

BOWIE STATE UNIVERSITY

PHIL 203-001 Symbolic Logic

Semester: Spring 2011

Instructor: Dr. George Sochan Office : MLK 215

Credit Hours: 3.0

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Office Hours: MWF, 11 AM – 2PM & Monday, 4PM – 5 PM; and by appointment

I. COURSE PREREQUISITES:

ENGL 101, PHIL 103

II. COURSE DESCRIPTION:

This course is a continuation of PHIL 103. As such, it begins with a review of categorical logic before a thorough study of propositional logic.

III. REQUIRED TEXT:

Hurley, Patrick J. *A Concise Introduction to Logic*, 2008, Tenth Edition (Older, customized versions are acceptable, but they may be missing some of the exercises.) **Required**

Copi, Irving M. and Carl Cohen *Introduction to Logic* Ninth Edition or later **Recommended**

IV. CURRICULUM THEMES:

A. NCATE Curriculum Themes

Academic Scholar: Objectives 8, 17

Effective Practitioner: Objectives 17

Technological Applications: Objectives 18

Multiple Forms of Assessment: Objectives 1, 2

Special Population Perspectives: Objective 12 and 13

Reflective Practitioner: Objectives 3, 4, 8, 15, 16, 17

Personal and Interpersonal Perspectives: Objectives 1, 2, 19

B. General Education Competencies

i. Written and Oral Communications

- a. Analyze and discuss critical issues and recurring themes in the discipline.
- b. Make interpretations and present those ideas in writing.

ii. Scientific and quantitative reasoning

- a. Apply scientific methods of inquiry during investigations.

iii. Critical Analysis and Reasoning

- a. Apply skills in analysis, synthesis and problem solving.
- b. Apply logical reasoning in the examination and resolution of tasks.

v. Information Literacy

- a. Identification of key concepts and terms that describe the information needed.
- b. Selection of the most appropriate investigative methods for accessing needed information.

V. STUDENT OUTCOMES OR COURSE OBJECTIVES:

A. NCATE Learning Objectives

This course is designed to enable students to:

1. utilize skills and logical principles learned in PHIL 103 to make analysis of arguments;
2. learn and use new argument forms, such as disjunctive and hypothetical syllogisms;
3. recognize arguments in ordinary English language by using logical principles and translation skills;
4. learn the symbolic notions of proposition logic;
5. acquire the ability to translation ordinary English into propositional form;
6. learn how to construct a truth table;
7. use the truth table to test logical relations between propositional statements;
8. use the truth table to test the validity of propositional arguments;
9. learn how to use the short form of the truth table;
10. learn the rules of inference;
11. use the principles of categorical logic and propositional logic to improve one's reading, speaking, and writing;
12. learn argument forms and fallacies
13. learn the Rules of Implication
14. learn the Rules of Replacement
15. learn to make logical proofs
16. demonstrate the practical use of logic;
17. become prepared to pass standardized tests for law school and other professional schools.
18. use Angel or Blackboards to access course information and communicate with the professor; and
19. understand how logic transcends cultural differences

Student Outcomes

Students will demonstrate competency in the above listed objectives by:

1. Writing a an argumentative essay on a quiz and scoring 75% or above. The essay should employ valid deductive reasoning and avoid informal fallacies. [GENED I. a., b.; ii. a; iii. a.]
2. Participating in classroom debates on contemporary public policy issues and attending the required number of classes (see student handbook).[GENED ii. a., b.]
3. Distinguishing between and competently using both inductive and deductive reasoning on homework assignments and on the basic concepts exam and scoring an average of 'C' or above on this exam. [GENED iii. a., b.; v. a.]
4. Identifying invalid, unsound, and fallacious reasoning as demonstrated by attaining an overall average of C or higher on the objective exams.[GENED III. a., b.; V. a., b.]

