PHI 171: Critical Thinking

Syracuse
University Adam
Patterson
Syllabus[1]

What you do, when you do it, how quickly you do it, and and how well you do is up to you

1. When & Where

Section_M001: MW 12:45-2:05 pm, HBC 323a

2. With Whom

Adam Patterson. Please only call me 'Shoe' (nickname) or 'Adam' (real name). E-mail: apatters@syr.edu.
Mailbox: Philosophy Department, HL 541.

3. Office Hours

Section_M001: MTu 10:00am-12:00pm, Zoom[2] (or by appointment).

4. Course Description

Many people are poor critical thinkers and do not improve in college. And if and when they do improve, the improvement is small[3] and likely due to personal maturation rather than due to taking a critical thinking course.[4] That is not good. Critical thinking is crucial for the job market (and life in general) and *should be* developed in college. So, the primary aim of this course is to improve your critical thinking skills.

You might now wonder: *how is this class any different? You just said that most people hardly (if at all) improve critical thinking through classes on critical thinking!*

This course is different. It includes the following learning strategies.

[1] Subject to change in extenuating circumstances.
[2] Meeting **Passcode**: 992495
[3] Martin Davies, “Computer Aided Argument Mapping,” *International Journal of Learning and Media* 4, no. 3-4 (2014): 79–84. [4] Tim van Gelder, Melanie Bissett, and Geoff Cumming, “Enhancing expertise in informal reasoning.” *Canadian Journal of Experimental Psychological* 58, no. 2 (2004): 142-152.

Argument Mapping. This class will make extensive use of "argument mapping." Argument mapping is a technique for visually representing and analyzing arguments. You will often map out arguments in this class before evaluating them. As I hope to have shown, the available evidence suggests that argument mapping is an effective way to enhance critical thinking skills. Argument mapping improves reading comprehension, encourages you to better understand the structure of arguments, and makes it easier to evaluate arguments in a systematic and precise way. You will learn argument mapping with a computer program called MindMup (more on that later).

Mastery Learning. Perhaps the most distinctive element of this class is mastery learning. Mastery learning is a method of instruction in which students work at their own pace and must achieve a level of mastery before moving forward in the course. You will need to complete several different steps in this course, and you have to master each step one-by-one. Once you think you're ready for the next step, you will need to complete a mastery check. If you have achieved mastery, then you'll move onto the next stage. If you have yet to achieve mastery, there is no penalty. You'll just need to practice some more and then you can take a mastery check again.

Our philosophy class is thus also unique because it will resemble more a lab practicum or hands-on tutorial than a traditional philosophy class wherein an instructor lectures/presents materials and students listen/take notes (there will be little-to-no lecture). That our class is more like a hands-on tutorial than a traditional philosophy class is not to say that I will do nothing during class time! Nor is it to say that you will not be engaging in philosophy. You will be reading and mapping arguments that concern, among other contemporary issues, classic philosophical questions like:

- Is time real, or an illusion?
- Does God exist?
- Are we really just living in a computer simulation?
- What is consciousness?
- Do we have free will?
- What is knowledge?
- What is a good life?
- Are our moral judgments uniformly false?
- Is vegetarianism ethical?
- Are there miracles?

Given that you will be mapping arguments from topics you would encounter in traditional philosophy courses, this course is also an introduction to philosophy.

5. Learning Goals

This course aims to achieve the following specific learning goals:

Reading Comprehension & Argument Analysis
If this class is successful, then you'll become better at understanding argumentative texts and identifying the structure of the arguments in these texts.

Argument Evaluation & Construction
You'll learn how to rigorously evaluate arguments and construct your own arguments in a persuasive, clear, and systematic way.

Critical thinking Concepts
You'll learn important critical thinking concepts, such as logical structure, implicit premise, independent and dependent arguments, validity, relevance, acceptability, sufficiency, and some rules of logical inference.

Understanding Disagreement
This class tries to enhance your ability to understand disagreements between people. You might learn to read and listen more carefully and charitably, and to identify key areas of disagreement in a debate

6. Things You Need

There are only a few things that you really *need* for this class, i.e., that are *necessary* for our class.

