**Las Positas College**
3000 Campus Hill Drive
Livermore, CA 94551-7650
(925) 424-1000
(925) 443-0742 (Fax)

**Course Outline for PHIL 8**

**LOGIC AND ARGUMENTATION**

**Effective: Fall 2019**

I. CATALOG DESCRIPTION:
PHIL 8 — LOGIC AND ARGUMENTATION — 4.00 units

Logic and Argumentation. This course is designed to develop effective reasoning skills. Valid reasoning through formal deductive logic is emphasized, but the course also covers meaning in language, fallacies, and inductive reasoning methods in philosophy, literature and the sciences. This course differs from Philosophy 6 (Introduction to Logic) in that it has a prerequisite of English 1A and involves the application of logical technique to a major research paper.

4.00 Units Lecture

**Prerequisite**
ENG 1A - Critical Reading and Composition
with a minimum grade of C

**Grading Methods:**
Letter Grade

**Discipline:**
- Philosophy

| | MIN |
|---|---|
| **Lecture Hours:** | 72.00 |
| **Expected Outside of Class Hours:** | 144.00 |
| **Total Hours:** | 216.00 |

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

**Before entering the course a student should be able to:**

A. ENG1A
1. Critically read texts and materials from a variety of academic and cultural contexts, demonstrating in writing and discussion the ability to:
2. Summarize a thesis and main points;
3. Analyze main ideas;
4. Evaluate the validity and logic of the text’s reasoning and support;
5. Relate ideas and information in the text to his/her own experience as well as other texts;
6. Create a coherent position or argument based on reading;
7. Write multiple-paragraph papers that:
8. Accurately and appropriately respond to a given assignment;
9. Develop a relevant, focused thesis;
10. Are well-organized and coherently move from coordinating to subordinating points;
11. Are well-developed with sufficient and relevant evidence;
12. Synthesize facts and ideas originating outside his/her direct experience to develop and support a thesis;
13. Demonstrate stylistic choices in tone, syntax, and diction;
14. Use standard American English correctly;
15. Research a specific topic using the Internet, databases, journals, and books demonstrating an ability to:
16. Review sources for relevant evidence and arguments;
17. Integrate researched material into his/her own writing with appropriate context, explanation, punctuation, and citation;
18. Document sources in an academically responsible way.

IV. MEASURABLE OBJECTIVES:

**Upon completion of this course, the student should be able to:**

A. Identify, summarize, and diagram arguments given in diverse natural language texts.
B. Identify, critique and avoid both formal and informal fallacies in argumentation;
C. Symbolize ordinary language arguments using the operators and constants of sentential logic;
D. Check for the validity of arguments using truth tables and formal rules in a system of natural deduction;
E. Comprehend, utilize and apply the distinction between syntax, symantics, and conceptual content in language and arguments;

F. Explain, evaluate, and apply the most basic elements of induction, confirmation, probability theory, and scientific methodology;
G. Evaluate ones own system of beliefs, assumptions, inferences and justifications using the methods of critical reasoning.
H. Construct arguments in essay format that employ the methods of critical reasoning listed above, while avoiding the the pitfalls of common fallacies.
I. Apply the various methods of critical reasoning discussed above to works of philosophy, literature, the social sciences, and other persuasive media;
J. Compose extended argumentative essays utilizing effective logical tools and sound essay structure.

