WILLIAM RAINEY HARPER COLLEGE
LIBERAL ARTS DIVISION
GENERAL COURSE OUTLINE

Course Prefix	Course Number	Course Title	*Contact Hours*
PHI	102	SYMBOLIC LOGIC	<u>3</u> *Lecture/Demonstration* _ *Lab/Studio* <u>3</u> *Credit Hours*

Course Description

This course is only offered in the spring term.

Introduces the student to formal symbolic logic. After an introduction to the concept of argument, students will learn both Aristotelian and modern symbolic logic. Applications to the real world may include contracts, legal arguments, and computer languages. (pending IAI H4 906)

Topical Outline
  I. Arguments: premises, conclusions, and indicator words
  II. Propositions, truth-values, induction v. deduction
  III. Validity, invalidity, counterexamples
  IV. Aristotelian logic
  V. Modern symbolic logic
  VI. Formal fallacies

Method of Presentation
   1. Lecture
   2. Other:
      a. Models of problem solving
      b. Student presentations of homework problems
      c. Computer based instruction using CD-ROMs that accompany textbooks

Student Outcomes (The student should)
   1. identify arguments, premises and conclusions.
   2. distinguish between inductive and deductive arguments.
   3. prove invalidity through the use of counterexamples and truth tables.
   4. identify the elements and attributes of categorical propositions.
   5. test the validity of arguments by using the square of opposition.
   6. construct truth table definitions for symbols used in propositional logic.
   7. translate compound statements and arguments into symbolic form.
   8. construct a variety of proofs, using rules of inference and replacement.
   9. construct conditional and indirect proofs.
   10. analyze ordinary language arguments using the methods of formal logic.

Method of Evaluation
   Typical classroom assessment techniques
         ___Projects
         ___Class participation
         ___Objective tests
         ___Studio/Lab performance
         ___Final exam
         ___Portfolios
         ___Essays/Term papers
         ___Oral examination
         ___Research report

Course content learning outcomes
    _X_ Quizzes
    ___ Group participation
    ___ Case study assignments
    ___ Homework
    ___ Midterm Exam
    _X_ Exams

Additional assessment information (optional).
    1. Daily homework assignments of problem sets from the text. Such assignments would include, for example, translation of ordinary language arguments to symbolic logic, use of truth tables to establish the validity or invalidity of arguments, use of the rules of inference and replacement to derive the conclusions of arguments from their premises.

Textbook
Required
Hurley, Patrick J.. <u>A Concise Introduction to Logic</u>. 11th Edition. Wadsworth, 2011
Layman, C. Stephen. <u>The Power of Logic</u>. 3rd Edition Edition. McGraw-Hill, 2005
Copi, Irving M., & Carl Cohen. <u>Introduction to Logic</u>. 13th Edition. Prentice Hall, 2008
Supplementary materials
None
Software
None

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