Laptop (in-class)
- If our class successfully moves to a computer lab, students will not need to bring their own laptops

Textbook
- Free
- On

Blackboard
Notebook/Pencil
- Pro-tip: Get a notebook of graphing

paper. Name Card
- Ex: a folded index card with your name on it. This helps me learn names (since without attendance learning names is extra difficult).

MindMup
- This is our argument mapping software, which you will need for Step 7
- You can use it for free, but for $25 *for 12 whole months* you get a lot of extra functionality that you may find useful.

Note: If there's any problem with getting the things you need let me know.

7. General Structure of Class

7.1 Completing Steps

The idea behind the course's design is to take the most effective way of teaching critical thinking (argument mapping) and combine it with one of the most effective forms of instruction in general (the Keller Plan).

The course is divided into *steps*. Each step targets the skill that I want students to master. Students work at their own pace through the steps. After students read the textbook chapter corresponding to the step, do well on some practice exercises (which I will give feedback on in class) and feel that they are ready to advance they take a **mastery check**. **To pass, students must receive about a 90 percent or higher on the mastery check**. If they don't pass, they keep studying and try again. For the relevant mastery checks, students will also have practice mastery checks to complete that I will provide feedback on, as well as a topical study guide.

Step 1: Mapping Premises and Conclusions
You'll learn the basics of argument analysis and evaluation in this step. We'll cover the concepts of inference, indicator words, premises, conclusions, and you'll learn basic argument mapping.

Step 2: Sub-Conclusions
You'll learn how to identify, map, and evaluate sub-conclusions, intermediate conclusions in an argument.

Step 3: Dependent Reasons
You'll learn how to map and identify dependent reasons, reasons that are linked with other premises in an argument. We'll continue to learn other components of argument analysis and evaluation, such as logical rules of inference.

Step 4: Independent Reasons
This step will teach you how to identify independent reasons (reasons that don't depend on other claims), arguments with no inference indicators, the logic of conditional "if, then" statements, and more.

Step 5: Implicit Conclusions
Authors don't always explicitly state one or more of their sub-conclusions and sometimes they might not explicitly state their ultimate conclusions either. In this step, you'll learn how to identify missing ultimate conclusions and sub-conclusions.

Step 6: Implicit Premises
Every argument includes a number of assumptions that are unstated but are nevertheless necessary for the argument to work. In this step, you'll learn how to identify and state implicit premises.

Step 7: Computer-Assisted Argument Mapping
You'll learn how to map arguments with a computer program, Mindmup. This will be useful for mapping more complex arguments, for constructing arguments, and for reviewing what you've learned. In addition, you'll also learn how to map objections and more on argument evaluation.

Step 8: Special Inferences & Fallacies
In this step, you'll hone your skills at recognizing and thinking about what are commonly called "fallacies" or "mistakes in reasoning". You'll be able to distinguish between problematic and non-problematic instances of these "mistakes" as not all of these "mistakes in reasoning" are actually bad!

Step 9: The Disagreement Project
The final step in the course is the disagreement project. You'll be required to take a position on a topic that you care about and then find another person who has a very different position than yours about that topic. You'll then have an extended conversation with this person exploring your disagreement. After the conversation, you must write an accurate description of this person's argument and he/she must confirm that your description is accurate. Finally, you'll map your interlocutor's argument and evaluate it. On this assignment, you will be assessed both on your use of the skills that you've learned throughout the course and also on your ability to engage in dialogue in a good faith, productive manner.

Since students can work at their own pace, **attendance on any given class session is not required.** You can also come to class and leave whenever you want. Once again, you get to decide how you'll learn. But keep in mind that I will, in general, only administer mastery checks in class (but see the exception below).

7.2 Mastery Checks

You can expect mastery checks to take anywhere from about 20 minutes to a full session of class. For the more advanced steps, you will also need to complete take-home assignments. Note the following:

- In general, you can only take one mastery check per class session
- Mastery checks can only be taken in class or during office hours (but, in order to take mastery checks during office hours, students must come to class regularly).

- Students cannot take more than two different mastery checks for different steps a week (so it is only possible to pass two steps per week)
- Mastery checks are not open-book.
- To pass a mastery check, you must demonstrate that you fully understand the material and can complete the mastery check with a minimal number of errors. This means that **you need to receive about 90 percent or higher on a mastery check to pass.**
- Mastery checks must be passed in sequential order.
    - Ex: You cannot try to pass the final mastery check in the hopes of convincing me that, in doing so, you should get an A. As you will soon learn, it does not follow that if you pass a later mastery check then you would have passed the previou mastery checks.
- No student can take a particular mastery check for a step more than once.
    - Ex: for Step 4 if you take mastery check #5 you cannot retake mastery check #5. You must take a *different* mastery check for that step).
- If a student requires more mastery checks than I have ready-made, the student must wait for me to create a *new* mastery check and try again.
    - Ex: if I only have 6 different mastery checks for Step 1 at the start of class and a student fails all six the student will have to wait for me to create a *new, seventh* mastery check for them to pass in order to proceed past Step 1).
- For any kind of mastery check (actual or practice): once they are graded, they are immediately discarded to the trash. Students do not get answer keys. It took a lot of time and effort to create the mastery checks/keys for this course. And it's important to prevent people from disseminating these materials openly on the internet, as this would destroy test integrity.

It's important that you prepare for the mastery checks by, when appropriate, doing the reading, completing the practice exercises, completing practice mastery checks and getting feedback on them all.

Once you've completed a mastery check, I'll evaluate your work as promptly as I can *in class* and let you know whether you've passed the check. If you haven't passed yet, I'm happy to go over your mastery check in class or office hours and explain what you can do to improve next time.

In general, you should be taking your mastery checks only in class. However, there's an exception. If (a) you are behind on the model schedule and (b) you are also coming to class regularly, then I will allow you to take a mastery check during office hours. Here's an illustration. Suppose that it's week 4. According to the model schedule, you should be on step 3. But let's assume that you've fallen behind and you're still on step 2. If you've been coming to class regularly, then you can take mastery checks during office hours. I'll grade your mastery check

after you're done and we can discuss it.

8. How A Typical Class Works

Here's how it looks. I show up with about five huge folders about ten minutes early. On the floor in the front of the class, I lay out mastery checks, practice exercises, and study guides, each grouped by step. The class begins. Sometimes I'll make announcements, but these are brief. Students start working. Some students work together and some students work on their own. Each student has a card with their name on it. If they need help with anything, they put up their name card where I can see it. I'll then come around and talk to the students.

Some students will be taking mastery checks. When they're done, they place them in a folder labeled "Mastery Checks" and I grade them when I have a chance. That's right, I grade them right there in the class, sometimes in front of the student who just submitted it. I find that, with an answer key, it takes me about 1-2 minutes on average to grade a mastery check. I then invite the student up to my desk and we discuss their check. I point out any problems and I let them know--as gently as possible--whether he or she needs to take another mastery check. Normally, a student can complete about one or two mastery checks per class.

The class dynamic is radically different from other classes. Often, the class will be very quiet as students do exercises, read, or take mastery checks. I'd like the students to work together more and I'm still figuring out how to encourage that.

9. Grading

As this course incorporates mastery learning, the grading system is weird. Here's how it works. If you complete one of the steps above, you receive a certain number of points. The points for all nine steps are as follows:

Step	Points
Step 1	15
Step 2	12
Step 3	12
Step 4	12
Step 5	12

Step 6	12
Step 7	10
Step 8	10
Step 9	5

So, for example, if you complete steps 1-6, you'll receive 75 points in the class. Complete all of the steps and you get 100 points. And so on.

At the end of the class, I'll assign you an overall grade based on your point total using a conventional grading scale. If you want to stop at a certain step because you are satisfied with the grade you will receive, that is up to you.

Note: There is no attendance grade, no participation grade, and mastery checks are the closest things to "exams" (there is no midterm exam and we will not sit for a final exam during exam week), which can be taken whenever you want (but must be taken in class) and retaken as many times as you need in order to pass.

9.1 Grade Scale

I will convert the points you earn by completing steps to letter grades using the following grade scale.

95 +	A
90-94	A-
85-89	B+
80-84	B
75-79	B-
70-74	C+
65-69	C
60-64	C-
50-59	D
45-49	F

Note: You might have noticed that if you complete up to step 7 you get 85 points, a B+, and if you complete up to step 8 you get 95 points. So there is seemingly no way to get an A- according to this grade scale and how points are allocated for completing steps. But there is.
*There will be random assignments throughout the term for extra points posted to Blackboard. Instructions for completion and submission will be on the assignment. These assignments *will have specific due-dates.*

10. Academic Integrity

Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their

responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits

students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during preterm check-in on MySlice.

Note: In our course, you may be asked to create an argument map with a partner. If so, each student must submit the argument map and *clearly indicate who their partner is on the map itself.* If two students collaborate to make a map, both submit the map for assessment, and do not indicate that the effort was collaborative, *both students will receive a zero on the assignment without exception.*

11. SU Resources For Students In Distress

- Help A Student
- Sexual And Relationship Violence
- Report A Concern

12. Critical Thinking Student FAQ

What will we be doing in a normal class?
A mix of different things. I'll be discussing the material with some students, and I'll be chatting with you about some of the things you still need to work on, based on your last mastery checks and practice exercises. There will rarely be whole class lectures, but I hope to still have some small group discussions and brief lectures to groups of students who need help or who are working on the same step. Some students will be taking mastery checks. Other students will be doing exercises and practice mastery checks. Some students will be reading the material.

What are your tips for being successful in the class?
Self-discipline is key. I'm very happy to help you as best as I can, but you are ultimately responsible for your own learning. If you find it hard to work on your own, you should come to class and office hours. Feel free to work with others outside of class as well. You should make sure that you're consistently getting the exercises and practice exercises correct before you take a mastery check.

What schedule should I have if I want to complete all ten steps?
If your goal is to complete all 10 steps--a tough goal--then you should plan on

completing a step every week and a half or so. You should build in some time for mistakes--you may not always pass a mastery check on the first try.

Here's a reasonable schedule if you're on this track. You will have about a week and a half to complete the mastery check. So, that's three class sessions.

> First session: do the reading before class and some of the exercises, come to class and seek any help from your classmates or professor. Finish the practice mastery check in class and have me grade it.
>
> Second session: do more exercises before the session and come to class close to ready to take the mastery check. Reserve enough time to take the mastery check in class, and take it.
>
> Third session: I'll have graded the mastery check by this session and I'll let you know whether you passed within a day or two, hopefully (or even in class if I have time). Suppose you passed. Well, onto the next step. Suppose you didn't pass. You then have a conversation with me about anything that you missed, and then take another mastery check this session.
>
> If you stick to this schedule, you'll be on track for all ten steps. This is a hard schedule though and it won't always be easy. If you aim to complete, say, eight steps, then you can spread this out for longer--say two weeks or two and a half weeks.

Are some mastery checks more challenging than others?
Yes. The first two mastery checks are less difficult than later mastery checks.

How do I know if I am ready for a mastery check?
You will know that you are ready for a mastery check if you are consistently getting the correct answers on the exercises and practice mastery checks.

What happens if I get stuck at a certain step and can't pass the mastery check?
I don't think that this will happen, but if it does and I am very confident that you are working hard to pass, then I will try to devise an alternative method of assessment.

What happens if I fall behind?
I will do my best to make sure that you can catch up. I can help you out during office hours or in class, for example. However, the honest answer is that you will also need to devote more time to this class in order to catch up.

How much reading will I have to do?
Probably most of the assigned reading for each step. However, if you find that you are getting the exercises consistently right without finishing the reading, then

you may be able to pass a mastery check regardless.

How does the grading work?
When you complete a step, you automatically get the points associated with that step. Your final grade in the class is the total number of points that you've accumulated out of
100. I will grade mastery checks in front of you in-class and, if passed, will immediately make a record of this in a shared Google doc so that you can track your progress.

What are mastery checks like?
This will vary according to the step. But the first 4 mastery checks will be a mixture of multiple choice questions along with mapping arguments. Mapping arguments will quickly become a major component of each mastery check. Later mastery checks will vary more. For example, the mastery check for step 9 is a paper and maps of your argument in the paper. Some mastery checks, such as the check for step 8, will have a take home component.

Will this class help me on the LSAT or law school?
I think so. This class will help you with the analytical reasoning section of the LSAT in particular. Law school and the law more generally deal in large parts with arguments. So, if this class is successful, it will increase your readiness for law school. However, I hope that this class should benefit you regardless of your career plans.

What is the end goal of this class in its application?
To increase your reasoning ability and your ability to identify, understand, evaluate, and create arguments. Obviously, I can't guarantee that these skills will come in handy. But I suspect that they will help you to get more from your academic career and they might be useful in other areas of your life.

How often do students take mastery checks?
That's up to you. You can take a mastery check every session if you'd like. But I only recommend taking a mastery check if you are consistently getting the practice exercises right.

Will we immediately get grades for mastery checks?
I'll try to grade your work as quickly as I can. If I'm not particularly busy, I might even be able to grade your mastery checks in class. But, if that's not possible, I'll try to finish grading within a day or so, and then I'll update your progress sheet google doc that I sent to and share with only you.

I'm not a good test taker. Should I be worried?
I understand--I'm not either. But I think you can definitely still do well. Remember that tests are not punitive in this class. If you don't pass, that's okay. You can just take it again. Here's one way to think about this: in this class, the tests are part of

the learning, not a way to punish you.

Will most of the class be spent doing mastery checks?
That's unlikely, unless you sign up for mastery checks every session. Most of the class sessions will consist of you working independently or in small groups doing exercises, and talking to me about your work and what you can do to improve.

What happens if I come close to passing a mastery check, but get below a 90?
If you get close to 90 percent but aren't quite there, I'll have a chat with you about the material. This is a second chance to demonstrate that you really are capable of mastery, but you made some silly mistakes on the mastery check. If you can show me that you really have mastered the material, then I'll pass you.

How Will We Keep Track of Progress
I have created a GoogleDoc that I will share with each individual student to track their progress. When students want to see their progress, they only need to check this document. I immediately update whenever a student passes a step.

Why structure class like you do?
The goal is to maximize your learning and I chose instructional methods that have the most consistent track record of achieving this effect. Argument mapping seems to be relatively more effective than other methods at increasing your ability to understand arguments, based on the research done on this topic. Mastery learning has a large amount of evidence in its favor and the research finds that the kind of mastery learning that we'll do in this class is particularly effective. The kind of mastery learning we're doing in this class is called the "Keller Plan" or "Personalized System of Instruction." Here's one review of the evidence:

> “The single most significant conclusion to be reached from research on innovative teaching methods in higher education is that the Keller Plan is clearly superior to other methods with which it has been compared. Indeed, the Keller Plan has been so consistently found superior that it must rank as the method with the greatest research support in the history of research on teaching.” – (Dunkin and Barnes 1986, 759.)

Despite this fact, few professors use this system because it is hard to manage and time consuming. We'll see if we can pull it off in this class. I sincerely hope that we can!

Will answer keys be made available?
While I will use answers keys that I made to evaluate certain assignments (e.g., practice exercises, practice mastery checks, mastery checks), I will not distribute the answer keys for academic integrity purposes.

13. Our Course Schedule

- **Week 1**
  - M Aug 30
  - W Sept 1
- **Week 2**
  - M Sept 6 **(No Class-Labor Day)**
  - W Sept 8
- **Week 3**
  - M Sept. 13
  - W Sept. 15
- **Week 4**
  - M Sept. 20
  - W Sept. 22
- **Week 5**
  - M Sept. 27
  - W Sept. 29
- **Week 6**
  - M Oct. 4
  - W Oct. 6
- **Week 7**
  - M Oct. 11
  - W Oct. 13
- **Week 8**
  - M Oct. 18
  - W Oct. 20
- **Week 9**
  - M Oct. 25
  - W Oct. 27
- **Week 10** NO CLASS
  - M Nov. 1 No class
  - W Nov. 3 No class
- **Week 11**

- M Nov. 8
- W Nov. 10

- **Week 12**
  - M Nov. 15
  - W Nov. 17
- **Week 13** NO CLASS (VACA)
  - M Nov. 22 No class

- W Nov. 24 No class
- **Week 14**
- M Nov. 29
- W Dec. 1
- **Week 15**
- M Dec. 6
- W Deb. 8 LAST CLASS

Warning: You may be thinking that since you do not have to come to class regularly, that you can complete your assignments at your whim, etc. that this class is going to be easy, that it requires little work, etc. In short, maybe you think this class is an easy joke of a class. *THIS IS NOT THE CASE.* It requires the amount of work that any college-level course at a good university requires—a good deal of it.