VI. INSTRUCTIONAL MODES:

A. Traditional Experiences: lecture/discussion; drill; video; group work; essay writing; oral presentations

VII. STUDENT REQUIREMENTS OR GUIDELINES (for Course):

Members of the class are required to read the text, handouts, and supplemental materials. The assignments are clearly laid out under the **Course Calendar**, and the evaluations for those assignments are given in the next section under **Grading/Evaluation Procedures**. Class attendance is required. As regards the attendance, the rules indicated in the "Handbook" will be applied strictly. Roll is taken at each meeting of the class, usually during the first five minutes of the class period. In other words, given our system of accounting, it becomes impossible for the instructor to distinguish between lateness and absence.

Bowie State University does not recognize academic dishonesty as a legitimate means for fulfilling the requirements of a course. Therefore, cheating on anything in this course results in a grade of zero for that particular examination. Plagiarism, which will be explained during the course, is a form of cheating. Also, material about plagiarism will be posted on Blackboards. You are responsible to know what plagiarism is and to avoid using it. Proven plagiarism on a paper results in a ZERO and the work may not be redone.

VIII. GRADING/EVALUATION PROCEDURES

A. Methods

A traditional assessment will consist of four unit tests and two exams.

B. Grading Procedures:

The attainment of learning objectives are measured by a four unit tests, a midterm exam that covers material up to the midpoint in the course, and a cumulative final exam. Competency is determined by the attainment of an overall average of “C” or above according to the following weights:

<u>Assessment Tool</u>	<u>Percentage of Grade</u>
Four Tests	40%
Midterm Exam	20%
Final Exam	40%

All of your work will be given a numerical grade, which will be converted o a letter grade at the end of the semester. The translation of numerical value into letter value is as follows:

A equals 90-100
B equals 80-89
C equals 70-79
D equals 60-69
F is below 60

A makeup is available for missed work. A makeup is taken at my office during my office hours. However, a makeup is not available for the final exam.

FINAL EXAM POLICY: FINAL EXAMS MAY ONLY BE TAKEN ON THE DATES AND TIMES LISTED FOR EACH CLASS IN THE PUBLISHED SEMESTER SCHEDULE.

Grading Standards

- A:** The answers on the texts and the exam are presented as an organized, coherent whole that begin and end exceptionally well, and manifest the following characteristics:
- *well-formulated thesis statement
 - *well written, topical paragraphs containing interconnected sentences
 - *nearly flawless in terms of grammar and spelling
 - *substantive content that consists of historical specifics and that is also relevant to question
 - *effective use of explanatory sentences that develop and interpret the factual content
 - *knowledgeable references are made to pertinent course materials
 - *overall, mastery of the subject matter is demonstrated
- B:** The answers on the tests and the exam are presented as an organized whole that begin and end very well. The “B” usually has all of the characteristics of the “A”, but it lacks the strength of the “A” answer. For instance, the writing quality may have too many flaws that weaken the essay, or the content may not be as substantive as it should be. The latter aspect can result from insufficient use of historical specifics or not fully developed explanations. Overall, while the “B” answer does demonstrate a skillful handling of the material, it does not demonstrate mastery.
- C:** The answers on the tests and the exam are presented adequately so that they meet the standards and requirements for the assignment, but adequate is Neither exceptional nor very good; hence, the grade of “C” which means acceptable work. This answer usually manifests one or more of the following features:
- *content that is not substantial, such as lacking sufficient detail
 - *incompletely developed explanations, which mean interpretations are only sketchy/partial
 - *lack of clarity in writing
 - *errors in content
 - *too many stylistic errors which negatively affect writing clarity
 - *references to course materials are superficial or overly general
 - *sections of the answer, if not incorrect, are irrelevant to the question asked
- D:** The answers on the tests and the exam are presented in a manner that only poorly meet the standards and requirements set for the assignment. Generally, the “D” has many of the following characteristics, but they are not so severe nor are there too many to warrant failure.
- *the entire answer may be weak, or certain sections are incoherent
 - *the answer tends to be short
 - *the content is superficial; often specific factual data is not used
 - *too many stylistic errors so that the essay is difficult to read
 - *virtually no interpretation of history because little use of explanatory sentences in essay
 - *too many factual errors
 - *so much irrelevant content used that a lack of understanding of the question is shown
 - *only meager/and or vague reference to course material
- F:** The answers on the tests and the exam are presented in a manner that fail to meet most of or all of the standards and requirements set for the assignment. Certain features that warrant failure are the following:
- *the answer is much too short
 - *the content is so superficial that it is vacuous
 - *much of the content is factually wrong or irrelevant to the question addressed
 - *the essay rambles on without coherence
 - *very little or no reference to course materials
 - *the writing is so poor that the essay is unreadable
 - *plagiarized work and use of the Internet

