

SYLLABUS

Academic Discipline

Philosophy

Course Title

Symbolic Logic

Course Rubric and Number

PHIL 2303 – CRN 58375 – Fall 2011 (Second Start)

Location and Meeting Days and Times

**Eastside (Southeast) Campus, Angela Morales Building, Room 308
Tuesday and Thursday – 7pm to 9 pm**

Course Semester Credit Hours (SCH)

3 SCH – Regular Term

Contact Hours

48 Contact Hours

Course Length

12 weeks

Type of Instruction

Lecture

Instructor Contact Information

**Shohei Edamura, PhD, Adjunct Instructor
Department of Philosophy
E-Mail Conferencing: edamura12@yahoo.co.jp
Phone 713-835-1142**

Instructor Office Location and Hours

**Campus: Eastside Campus
Office Hours: Daily by appointment.**

Course Description

Nature and methods of clear and critical thinking and methods of reasoning such as deduction, induction, scientific reasoning, and fallacies. (Texas ACGM – Approval Number: 38.0101.52 12)

An introduction to Symbolic Logic, focusing on both Propositional and Predicate Logic, emphasizing the rules of translating language into symbols, the rules of inference and replacement, and the mechanism of reasoning used by computers. (HCCS Catalog). Fulfills State of Texas CORE Mathematics requirement (Check transfer institution requirements). HCC Elective.

CORE Requirements, Certificates, AA-Degree Plan, and Transfer Information

HCC Elective. Fulfills mathematical logic requirement for various academic and professional four-year college majors and logic recommendation for HCC Philosophy AA-degree Plan. Students are advised to save a copy of this syllabus as evidence of course content. DISCIPLINE NOTICE: Students who are pursuing an HCC AA-degree plan are advised that except as noted, this course may not be used to satisfy any other HCC CORE requirement, though it may satisfy certain transfer institution college major requirements. Students who are in doubt about their enrollment in this course should immediately see an HCC academic counselor who can review his or her AA-degree plan.

Prerequisites

Must qualify to take college-level reading (or take GUST 0342 as a co-requisite) and qualify to take college level writing (or take 0310*/0349* as a co-requisite).

Course Goals

This course settles on the technical side of deductive reasoning and its correct applications for the construction and testing of formal symbolized arguments. Students learn how to recognize and analyze the intricacies of relational meaning in language

while they acquire the tools to best express such meaning in a systematically ordered, clear and concise fashion.

Expected Learning Outcomes

1. Recall and Identify the core components of articulated meaning understood from a logical perspective, both classical and contemporary.

2. Construct arguments using English sentences, then **Interpret** sentences in a manner that preserves their precise *truth value* when translated into *standard form*.

3. Apply "Truth Table" method to arguments in order to determine whether valid, or not-valid, then **Articulate** the understanding that Truth Tables provide for distinguishing between kinds of truth-functional statements, and sets of statements, *logical equivalence*, and *logical implication*.

4. Apply the rules of inference and replacement rules to **Construct** justified proofs of symbolic arguments, then **Implement** methods of conditional and indirect proof, including the proof of theorems.

5. Construct proofs in predicate logic that **Incorporate** the quantification of complex subjects and predicates.

Course Learning Objectives

1.1 Acquire a broad familiarity with logic and its relation to the determination and expression of meaning, its formal development, and history.

1.2 Learn terms, relational operators, definitions, concepts necessary to a truth-functional system of propositional and predicate logic, and meaning of validity, logical proof, and fallacy.

1.3 Identify premises and conclusions of arguments; **Distinguish** between deductive and inductive arguments.

2.1 Cultivate comprehension of *relational meaning* by noting what sentences can **be used to create arguments**, then **translate** these into *standard form* symbolic language.

3.1 Learn full, partial, and short "Truth Table" methods for testing the validity of arguments.

3.2 Articulate the relevance of truth to logic and its relation to logical implication and fallacious reasoning.

4.1 Learn *rules of inference, replacement rules*, and methods of *conditional* and *indirect proof*, and **Consider** how the proof method establishes the validity of symbolic arguments.

5.1 Learn *quantification* of complex subjects / predicates and Venn diagrams.

5.2 Distinguish sentences that require existential as opposed to universal quantifiers, and **Recognize** relations between propositions in predicate logic and the classical square of opposition.

CORE Curriculum Competencies

This course stresses the HCC CORE Competencies of reading, writing, speaking, listening, critical thinking, and computer literacy.

