

## NPHI 2610A: Critical Thinking and Informal Logic

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### Course Description

Critical thinking plays an essential role in all forms of communication and analysis. The tools of logical reasoning are used in science, philosophy, humanities, business, law, art, and cultural criticism. This course is an introduction to the basic concepts and techniques of critical and logical analysis and their applications to real-world problems and situations. Through exercises and written assignments, students are taught how to evaluate their own reasoning and the reasoning of others. Students will learn to

1. identify and evaluate various types of deductive and inductive arguments;
2. apply these skills to forms of reasoning found in the popular press and in ordinary language;
3. write coherent and well-reasoned essays.

Topics covered include validity, truth, soundness, informal fallacies, language and meaning, and deductive and inductive arguments. This course prepares students for more advanced course work in the liberal arts and for graduate and professional entrance exams.

### Requirements for Degree Students

This is a "skills-building" course. As with any skill—playing a musical instrument, learning a language, dancing, public speaking, etc.—practice and repetition are essential just to acquire the basics. Improvisation and creativity are possible and desirable, even in logic and critical analysis. But it takes a lot of patience and hard work to get there.

This course is designed to take you through a sequence of discussions and exercises that establish and build foundational skills in critical reasoning. In our text, the accompanying CD-ROM, and the website, you'll find a wide range of exercises that enable you to assess your work and measure your progress. I suggest you do as many of the exercises as you can. In most cases it helps to do them more than once so that you gain greater facility and confidence.

There will be regular exercises to submit and discuss, as well as weekly quizzes to measure your progress. Most of the quizzes will be similar to the kinds of exercises included at the end of each section in the Hurley text and on the CD-ROM. Our goal will be to move from the most basic, rudimentary skills needed to identify and evaluate the strength of one's reasoning, to organizing and writing essays that make full use of your critical and creative abilities.

We'll discuss key concepts, questions that arise, and problems you encounter along the way. I'll be available both online, by phone, and (for those who live in the NY metro area) in my office. You'll also learn from one another as we share information, insights, and difficulties in the online discussion forums.

Your final grade will be determined as follows:

**Participation (Discussion & Exercises): 20%**

**Quizzes (the top 6 scores out of 7) -- 60%**

**Final Essay -- 20%**

There is a good deal of puzzle solving in a course like this one. So I hope that you'll enjoy the challenge. At each stage, what you learn will help you move to a higher level of expertise. **Each of you will be evaluated on the basis of your own achievement** -- you are not competing with one another for grades. If everyone gains proficiency with the material, you'll all end up with As.

So work together, help one another as much as you can, and don't hesitate to ask me for help when you need it. I'm not an avatar, so I won't be accessible on demand, 24/7. But I will be in the classroom for several hours every day, and checking in periodically to answer questions and offer advice.

### **Required Texts**

*A Concise Introduction to Logic* (Ninth Edition with CD-ROM), Patrick J. Hurley, Belmont, CA:Wadsworth, 2006

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## **SCHEDULE OF READINGS AND DISCUSSION TOPICS**

### **WEEK 1: ORIENTATION AND INTRODUCTION**

#### **WEEK 2: CHAPTER 1. BASIC CONCEPTS.**

- 1.1 Arguments, Premises, and Conclusions.
- 1.2 Recognizing Arguments.
- 1.3 Deduction and Induction.
- 1.4 Validity, Truth, Soundness, Strength, Cogency.

#### **WEEK 3: CHAPTER 1 (CONT.)**

- 1.5 Argument Forms: Proving Invalidity.
- 1.6 Extended Arguments.

#### **WEEK 4: CHAPTER 2. LANGUAGE: MEANING AND DEFINITION.**

- 2.1 Varieties of Meaning.
- 2.2 The Intension and Extension of Terms.
- 2.3 Definitions and Their Purposes.
- 2.4 Definitional Techniques.
- 2.5 Criteria for Lexical Definitions.

#### **WEEK 5: CHAPTER 3. INFORMAL FALLACIES.**

- 3.1 Fallacies in General.
- 3.2 Fallacies of Relevance.
- 3.3 Fallacies of Weak Induction.
- 3.4 Fallacies of Presumption, Ambiguity, and Grammatical Analogy.
- 3.5 Fallacies in Ordinary Language.

#### **WEEK 6: CHAPTER 4. CATEGORICAL PROPOSITIONS.**

- 4.1 The Components of Categorical Propositions.
- 4.2 Quality, Quantity, and Distribution.
- 4.3 Venn Diagrams and the Modern Square of Opposition.
- 4.4 Conversion, Obversion, and Contraposition.
- 4.7 Translating Ordinary Language Statements into Categorical Form.

**WEEK 7: CHAPTER 6. PROPOSITIONAL LOGIC.**

- 6.1 Symbols and Translation.
- 6.2 Truth Functions.
- 6.3 Truth Tables for Propositions.
- 6.4 Truth Tables for Arguments.
- 6.6 Argument Forms and Fallacies.

**WEEK 8: CHAPTER 9. INDUCTION.**

- 9.1 Analogy and Legal and Moral Reasoning.
- 9.3 Probability.
- 9.4 Statistical Reasoning.
- 9.5 Hypothetical/Scientific Reasoning.
- 9.6 Science and Superstition.

**WEEK 9: APPLICATIONS & CRITICAL ESSAYS**

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**Students with Disabilities**

In keeping with the University's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations should contact the office of Student Disability Services. All conversations will be kept confidential. Students requesting any accommodations will also need to meet with Tom McDonald in the office of Student Disability Services, who will conduct an interview, and if appropriate, provide an academic accommodation notification letter. Mr. McDonald's office is 65 Fifth Avenue, Room 409. He can be reached by phone at 212 229 5472. More information through Student Services and on the University website.

**Statement on Academic Honesty**

It is expected that all work submitted for a grade in this course reflects the work of the student submitting it. Students are **encouraged** to discuss their work with others (inside and outside of class), and to exchange information, comments, and criticisms. But keep in mind that if you borrow an idea from someone else, you must **cite the source**, even if it is based on a conversation or correspondence.

Plagiarism or any other form of academic dishonesty will result in a **failing** grade for the **assignment** for the first offense. A subsequent offense will result in a failing grade for the course. All instances of academic dishonesty are reported to the Deans' office for review.

Any student who does not fully understand the standards of academic honesty should speak to me in advance of submitting coursework.