

Critical Thinking and Methods of Inquiry

Dr. Javier Hidalgo

Office: 129 Jepson Hall

Email: jhidalgo@richmond.edu or hidalgoj@gmail.com

Class Time: Tuesday & Thursday, 3:00pm to 4:15pm

Classroom: Jepson 103A

Office Hours: [I post a sign-up sheet for my office hours online](#). Please sign up for office hours there.

Course Description

Critical thinking is reasonable and reflective thinking focused on deciding what to do or believe. A good critical thinker has the ability to rigorously understand and evaluate arguments and evidence, and to use these things to come to a reasoned judgment. The fundamental aim of this class is to enhance your ability to become a good critical thinker. To achieve this goal, we'll focus on honing your ability to understand, evaluate, and create arguments.

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, 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.

Two Distinctive Features of this Class

This course includes the following learning strategies.

Argument Mapping. This class will make extensive use of “argument mapping.” Argument mapping is a technique for visually representing and analyzing arguments. You’ll often map out arguments in this class before evaluating them. 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’ll learn argument mapping both with pen-and-paper and with a computer program.

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’ll 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’ll 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.

Why use mastery learning? Mastery learning empowers you as a learner. Students in mastery learning classes tend to learn better, reach higher levels of achievement, and develop greater confidence in their ability to learn. However, mastery learning also comes with a great deal of responsibility. You’ll need to be disciplined in order to stay on track and do well in this course.

Steps in the Class

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

- In this step, 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: 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 and evaluate objections.

Step 7: Argument Construction

- In this step, you'll hone your skills at constructing your own argument. Your mastery check in this step will be a paper that develops and defends an extended argument, and maps of the central arguments in your paper.

Step 8: 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.

Grades

As this course incorporates mastery learning, the grading system will be a bit unusual. Here's how it works. If you complete a step, you receive a certain number of points. The points for all eight steps are as follows:

Step	Points
Step 1	15
Step 2	15
Step 3	15
Step 4	15
Step 5	10
Step 6	5
Step 7	10
Step 8	5

So, for example, if you complete steps 1-5, you'll receive 70 points in the class. At the end of the class, I'll assign you an overall grade based on your point total using a conventional grading scale (70 points is a C-, 89 points is a B+, 95 points is an A, etc). If you want to stop at a certain step, that's up to you.

You can also increase your point total above your base grade. Here's how. This class will have both a pre-test and post-test with a test of critical thinking. You'll take the pre-test on the first day of class and the post-test near the end of the semester. The purpose of these tests is to help me to know whether this class is effective and for you to measure how much you've learned. You can receive up to 10 points by taking the critical thinking tests. How much of this bonus you receive will depend on how well you do. But I'll only count your best performance on the two tests that you take. For example, suppose that you do badly on your pre-test, but you do well on your post-test. I'll only count your post-test, and I'll drop the pre-test. To receive credit, you must complete both the pre-test and the post-test.

I'll administer the pre-test and post-test for the class on:

- Pre-test: **Tuesday, August 24th**
- Post-test: **Tuesday, November 16th**

Just come to the regular classroom to take these tests. They should take about 50 minutes to finish.

Class Attendance

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.

Here's the one exception. You should come to class to take the pre-test and post-test (August 24th and November 16th). I will, however, allow make-up sessions for these tests if you have a medical emergency, religious observation, or another very good reason.

I will also allow you to take mastery checks during office hours. But you can only take mastery checks during office hours if you are also attending class regularly.

Office Hours

I'm happy to help you during office hours and you can sign up for office hours on my schedule at this [link](#).

Mastery Checks

You can expect mastery checks to take anywhere from about 15 minutes to a full session of class. For the more advanced steps, you'll also need to complete take-home assignments.

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. It's important that you prepare for the mastery checks by doing the reading and completing the practice exercises.

Once you've completed a mastery check, I'll evaluate your work as promptly as I can 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.

Readings and Exercises

All of the readings and exercises are available on the blackboard page for this class.

Final Sessions and Deadlines for Coursework

The final for this course is scheduled for Monday, December 13th from 2:00pm to 5:00pm.

The final session will function as an extended class session. During the final session, you can do practice exercises, ask questions, take mastery checks, and so on. As always, attendance is not mandatory and you don't have to stay for the whole session. But this will be your last chance to submit mastery checks. The deadline for all of your work in this course is the end of your final session.

Teams

You have the option of working with a group of students throughout the course. The purpose of these teams is to encourage accountability and provide support for the work that you'll do in this class.

Here's how it works. First, you let me know that you want to join a team early in the semester. Second, you will then be randomly assigned to a group of three to five students. I encourage you to sit with your team and work together in doing practice problems, studying, and making sure every member of the group is on track to achieve their goals in this class. If all of the members of your team pass certain steps on time, you'll receive some extra credit in the class.

You can read more about the option of joining a group [at this link](#).

Advice

Here's some unsolicited advice on how to do well in this class.

- You should do at least some of the reading for the step that you're on before coming to class. You should then use class time to do practice exercises and ask for help from me and your classmates on anything that you don't understand. But I understand that sometimes it won't be possible to complete the readings before class. In that case, you can feel free to do the readings during class.
- To do well in this class, you need to be organized and disciplined. It's going to be easy to put this class off until later in the semester because you have something more important to do right now. You should resist the urge to do this. If you wait too long to complete the steps, it's going to be tough to catch up. I recommend that you create a schedule for this class and stick to it, as best you can.
- You get to set your own goals for this course. If your goal is to complete all eight steps, then I recommend that you complete a step roughly every two weeks. If you complete a step about every two weeks, then you'll be on track to finish all eight steps. If you aim to complete a lower number of steps, then you should plan accordingly.