Course Calendar

Week 1: Course Introduction and Introduction to Logic (Sec 1)

9/27 - Course Introduction

9/29 – Validity

Week 2: Introduction to Logic (Sec 1) and the Structure of Sentential Logic (Sec 2)

10/4 – Truth
10/6 – Simple and Compound Sentences (The first small quiz)

Week 3: The Structure of Sentential Logic (Sec 2) and Computing Truth Values (Sec 3)

10/11 – Operators (The second quiz)
10/13 – Truth Tables and Computing Truth Values

Week 4: Computing Truth Values (Sec 3) and Symbolizing English Sentences (Sec 4)

10/18 – Truth Functions
10/20 – Symbolizing Truth-functional English Operators (The third quiz)

Week 5: Symbolizing English Sentences (Sec 4) Truth Tables for Testing Validity (Sec 5)

10/25 – Symbolizing Multiply Complex Sentences
10/27 – Continuing The Truth Table Test and Procedure

Week 6: Truth Tables for Testing Validity (Sec 5)

11/1 – Constructing Base Columns for Truth Tables (The forth quiz)
11/3 – The Truth Table Test and Procedure

Week 7: Further Applications of the Truth Table Method (Sec 6)

11/8 – Consistency and Contradictions (The fifth quiz)
11/10 – Logical Equivalence (The midterm paper due)

Week 8: The Proof Method: Eight Basic Inference Rules (Sec 7)

11/15 – Eight Basic Rules (The sixth quiz)
11/17 – Simple and Complex Proofs

Week 9: Replacement Rules (Sec 8)

11/22 – Ten Rules (The seventh quiz)

Week 10: Conditional Proof and Indirect Proof (Sec 9)

11/29 – Conditional Proof (The eighth quiz)
12/1 – Indirect Proof

Week 11: Singular Sentences (Sec 10)

12/6 – Introduction of Predicate Logic (The ninth quiz)
12/8 – Symbolizing Singular Sentences

Week 12: Quantifiers (Sec 11)

12/13 – Universal and Existential Quantifiers (The tenth quiz)
12/15 – Scope and Negation (The final paper due)

PLEASE NOTE:

This syllabus is meant as a guide and is subject to change at the discretion of the instructor. If there are any changes made, the student will be notified in a timely manner.

Instructional Methods and Internet Component

This is not a *web-enhanced* lecture course. But when I upload some information on the website, I will tell in a timely manner.

Text Information:

Required Texts:

Klenk//*Understanding Symbolic Logic*//Prentice Hall
Paper Edition, 2008//ISBN 0132051524

Recommended Additional Sources:

Weston, Anthony//*A Rule Book for Arguments*
Hackett Publishing, 4th Edition, 2010
ISBN: 978-0-87220-954-1

Students with Disabilities

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective college at the beginning of each semester. Faculty is authorized to provide only the accommodations requested by the Disability Support Services Office, and to do so in a reasonable manner.

To visit the ADA Web site, log on to www.hccs.edu, click Future Students, then scroll down the page and click on the words Disability Information.

For questions, please contact Donna Price at 713.718.5165 or the Disability Counselor at your college.

District ADA Coordinator - Donna Price - 713.718.5165
Southeast ADA Coordinator – Jette Lott 713.718.7218

Academic Honesty

The pressure to earn high grades and belief that *a good end can justify any means whatsoever* leads many students to try cutting corners by resorting to less than honest methods. Do yourself a favor by avoiding that trap. The HCC *Student Handbook* lists cheating, plagiarism, and collusion as scholastic dishonesty. It defines *plagiarism* as "the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit." It defines *collusion* as "the unauthorized collaboration with another person in preparing work for credit." Work submitted for this course that is determined to be the result of either cheating, plagiarism, or collusion will earn a "0" for that assignment, and may cause the student to receive either an "F", or "I" in the course depending on your professor's stated requirements for the assignment and the weight it carries in determining your course grade. Students receiving an "I" for a course are ineligible for graduation until the "I" has been removed from a student's transcript. Probation or dismissal from HCC and ALL its several colleges may also result. See *Student Handbook*.

Attendance and Withdrawal Policies

HCC Students are expected to attend class regularly. A daily record of absences will be maintained throughout the semester. **NOTE: IT IS THE RESPONSIBILITY OF THE STUDENT TO DROP, OR OFFICIALLY WITHDRAW FROM THIS COURSE IF, FOR ANY REASON, THAT STUDENT IS NO LONGER ATTENDING. NEW RULES ARE IN EFFECT THAT GREATLY CHANGE HOW AND WHEN THAT CAN BE DONE. YOU WILL NOT BE WITHDRAWN FROM THIS COURSE BY YOUR PROFESSOR. FURTHERMORE, THERE ARE POSSIBLE PENALTIES OTHER THAN LOSING ONE'S PAID TUITION THAT EVERY STUDENT MUST CONSIDER CAREFULLY BEFORE WITHDRAWING. THESE INCLUDE:**

- (1) Students who repeat a course for a third, or more times, may face a significant tuition/fee increase at HCC and other Texas public colleges and universities.
- (2) The Texas Legislature passed a law limiting new students (those starting college

in Fall 2007) to no more than six total course withdrawals throughout their academic career in obtaining a baccalaureate degree. There may be future penalties imposed.

No student may withdraw from a course following the set "last date to withdraw", which for Fall 2011 is Thursday, November 11th, 2011 at noon. After that date and time, a student can only be given a grade earned, or an "I" for incomplete. Incompletes must be made up by the end of the following long semester, after which they will automatically change to a grade of "F". Your instructor will not withdraw you for non-attendance and will withdraw a student if and only if provided a written request from that student.