## V. CONTENT:

A. Formal symbolization in sentential logic
   1. Meaning, syntax and conceptual content in ordinary language
   2. Formal conversion of ordinary language using constants and operators
B. Formal proof methodologies
   1. truth tables and Ven diagrams
   2. Basic rules of natural deduction
   3. proof strategies in natural deduction
   4. formal fallacies
C. Inductive strategies
   1. confirmation theory
   2. probability
   3. experimental design
   4. scientific methodologies
D. Informal argumentation strategies
   1. the application of formal logical rules to natural language arguments
   2. constructing clear, rational and effective arguments in natural language
   3. avoiding informal fallacies
   4. evaluating our own biases, beliefs, assumptions, and justifications.
E. The role of logic in the humanities disciplines
   1. analyzing arguments in philosophy
      a. arguments in historical and contemporary ethical philosophy
      b. arguments in historical and contemporary political philosophy
      c. arguments in historical and contemporary metaphysics
   2. analyzing arguments in literature
      a. arguments with fictional narrative
      b. arguments using metaphor
F. Developing extended argumentative essays
   1. Essay struture
   2. Paragraph structure
   3. Research methodologies
   4. Compositional strategies
   5. APA essay format
   6. Peer review and self review
   7. Effective oral presentation of arguments
   8. Completing writing assignments totaling 6,000 words

## VI. METHODS OF INSTRUCTION:

A. **Written exercises and case studies** - Writing assignments totaling 6,000 words, including an extended research paper
B. **Critique** - Peer and instructor review of written work
C. Problem sets done in groups and as homework
D. **Observation and Demonstration** -
E. **Research** - methodologies demonstrated for students
F. **Discussion** -
G. **Student Presentations** -
H. Multi-media presentations & analysis
I. Course text readings
J. **Lecture** -

## VII. TYPICAL ASSIGNMENTS:

A. Problem sets
   1. Example: Formalize the following arguments using the operators and constants of sentential logic and prove their validity or invalidity using the system of natural deduction
B. Extended argumentative essay
   1. Extended argumentative essay: Your essay should begin with a clear thesis statement and opening paragraph. Analysis should involve a literature review of research relative to your thesis statement. Arguments found within the literature review must be compared, contrasted and evaluated using the tools of logic learned throughout this course. Independent arguments must be generated in response to the arguments analyzed. You must defend your thesis statement against the strongest counter arguments. The essay must follow APA format in structure and will be a minimum of 3,500 words.
C. Homework
   1. Evaluate an article in popular media reporting on a scientific discovery. Analyze the use of scientific reasoning, probabaility, experimental design, and/or induction presented in the article.
D. Class presentations
   1. As a group, develop a sound argument on a controversial claim approved by the instructor. Use at least 3 sources, and the methods of reasoning and argument development covered in class. Present the argument to the class in a 15 minute presentation, and hand out an outline of each group members argument to each member of our class. Please allow 10 minutes at the end of your presentation to respond to challenges made to your argumentative methodology by your fellow students.
E. Reading
   1. Read chapter 1 in our logic textbook and be prepared to discuss the difference between syntax, semantics, and conceptual content.

## VIII. EVALUATION:

**Methods/Frequency**

A. Exams/Tests
   1-3
B. Quizzes
   2-5
C. Research Projects
   1-2

D. Papers
writing assignments totaling 6,000 words
E. Oral Presentation
1-2
F. Projects
1-2
G. Group Projects
1-2
H. Class Participation
weekly
I. Class Work
weekly
J. Home Work
weekly

IX. TYPICAL TEXTS:

1. Baronett, Stan. *Logic.* 3rd ed., Oxford University Press, 2016.
2. Herrick, Paul. *Introduction to Logic.*, Oxford University Press, 2012.
3. Hurley, Patrick. *A Concise Introduction to Logic.* 13th ed., Wadsworth/Thompson, 2018.
4. American Psychological Association. *The Publication Manual of the American Psychological Association.* 6th ed., American Psychological Association, 2009.
5. Q, Troyka, and Gordon R. *The Simon and Schuster Handbook for Authors.* 11th ed., Simon and Schuster, 2016.
6. Cahn, Staven. *Exploring Philosophy: An Introductory Anthology.* 6th ed., Oxford University Press: USA, 2017.
7. Wolf, Jonathan. *Readings in Moral Philosophy.* 1st ed., W. W. Norton, 2017.

X. OTHER MATERIALS REQUIRED OF STUDENTS: