lot of problems to learn about and practice applying these concepts.

It is probably not an understatement to say that those who conscientiously absorb the lessons of this course will forever write better papers, construct better arguments, and, in general, become better thinkers.

Class Format:
This class will consist largely of lecture and working through problems. You will do problems both before and after we cover the material in class, so most days we will be going over homework on the last class’s material and then beginning the next section.

1 This is a long syllabus – my tendency is to put as much helpful material in writing as I can. I’d like you to read it all, but I’ve marked especially crucial material with a line in the left margin, for quick reference.
Participation is expected by all members of the class, and you may be called on frequently. I may sometimes have you break up into pairs or groups to work on an in-class assignment or discussion. Since philosophical learning is best done in an environment of discussion, attendance and participation are expected.

You will be responsible for completing the readings and assignments before each class, and being prepared to discuss those readings and assignments. You should be aware that some of the material in this course most likely will be quite challenging for you. Give yourself plenty of time to do these readings and assignments carefully. You must bring with you to class the text, your homework, and any questions you had about the homework.

In this class, we will be learning about logical constructions without examining in depth the arguments and proofs for their legitimacy. Thus there will usually be facts of the matter about whether an answer or interpretation is correct. We will not merely be exchanging opinions, but will be seeking the truth. In that spirit, everyone’s contributions will be both respected and open to correction or dissension. Be careful not to take it personally if an answer or idea that you put forward is criticized; this is helpful if what we’re after is really solving the problems and gaining logical and critical thinking skills.

What you can learn about and gain from this course:

Unless you have plans to become a professional philosopher, which I expect few of you do, the most important things you will gain from this course will not be detailed retention of specific philosophical positions. Rather, you should hope and strive to gain abilities in three main areas:

**Theoretical learning**, like appreciation of issues in logic and critical reasoning and their importance; and the ability to recognize logical and critical thinking problems and considerations in many contexts.

**Practical learning**, like the ability to recognize fallacious reasoning, logical errors, and critical thinking pitfalls in everyday contexts like politics, advertising, media, and personal discussions; and the ability to use tools to improve your own critical thinking and the logical structure of your reasoning.

**Philosophical methodology**, with skills falling into three main sub-areas, as follows.

First, **Critical thinking and problem solving**, like extracting the main points from difficult material, following and reconstructing arguments, and thinking questions through.

Second, **Communication**, such as learning to express yourself clearly, systematically, and persuasively, and to make decisions and then justify your position in a clear, logical, and compelling way.

Third, **Creativity, research, and investigation**, like gaining proficiency at conducting investigations - learning to ask the right questions, and to develop and assess methods and standards for answering those questions; and solving problems using careful but innovative techniques and basing your conclusions on reliable evidence.

What I expect you to achieve:

In some ways, this class will resemble a math course; in others, a self-help seminar; and in still other ways, a course on how to be a more effective participant in our “richly diverse and increasingly complex world.” You’ll become good at formal logic, which is kind of like doing puzzles or learning a game, except that the rules of the game and the solutions to the puzzles apply to real-world arguments and reasoning structures. You’ll learn about fallacies in reasoning, how to recognize and avoid them. You’ll learn how critical reasoning and logic apply to subjects and communications all around us, and how it can help you clarify what’s being said and decide for yourself with a firm foundation.
Course Requirements and Grading Scheme

Homework and in-class exercises (33%):
You’ll be doing homework for nearly every class meeting, as you would for a math class, for instance. The homework exercises will mostly come from the textbook; some may be exercises you’ll do on the online Moodle course site. I may also have you do exercises during class. At the end of the course, the lowest grade on an assignment will be dropped; the rest will be averaged. Some assignments may count double, if they involve more or more difficult work than most – I will let you know ahead of time.

Unless instructed otherwise, you will make an extra copy of your homework – one copy to turn in at the beginning of class, and the other for you to grade. Answers to homework problems will be posted on the Moodle site the day that homework is due, and you are responsible for checking your answers and posting your score to me on Moodle. I will randomly check my copies of your homework to make sure you are properly reporting your grades. Exercises done in class will either be graded in class or I will check them.

This system has a couple of advantages: you can get feedback on all of your assignments, which would be impossible if I were grading everything; you can get immediate feedback, rather than waiting a few days to see how well you’re doing; and you go through the process of seeing for yourself what you did right and wrong, which I find more effective than simply getting back a corrected assignment.

Assignment responsibilities:
Format: Any assignments that are to be turned in outside of the Moodle site must be turned in as hard (paper) copies – no emailed assignments will be accepted except by special permission. It is your responsibility to retain copies of all assignments you turn in, in a reliable format.

Self-grading: As instructed in class and on the Moodle site, you will grade your own homework and submit the results to me. You must turn in the homework assignment before consulting the answers on the Moodle site.

Late assignments: An assignment that is between one hour and 24 hours late will receive a ½ grade reduction. An assignment that is between one day and two weeks late will receive a full grade reduction. Assignments will not be accepted more than two weeks late. Missed in-class assignment cannot be made up or turned in late unless the absence is an excused one – in that case, it is your responsibility to let me know that you need to make up the exercise.

Freebie: You will be permitted one “freebie”: an assignment turned in as much as three days late, no questions asked, as long as you let me know you’re taking your freebie. Be mindful not to use it lightly. In this class, it’s important to keep up with the exercises, so be careful not to let yourself get behind at a crucial time.

In-class exams (67%):
There will be four in-class exams in this class: in weeks 3, 5, and 9, and the final exam during exam week. Exams will consist of problems like those in the textbook – mostly short answer, multiple choice, and true/false questions. I will give you more guidance and information as exam times approach.

Exam 1 (8%): in Week 3, on Chs. 1-3
Exam 2 (14%): in Week 5, on Chs. 4-6
Exam 3 (20%): in Week 9, on Chs. 7-9
Final exam (25%): in Exam Week, on Chs. 1-11

Participation and conduct:
These dimensions do not carry a specific weight in the grading scheme for this class, but will be considered seriously at final grade time if you are at the borderline between two grades.
Participation is expected, and I will be calling on people frequently. In a philosophy class of this kind, everyone taking part in the discussion and exercise of the problems is best. I know that participation is difficult for some people, but you can consider this a safe place to practice contributing to a group discussion, which you will surely need to do throughout your life. The guidelines for classroom civility and discourse (see below) will help make this an inviting place to contribute your voice.

I will keep general track of your contributions in class. Keep in mind that contributions can take various forms, including asking for clarification, participation in group work, and giving helpful examples. Keep in mind also that more does not necessarily mean better: those who excessively dominate class time, speak disrespectfully, or otherwise use their voices in a negative way may be penalized for doing so. If you are in doubt, or if you are interested in advice about how to participate more effectively or more easily, ask me.

Your conduct in this class includes improvement and effort. It also includes issues of respectful behavior, such as tardiness, distracting behavior, or disrespectful behavior towards members of the class. See below for more information.

Attendance:
Attendance is expected: four or more unexcused absences will result in a full grade reduction for the course. Absences will only be excused for required sports activities or for a dire personal circumstance.

A note on changing grades: if you feel you have been assigned a grade unfairly or inaccurately, you should by all means talk to me about it. My only requirement is that you prepare an argument (a set of reasons and facts) before you do so.

Guidelines for civility and discourse:
In this course, you will be expected to behave like what I’m sure you are – a civil person interested in entering into an atmosphere that is maintained to be courteous and respectful. Just so that my expectations are clear, let me express some specific guidelines. In order to create a smooth and harmonious learning community,

- take care not to disrupt class; please
  - wait until class is over to pack up
  - turn off cell phones
  - do not look at any material other than class material
  - stay awake during class
  - arrive on time
    - if you must arrive late, please take a seat quietly near the door, and see me after class to record your lateness, so I do not record you absent.
- to allow everyone to stay focused on the class lecture or discussion,
  - only one person at a time in the class should be speaking. Side conversations are distracting for surrounding students and for me.
- to ensure the best possible environment for discussion, please
  - no “hogging the floor”
  - no blaming or shaming
  - no personal attacks
  - always respect the confidentiality of the classroom
  - keep your contributions aimed at our common goals: discovery, progress, and learning, not winning, making the “other side” look bad, or getting attention.
    - If you violate one of these discussion rules, I will likely point it out to you in class or afterwards.
    - If you think someone else is violating one of these discussion rules, I encourage you to raise the issue (without blaming, shaming, or personal attack!)
Academic integrity and the Honor System