IX. OUTLINE OF COURSE CONTENT (Course Calendar):

- 01-24: Introduction to the Course
- 01-26: Review: Logic: Deductive and Inductive
Readings: Hurley, ch 1.2 & 1.3
- 01-28: Review: Informal Fallacies
Readings: Hurley, ch 3
- 01-31: Review: Informal Fallacies
Readings: Hurley, ch 3
- 02-02: Review: Making Inferences
Readings: Hurley, ch 4.4 & 4.5
- 02-04: Review: Categorical Syllogisms
Readings: Hurley, ch 5.3
- 02-07: Review: Categorical Syllogisms
Readings: Hurley, ch 5.6
- 02-09: **Test One Review**
- 02-11: **Test One Review**
- 02-14: **Test One**
- 02-16: Symbols and Translation
Readings: Hurley, ch 6.1.
- 02-18: Truth Functions
Readings: Hurley, ch 6.2
- 02-21: Truth Tables
Readings: Hurley, ch 6.3
- 02-23: Truth Tables
Readings: Hurley, ch 6.4
- 02-25: Truth Tables
Readings: Hurley, ch 6.5
- 02-28: Argument Forms and Fallacies
Readings: Hurley, ch 6.6

03-02: **Test Two Review**

03-04: **Test Two Review**

03-07: **Test Two**

03-09: **Midterm Exam Review**

03-11: **Midterm Exam Review**

03-14: **Midterm Exam: Part One**

03-16: **Midterm Exam: Part Two**

03-18: Propositional Logic

03-21: **Spring Break: No Classes**

03-23: **Spring Break: No Classes**

03-25: **Spring Break: No Classes**

03-28: Rules of Implication

Readings: Hurley, ch 7.1

03-30: Rules of Implication

Readings: Hurley, ch 7.1 & 7.2

04-01: Rules of Implication

Readings: Hurley, ch 7.2

04-04: Rules of Replacement

Readings: Hurley, ch 7.3

04-06: Rules of Replacement

Readings: Hurley, ch 7.3 and 7.4

04-08: Rules of Replacement

Readings: Hurley, ch 7.4

04-11: **Test Three Review**

04-13: **Test Three Review**

04-15: **Test Three**

04-18: Conditional Proof

Readings: Hurley, ch 7.5

04-20: Conditional Proof
Readings: Hurley, ch 7.5

04-22: Indirect Proof
Readings: Hurley, ch 7.6

04-25: Indirect Proof
Readings: Hurley, ch 7.6

04-27: Proving Logical Truths
Readings: Hurley, ch 7.7

04-29: **Test Four Review**

05-02: **Test Four Review**

05-04: **TEST FOUR**

05-06: **Final Exam Review**

05-09: **Final Exam Review**

Except for the final exam, all course work is to be completed by 5 PM today. Work submitted after that deadline is reduced by 50%.

05-XX: **FINAL EXAM in regular class room on ????**

Angel

Angel is an important component of this course. It is essential that you obtain access to Angel and use Angel for this course. Given below are key items posted on Angel. Others may be posted and, if something extra is posted on Blackboards for this course, it will be announced in the announcements for this course on Angel.

1. The Syllabus
2. Test One Review
3. Test Two Review
4. Midterm Exam Review
5. Test Three Review
6. Test Four Review
7. Final Exam Review

X. Bibliography

Contemporary:

Bierman, Arthur, and Assali, Robin. *The Critical Thinking Handbook*, New Jersey: Prentice Hall, 1996. This book provides an in depth treatment of inductive arguments and moral arguments and their critiques.

Copi, Irving M., and Cohen Carl. *Introduction to Logic*, 13th edition, New York: MacMillan Publishing Co., 2008. This work comes with computer disk and student work book.

