

## Printable Notes for Critical Thinking (Foothill) or Logic (College of Alameda)

### Introduction

Working through these lessons and their corresponding practice exercises will help to ensure the extra margin you'll need to get a high grade in this course. The lessons are designed to help you review concepts covered in class. They do not replace class attendance, nor do they replace notes or textbook reading.

**MEMORIZE:** Those parts listed in RED or bold should be memorized. Students who memorize these terms and have a good understanding of them are virtually assured a high grade. Students who do not memorize these terms usually fail the course. □

It is recommended that you study these lessons as they are covered in the course. You may work ahead if you're so inclined, but don't work beyond your understanding. Do not wait until just before an exam to begin the lessons. "Cramming" doesn't work with this material.

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### I. Critical Thinking: Basic definitions

What kind of person is a critical thinker? Here is Richard Paul's definition:

[A critical thinker] is someone who is able to think well and fairmindedly not just about her own beliefs and viewpoints, but about beliefs and viewpoints that are diametrically opposed to her own. And not just to think about them, but to explore and appreciate their adequacy, their cohesion, their very reasonableness [when compared with] their own. More, a person who thinks critically is not just willing and able to explore alien, potentially threatening viewpoints, but she also desires to do so. She questions her own deeply-held beliefs, and if there are no opposing viewpoints ready at hand, she seeks them out or constructs them herself.<sup>1</sup>

This is a really a course in logic. Being a critical thinker and being logical are pretty much the same thing.

In 1724 Isaac Watts, D.D. gave this short definition; "Logic or the right use of reason in the inquiry after truth with a variety of rules to guard against error in the affairs of religion and human life, as well as in the sciences."

It will be easier to think of logic as any systematic method used to figure something out. This course deals with two broad categories of logic.

1. Informal Logic: Dr. Paul's definition emphasizes this. One must confront their attitude, their psychological blocks, and their environment. How do these things influence one's ability to reason? Informal logic also deals with parts of reasoning pertaining to content. For instance, it is important to evaluate the rhetorical devices which communicators use to manipulate us?

2. Formal Logic: The structure of language (the grammar) has an influence on the degree of certainty with which an inference can be drawn. Formal logic deals with the form or structure of an argument.

#### 3. Argumentation or Reasoning

a. Inferring one thing (a proposition) from two or more connected propositions. In other words, two or more propositions give us enough information to bring us to a conclusion

which was previously hidden from us.

b. Example (from Isaac Watts): "So when we have judged that matter cannot think, and that the mind of man [does] think, we then infer and conclude, that therefore the mind of man is not matter."

c. Inferences and conclusions are the effects of reasoning.

#### 4. Disposition

a. "Disposition is that operation of the mind, whereby we put the ideas, propositions, and arguments, which we have formed concerning one subject, into such an order as is fittest to gain the clearest knowledge of it, to retain it longest, and to explain it to others in the best manner; or, in short, it is the arranging of our thoughts in such order as is best for our own and others' conception and memory. The effect of this operation is called method."<sup>3</sup>

#### Notes:

1. Paul, Richard, *Critical Thinking: What Every Person Needs to Survive in a Rapidly Changing World* (Rohnert Park, CA: Center for Critical Thinking and Moral Critique, 1990), ii.

2. Watts, Isaac, *Logic* (Morgan, PA: Soli Deo Gloria, 1996), pp. 4-6.

3. *Ibid*, p. 6.