“It is always important to think of the intellectual world as a community of mutual dependence, mutual helpfulness, mutual protectiveness, and common delight. We take ideas from others and we give them to others. We are indebted to others, and others are indebted to us. In sharing and acknowledging the community, we define ourselves more certainly as individuals. The ability to describe our sources is also an ability to define our own originality and our own selves. All communities depend on generosity, trust, definition, and the proper use of sources is part of the mortar that holds the community of the mind together.”

- Richard Marius, Expository Writing Program, Harvard University

In this class, as in all classes at Kalamazoo College, we will be operating under the Honor System. It is important that you familiarize yourself with that system. Should you have any questions about citations, plagiarism, or honor system issues, please visit or contact me.

Any assignment you turn in that I find to violate academic integrity, either through dishonesty, plagiarism, lack of appropriate citations, or unauthorized collaboration, will receive a grade of 0. Any further instance of a violation of academic integrity will be punished by a failing grade in the class as a minimum sanction.²

Special needs

If you have any special needs that I can accommodate, please let me know as soon as possible.

Office hours

My office hours are posted above. They will be conducted on a first-come, first-served basis, and by appointment, with appointments taking precedence. You should feel absolutely free to come to them and discuss the course, the material, the assignments, or philosophy.

I request that each of you take a few minutes to visit me during my office hours sometime in the first week or two of classes. It will be an opportunity for us to chat one-on-one for the first time, and to get to know each other a bit more.

A note on the exercises: although I’ll only be assigning select exercises, I highly recommend that you do more than I assign (especially those with answers in the back of the book). This material is most helpful if it is as automatic as possible, so the more you practice it, the better your reasoning and critical thinking will be from now on. More pragmatically, this is the best way to get a good grade in the class.

² I owe some of the phrasing in this statement to Vaughn Maatman
Class Schedule

This schedule is tentative. Any changes will be announced in class and by email. The reading assignments listed for each day must be completed before that class. All readings are found in your textbook. Homework assignments will be given to you separately.

WEEK ONE
W Introduction to class and the subject
F Ch. 1: Critical Thinking Basics

WEEK TWO
M Ch. 2: Clear Thinking, Critical Thinking, and Clear Writing – pgs. 39-55
W Ch. 2 – pgs. 55-63
F Ch. 3: Credibility

WEEK THREE
M MARTIN LUTHER KING, JR. HOLIDAY: NO CLASS
W Review
F Exam 1

WEEK FOUR
M Ch. 4: Persuasion Through Rhetoric: Common Devices and Techniques
W Ch. 5: More Rhetorical Devices: Psychological and Related Fallacies
F Ch. 6: More Fallacies

WEEK FIVE
M Review
W Exam 2
F Ch. 7: The Anatomy and Varieties of Arguments

WEEK SIX
M Ch. 7 contd.
W Ch. 8: Deductive Arguments I: Categorical Logic – pgs. 247-257
F Ch. 8 – pgs. 258-266

WEEK SEVEN
M Ch. 8 – pgs. 266-278
W Ch. 8 contd. and Ch. 9: Deductive Arguments II: Truth-Functional Logic – pgs. 287-294
F Ch. 9 – pgs. 296-301

WEEK EIGHT
M Ch. 9 – pgs. 302-314
W Ch. 9 – pgs. 315-319
F Ch. 9 – pgs. 321-324

WEEK NINE
M Review
W Exam 3
F Ch. 10: Inductive Arguments – pgs. 333-349

WEEK TEN
M Ch. 10 – pgs. 349-356
W Ch. 11: Causal Arguments
F No class – a review session will be scheduled

EXAM WEEK
M Final exam, 8-11 am