HCC Student Services Information

EASTSIDE COLLEGE STUDENT SERVICES provides master's and doctoral-level counseling for high-quality support services for the Northwest College student body. Counselors are available at each campus to assist students in creating class schedules, evaluating college transcripts and completing degree/certificate plans.

HCC Student Services Information (Continued)

STUDENT SERVICES LOCATION:

Eastside Campus, Felix Morales Building Room 104
(713) 718-7091

ADDITIONAL INFORMATION:

<http://southeast.hccs.edu/portal/site/southeast/campus-services>

EARLY ALERT: HCC has instituted an Early Alert process by which your professor will "alert" you through counselors of concerns that you might fail a class because of excessive absences and/or poor academic performance.

ALL STUDENTS ARE ADVISED: Contact your professor/counselor about opportunities for private tutoring and other assistance prior to considering withdrawal, or if you are not receiving passing grades. There are many opportunities available to assure your success!

INTERNATIONAL STUDENTS: Receiving either a "W", or "I" in a course may affect the status of your student Visa. Once a W is given for the course (after you have formally submitted a withdrawal form), it will not be changed to an F because of the visa consideration. An "I" does convert to an "F", but only after six months have passed from the end of the term it was received. Please contact the International Student Office at 713-718-8521, if you have any questions about your visa status and other transfer issues.

Grading Components and Weights

- **Participation – 10%** Students are expected to (i) attend class regularly, (ii) come to class with their own copy of the textbook, (iii) actively read the assigned section, (iv) do exercises in the assigned section. Learning Outcomes 1, 2, 3, 4, and 5.
- **Quizzes – 56 %** We will have eleven quizzes in all. Each quiz covers the section which we have covered in the previous week. Two of the worst scores will not be counted. In other words, I will sum up eight of the best scores. In maximum, you can earn 7% of the points you can get in the whole semester in each quiz. Learning Outcomes 1, 2, 3, 4 and 5.
- **Midterm and Final Papers – 34 %** I will assign two papers, each of which is worth 17% of the whole semester grade. In the midterm paper, students are supposed to explain the basic concepts in the textbook in Section 1-4 (ca. 1300 words). In the final, students are supposed to explain the basic concepts in the textbook in

Section 5-9 (ca. 1300 words). Learning Outcomes 1 and 2 (First), 1, 3 and 4 (Second).

- **Extra-credit Pop** - There will be a number of unannounced homeworks. Points earned from these homeworks are over and above those earned from Participation, Small Quizzes, Examinations and Project Papers. Learning Outcomes 1, 2, 3, 4, and 5.
- **Revision** - You can revise your midterm paper. I will count a better score for yours. Also, you can submit a draft and revise it considering my comments for the final paper.

Minimum Writing Requirement (Per Philosophy Discipline)

2500 words to be met in Online Discussions, short hard-copy papers on assigned topics from the text in addition to Homework Exercises.

Grading Policy

All grades will be figured according to a percentage of *total points*. The total number of points for this term is 1000. The term grade legend and analysis are as follows:

- A = 90% to 100%
- B = 80% to 89.9%
- C = 70% to 79.9%
- D = 60% to 69.9%
- F = 0% to 59.9%

Make-up policy

Students are responsible for materials covered in-class, and it is the student's responsibility to contact and consult with the instructor for make-up assignments. In addition, any student who is absent on posted exam dates should be prepared to schedule the make-up of missed examinations on the first day of returning to class. This scheduling cannot occur during classtime. Any other assignments not turned in on time (due to absences) must also be either turned in, or scheduled for late submission on the first day of returning to class.

Course Content

This is a course about the origins of philosophical discourse, particularly as found in the formalization of logic and sound argument, and their relation to our concept of knowledge and learning. The standards of thinking and expression found in philosophy embrace every principle and method found in core critical thinking competencies. Readings proceed to the translation of those arguments into standard form symbolic notation and proof, and then to formal predicate reasoning. Students must write at least 2,500 words during this course. The evaluation of written work adheres to the professional teaching standards of philosophy for content, and correct grammar. Students are advised that computer knowledge, word processing skills, and data base learning and research skills are necessary to complete this course. Help is available. Ask!

Tutoring Information

Limited face-to-face tutoring is available from the course instructor during office hours, or by appointment. In addition, all PHILOSOPHY students are encouraged to use HCC's online tutoring system for help with any philosophy class. Questions submitted to the ASK queue will be answered within 24 hours – and usually much before that. Tutors are on duty 7 days a week, 365 days a year. Online tutors will not do homework for you, but they will guide you in the right direction. To maximize the effectiveness of the system, be specific when you ask questions, and let the tutor know what class you are taking. You will receive two responses – one from an English tutor and one from a philosophy tutor.

Registering for online tutoring is easy. Go to www.hccs.askonline.net. Select a user name and password that you will remember. Use any e-mail address, and add your student ID number (W number). It will probably take five minutes to set up your Askonline account.

After that, you can submit questions in seconds. Tutor responses are not e-mailed to you. To see the answers, log back in to the system and click the bright yellow NEW button.

Online tutoring is also available for accounting, history, government, chemistry, physics, biology, math, English, and papers in all disciplines.