

Course Syllabus

Instructor :Dr. Kiriake Xerohemona

Course : PHI 2100 - Introduction to Logic - Spring 2012

Instructor: Dr. Kiriake Xerohemona

Place: PG5 Market Station 155

Time : 10 : 00*a.m* – 10 : 50*a.m*

Office: DM 335 Office Phone: (305) 348-7563; (305) 348-2185

Office Hours MWF 02.00 - 03. 00 p.m., and by appointment

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Course Description:

Logic is an important tool of philosophy, mathematics, computer science, and linguistics. This course will provide students with a general introduction to logic. The aim of the course is to introduce students to a system of methods and principles that can be used to recognize arguments and evaluate them. It deals with traditional logic, with concepts and techniques of modern logic, and also it considers philosophical issues related to logic.

Course Requirements:

Students are expected to:

- (1) study the particular sections from the textbook,
- (2) attend class sessions
- (3) participate whenever possible in class discussions,
- (4) complete reading assignments, and examinations on time.
- (5) complete the homework assignments.

Course Prerequisites:

There are no prerequisites for this course.

Course Objectives:

- (1) To stimulate understanding about basic logical concepts such as validity, truth, equivalence, counterexample, and proof.
- (2) to learn how to effectively evaluate, analyze, and criticize arguments.
- (3) To present the basic differences between inductive and deductive thought.
- (4) To introduce students to informal fallacies.
- (5) To familiarize students with the differences between Aristotelian logic and modern logic.
- (6) To present students the method of truth tables and/or truth trees to identify validity in arguments.
- (7) To introduce students to the concept of natural deduction proof and translation.

- (8) To satisfy the Quantitative component of the University's Core Curriculum.

Learning Objectives:

Students will be able to:

- (1) Differentiate between deductive and inductive reasoning. Identify valid, invalid, sound, unsound, weak, strong, cogent, and uncogent arguments.
- (2) Identify common valid reasoning forms, and identify common formal and informal fallacies.
- (3) Identify Categorical Syllogisms, and evaluate their validity through the use of Venn Diagrams.
- (4) Demonstrate competence in the propositional calculus. Translate English arguments into propositional logic. Use truth tables to show the validity of arguments.
- (5) Identify tautologies, contradictions, contingencies.
- (6) Use the natural deduction proof method to show the validity of arguments.

Textbook – Required:

- (1) **The Power of Logic** by Frances Howard-Snyder, Daniel Howard-Snyder, Ryan Wasserman, 4th edition, 2008, McGraw-Hill,

Policy on Assignments and Exams :

- It is imperative that students study regularly and do all the assigned exercises on time. Homework will be assigned on a regular basis, i.e, weekly. Students are expected to complete the homework on the sections covered during the week. Students must return the homework to get full credit at test time.
- Cell phones, Smart phones, etc: Cell phones must be turned off during tests. The vibrate mode is not considered turned off. They must not be visible to you or me. If they are, for instance, If they are in your book bag or pocket, they are not. Violations of this policy will result in the invalidation of the test.
- Students are required to fulfill all assignments and exams to receive a passing grade.

Exams Schedule and Policy :

There will be 3 examinations:

- (1) Exam #1 (25%): Friday, February 10, 2012. The first homework is due.

- (2) Exam #2 (25%): Friday, March 9th, 2012. The second homework is due.
- (3) Final Exam #3 (30%): April 23, 2012 9.45 am -11.45 am. The final homework is due.
- (4) Homework (20%): Needs to be completed weekly. It will be collected during exams time.

Policy on Make – Up Exams, Plagiarism and Incompletes :

- Make-Up exams are permitted **only** under unusual circumstances and **only** if the instructor is contacted before the scheduled test (unless circumstances render this impossible). The make-up exam is **different** from the regular exam.
- Students who resort to any form of academic dishonesty such as cheating or plagiarizing will receive an **“F” for the course**, and will be brought before the appropriate disciplinary body. Includes (but is not limited to) giving or receiving assistance on a test, quiz, or homework assignment for which such assistance is not permitted, falsifying a document to obtain an excusal from a test, and using unauthorized notes on a test or quiz. A more complete definition of Academic Misconduct is given on pp.120-121 of the Student Handbook.
- An incomplete will not be assigned simply because work is late, or because the student has not performed well in the assignments.

Important Dates :

- Monday, January 16th, 2012: Martin Luther King Holiday- University closed.
- Tuesday, January 17th, 2012: Last day to complete late registration. Last day to drop courses or withdraw from the University without incurring a financial liability.
- Friday, February 3d, **No class- Instructor out of town.**
- Friday, February 10th, First Exam and First Homework Due.
- Friday, March 9th, Second Exam and Second Homework Due.
- Monday, March 12th to Saturday March 17: Spring Break
- Friday, April 20th, Classes End
- Monday, April 23rd: Final Exam, and Final Homework due

Grading Scale :

92-100 A, 88-91 A⁻, 84-87 B⁺, 80-83 B, 76-79 B⁻, 72-75 C⁺, 68-71 C, 64-67 C⁻, 60-63 D⁺, 56-59 D, 52-55 D⁻, 0-51 F.

| WEEKS | Textbook Chapter and Sections | Topics | Homework | Homework Notes |
|---------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------|
| Week 1 | Ch 1.1-1.3 | Basic Logical Concepts, Valid Argument Forms, Invalid Argument Forms | Ch 1.1-1.2 | Complete all non-asterisked exercises |
| Week 2 | Ch 1.4 | Counterexamples, Deductive and Inductive Arguments | Ch 1.4 | " |
| Week 3 | Ch. 4.1-4.2 | Informal Fallacies: Fallacies of Irrelevance | Ch. 4 | " |
| Week 4 | Ch 4.2-4.3 | Informal Fallacies: Fallacies Involving Ambiguity, Fallacies Involving Unwarranted Assumptions | Ch. 4 | " |
| Week 5 | Ch. 5 | Aristotelian Logic-Categorical Statements, Traditional Square of Opposition, *First Exam & First Homework Due* | Ch 5.1-5.2 | " |
| Week 6 | Ch. 5 | Aristotelian Logic: Further Immediate Inferences | Ch. 5.3 | " |
| Week 7 | Ch. 6 | Venn Diagrams, Modern Square of Opposition | Ch 6.2-6.4 | " |
| Week 8 | Ch. 7 | Propositional Logic: Symbolizing English Arguments, Truth Functional Connectives | 7.1-7.2 | " |
| Week 9 | Ch. 7 | Propositional Logic: Truth Tables, Abbreviated Truth Tables, Logically Significant Categories *Second Exam & Second Homework Due* | 7.3-7.5 | " |
| Week 10 | Notes | Truth Trees | TBA | View Assignments Folder of mywebsite |
| Week 11 | Notes | Truth Trees | TBA | " |
| Week 12 | Ch. 8 | Propositional Logic: Implication Rules of Inference | Ch. 8.1-8.2 | Complete all non-asterisked exercises |
| Week 13 | Ch 8 | Propositional Logic: Equivalence Rules of Inference | 8.3 | " |
| Week 14 | Ch. 8 | Propositional Logic: Direct Proofs | 8.4-8.5 | " |
| Week 15 | Ch. 8 | Propositional Logic: Conditional Proof, Indirect Proof | 8.6 | " |
| Week 16 | | *Final Exam & Final Homework Due* | | |

FIGURE 1. Weekly Course Calendar