



The Art of Critical Thinking

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I. Course Description:

This is a course about critical thinking. Critical thinking? Won't this just be another logic, math, or science course? Well, not exactly. Though we will talk about logic, math, and science, we will not spend a lot of time doing math or science. Though we will do logic a lot, we will not be focused on logic for its own sake. So, you might be asking, what will we do? We will ask thoughtful questions about what we are doing when we do math and science. We won't stop there. We'll find that these questions open a giant can of big questions about which we can critically think. In other words, we will be doing philosophy. So, this course will explore many of the philosophical issues, puzzles, and problems typically found in a college-level Introduction to Philosophy class. Our exploration of these issues will take place through the use of compelling stories, intriguing dialogue, and fun activities. We will begin with a look at critical thinking in general. We will then apply it to some really interesting questions about math and science, disciplines you have been exploring for a long time. From here we will see how philosophy can make a difference in our lives and our communities. My hope is that you will come out of this course with a richer awareness of not only what it takes to be a good critical thinker, but have some thoughtful ideas of your own about what we are doing when we do things like science, as well as what it means to be a good friend, family member, and citizen.

II. Topics, Possible Media, and Activities (Subject to Change)

Part 1: Thinking

Day 1: What are Arguments

Media: Monty Python's *Argument Clinic* and the witch burning scene from *The Holy Grail*.

Activities: *Holy Grail* activity.

Topics: Kinds of arguments, what makes a good argument good, counterexamples

Day 2: What is Logic? How Should We Evaluate Arguments?

Media: Excerpts from cable news.

Activities: Fallacious debates, a look at cable news.

Topics: Counterexamples (again), informal fallacies, syllogisms and Venn diagrams.

Day 3: What is Formalism? What is a Paradox?

Activities: Fallacious debates (continued).

Topics: Paradoxes, what systems of formal logic are like and some weird things we discover by using them.

Part 2: Thinking about Knowledge and Science

Day 4: How Do We Know What We Know?

Media: *The Matrix*, William Steig: *The Real Thief*.

Topics: What makes a statement true, what it means to know something, Descartes' problem of doubt, Hume's problem of induction, Gettier problems.

Day 5: What is Science and What Can it Tell Us?

Topics: Science and pseudo-science: the problem of demarcation, what makes evidence good evidence, the Raven's Paradox and the problem of confirmation, whether science is the only way to know things.

Part 3: Thinking about What is Real

Day 6: What is Reality? What Exists?

Media: Margery Williams, *The Velveteen Rabbit*, *The Matrix*.

Topics: What it means for something to be real; science and the real: the ontological status of theoretical entities (now that's a mouthful!); Mathematical statements, truth, and reality.

Day 7: What is a Self? What is a Mind?

Media: Frank L Baum, *Tin Woodsman of Oz*; *I Robot*.

Activities: The Survival Game, Computer Lab.

Topics: The Ship of Theseus, personal identity, The Turing Test, The Chinese Room thought experiment, the Knowledge Argument.

Day 8: Do We Have Free Will?

Media: *Next*.

Topics: Determinism, neuroscience, and the self; libertarian agency; compatibilism; free will and moral responsibility.

Day 9: Is There a God?

Media: *Signs*, *Bruce Almighty*.

Topics: Science, analogy, and the argument from design; the paradox of the stone; the problems of evil and of hiddenness, the ontological argument, faith and religious experience.

Part 4: Thinking about What is Valuable

Day 10: What is Art? What is Beautiful?

Media: Peter Catalanotto, *Emily's Art*.

Activities: The Three Circles Game, Trip to the Henry Art Gallery.

Topics: What makes something art, whether anything is beautiful all by itself.

Day 11: How Should I Live?

Activities: Prisoner's Dilemma Game, Scenario Exploration.

Topics: Why be moral, egoism, whether ethical questions have true answers, relativism, desire satisfaction and the experience machine.

Day 12: How Should I Live? (Continued)

Topics: Whether science can answer moral questions, philosophy and ethics: making sense of our intuitions, respect for persons, duty, utility, virtue, and what sort of person should one be?

Day 13: Do We Have Duties to Animals and the Environment?

Activity: Trip to the Woodland Park Zoo.

Topics: Whether it is ok to eat animals for food, what moral reasons might exist for protecting the environment.

Day 14: What is Significant? What is a Meaningful Life?

Media: Antoine de St. Exupéry, *The Little Prince* (Chapter 7).

Topics: Absurdity and the Myth of Sisyphus, happiness and meaning, the experience machine (again), friendship.

Part 5: Conclusion**Day 15: Capstone Experience**

We will end the course with a mini-Philosophy conference in which students will present and respond to philosophy presentations they've written on topics of their own choosing.