Copi, Irving, and Burgess-Jackson, Keith. *Informal Logic* 3rd ed., New Jersey: Prentice Hall. 1996. This is an excellent exploration of definition, emotive meaning, and informal fallacies.

Ennis, Robert H. *Critical Thinking*. New Jersey: Prentice Hall, 1996. This book has a section on writing a position paper using critical thinking and good practice exercises for identifying conclusions and reasons.

Rainbolt, George W. and Dwyer, Sandra L. *Critical Thinking: The Art of Argument*. 2011

Seay, Gary, and Nuccetelli, Susana. *How to Think Logically*. New York: Pearson Education Inc., 2008.

Waller, Bruce N. *Critical Thinking: Consider the Verdict*. New Jersey: Prentice Hall, 2001. This book focuses on informal fallacies.

Walton, Douglas. *Informal Logic: A Pragmatic Approach*. MA: Cambridge University Press, 2008.

Classic:

Fitch, Frederic B. *Symbolic Logic*, New York: The Ronald Press, 1952. This book presents rules for working with implication, conjunction, disjunction, and negation. The theory of identity and the general theory of classes and relations is also presented.

Kelly, David. *The Art of Reasoning*, New York: W.W. Norton & Co., 1994. This is a good supplemental text to the Hurley text.

Kurfiss, Joanne. *Theory, Research, Practice, and Possibilities*. ASHE-ERIC Higher Education Reports 1988. This is a good text for locating logic within the field of critical thinking.

Mosley, Albert and Baltazar, Carl. *Introduction to Logic*, 8th Ed., New York: MacMillan Publishing Co., 1990. This text focuses on Aristotelian logic.

Pospesel, Howard and Marans, David. *Arguments: Deductive Logic Exercises*, 2nd Ed., New Jersey: Prentice-Hall, Inc., 1978. This text provides numerous examples of deductive and inductive arguments.

Quine, W. V. *Methods of Logic*, 4th Ed., Cambridge: Harvard University Press, 1950 (1982). For those interested in the theory of logic, this book covers the foundations of symbolic logic.

Simmonds, Roger. *Beginning Philosophical Logic*, MD: University Press of America, 1978. The introduction provides insight into the use of Logic. Includes chapter on Modality, Time, and Change. Also contains material on Similarity and Isomorphism. It is one of the best introductory books on traditional logic ever written.

Web sites

For the philosophy documentation center see: [DOC CENTER](#) This site can also be used as a reference tool.

Some publishers of books on philosophy

For MIT press see: <http://mitpress.mit.edu/>

For Prentice Hall see: <http://www.prenhall.com/>

For Blackwell see: <http://www.blackwellpub.com/>

NOTE: THE INSTRUCTOR RESERVES THE RIGHT TO MODIFY THIS SYLLABUS IN RESPONSE TO UNFORSEEN CIRCUMSTANCES AND WILL NOTIFY STUDENTS IN WRITING OF SUCH CHANGES.

XI. IMPORTANT INFORMATION (University closing, policies, etc.):

Important Dates:

Late Registration	January 24 - 28
Last Day to Add a Class	January 28
Spring Convocation	February 9
Last Day to Drop Without a W	January 28
English Proficiency Examination	February 17, 19 & April 7, 9
Mid-Semester Period	March 21 - 27
Last Day to Audit	April 8
Last Day to Drop With a W	April 8
Graduating Seniors Final Exam	May 2 - 7

English Proficiency Exam:

After completing ENGL 101 and 102, Composition and Literature I & II, students must take and pass the Bowie State University English Proficiency Examination. Transfer students who completed their English composition requirements at another university should take the English Proficiency Examination during the first semester of enrollment at the University.

ADA Accommodations

Students who have a disability and who would like accommodations should report immediately to Disability Support Services (DSS), located in Room 1328 in the Business and Graduate Studies Building or call Dr. Michael S. Hughes, DSS Coordinator at 301-860-4067.

Inclement Weather

During inclement weather you should tune in to a local radio or television station. Local Media will announce whether the university will open late or be closed, depending on the degree of weather severity. Many of these sources will begin announcing late openings and closings by 6:00 a.m. Consult university publications for additional information.