SYLLABUS

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.**

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.

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 it's 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, then **Apply** to proofs in predicate logic.

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

See Blackboard Online Course Calendar - Check online course calendar regularly for updates and revisions. It is intended to be a guide, not a straight-jacket.   Depending on class learning progress, your instructor reserves the right to either accelerate, or slow the completion dates of course curriculum *per the* Calendar tool.   Calendar includes all reading assignments, homework assignments, availability and due dates for required discussions, examination dates, and no class days (HCC Spring Break and Holidays)

January 19, 2011
- o FIRST DAY OF CLASS

January 24, 2011
- o Presentation: Introduction to Sentential Logic
- o Reading Assignment: Klenk: Unit 1
- o Reading Assignment: The Square of Opposition (Articles)

January 26, 2011
- o Homework Assignment: Unit 1 - Exercises 1/2/3 pp. 18-20.
- o Reading Assignment-Disjunctive and Conditional Syllogisms
- o This is a two-page .pdf in Course Homepage Articles Folder.

January 31, 2011
- o Reading Assignment: Unit 2
- o Unit 1 Homework Due

February 2, 2011
- o Reading Assignment: Klenk - Unit 3
- o Homework Assignment: Unit 2 Exercises - pp. 31-32

February 7, 2011
- o Reading Assignment: Klenk - Unit 3
- o Homework Assignment: Unit 3 Exercises - p. 49

February 9, 2011
- o Reading Assignment: Klenk - Unit 4
- o Discussion Topic One Available
- o Homework Assignment: Unit 3 Exercises - p. 50

February 14, 2011
- o Homework Assignment: Unit 4 - Exercises 1 & 2, pp. 69-70

February 16, 2011
- o Homework Assignment: Unit 4 - Exercises 3/4/5/6, pp. 70-72
- o Discussion Topic One Initial Replies Due

February 21, 2011
- o President's Day Holiday - All HCC Campuses Closed

February 23, 2011
- o Reading Assignment: Klenk - Unit 5
- o Homework Assignment: Unit 5, Exercise 1 - p. 92
- o Discussion Topic One Student to Student Replies Due
- o Discussion Topic Two Available

February 28, 2011
- o Homework Assignment: Unit 5 - Exercises 2/3/4, pp. 92-94

March 2, 2011
- o Homework Assignment: Unit 6 Exercises - Unstarred 2/3/4/5
- o Reading Assignment: Klenk - Unit 6
- o Discussion Topic Two Initial Replies Due

March 7, 2011
- o Homework Assignment: Review for Exam One

Course Calendar

March 9, 2011
- Reading Assignment: Klenk - Unit 7
- Discussion Topic Two Student to Student Replies Due
- Examination Number One - Units 1 thru 6

March 14 thru March 20, 2011
- Spring Break - All HCC Campuses Closed

March 21, 2011
- Homework Assignment: Unit 7 Exercises 1 & 2, pp. 139-141

March 23, 2011
- Homework Assignment: Unit 7 Exercises 3/4/5, pp. 141-144
- Discussion Topic Three Available

March 28, 2011
- Homework Assignment: Unit 7 Exercises 6 & 7, pp. 144-145

March 30, 2011
- Discussion Topic Three Initial Replies Due
- Homework Assignment: Unit 7 Exercises 8/9/10, pp. 145/6

April 4, 2011
- Reading Assignment: Klenk - Unit 8

April 6, 2011
- Homework Assignment: Unit 8 Ex. – 1/2/3, pp. 168-170
- Discussion Topic Three Student to Student Replies Due

April 11, 2011
- Homework Assignment: Review for Exam Number Two

April 13, 2011
- Examination Number Two - Unit 7 and Unit 8
- Discussion Number Four Available
- Homework Assignment: Unit 8 Exercises 4/5/6, pp. 172-173

April 18, 2011
- Homework Assignment: Unit 8 - Exercise 7, pp. 173

April 20, 2011
- Homework Assignment: Unit 8 Excercise 8, p. 174
- Discussion Number Four Initial Replies Due

April 21, 2011
- Last Date to Withdraw from Course with a "W"

April 22, 2011
- Easter Holiday - All HCC Campuses Closed

April 23, 2011
- Easter Holiday - All HCC Campuses Closed

April 24, 2011
- Easter Holiday - All HCC Campuses Closed

April 25, 2011
- Reading Assignment: Klenk - Unit 9

April 27, 2011
- Homework Assignment: Unit 9 Exercises 1 to 5, pp. 195-196

May 2, 2011
- Homework Assignment: Unit 9 Ex. 6 (Unstarred) - p. 197
- Homework Assignment: Unit 9 Exercise 7b, 7c, 7e - p. 197

May 4, 2011
- All Point Recoveries Due - No Extensions!!!
- Last Day of Class

May 9, 2011
- Examination Number Three (Final) 11 am to 1 pm
- Scheduled Final Exams Week

May 16, 2011
- All grades due to Registrar's Office at 12 noon

Instructional Methods and Internet Component

This is a *web-enhanced* lecture course that uses *Blackboard Vista*. The HCC *Blackboard Vista* logon page is:
http://hccs.blackboard.com
Your *Blackboard Vista* ID is now the same as your HCC User ID which is used for Online Registration. [For example: W0034567]   If you don't know your HCC User ID, there is a link on the logon page that you can click on to retrieve it. Your default *Blackboard Vista* password at the beginning of the term is: "distance".   You will be asked to change it the first time you logon.   PLEASE SELECT A NEW PASSWORD YOU WILL REMEMBER!!!   This password is independent of your Online Registration password.   It is your responsibility to change your password.   Once logged on, you will come to a page that shows this course and all other courses in which you are enrolled that have online sections, including those designated as either hybrid, or DE.   To enter this course, simply click on the course name and you will be taken to the course homepage.

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

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
Northwest ADA Counselor - Mahnaz Kolaini - 713.718.5422

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.*

HCC Students are expected to attend class regularly. A daily record of absences will be maintained throughout the semester. NOTE: IT IS THE RESPONSBILITY 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.**

(3) **No student may withdraw from a course following the set "last date to withdraw", which for Spring 2011 is Thursday, April 14, 2011 at 4:30 pm. 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". <u>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.</u>**

NORTHWEST 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.

STUDENT SERVICES LOCATIONS AND HOURS:

Katy Campus, Suite 104
(713) 718-5751

8:30am–6:30pm Monday thru Thursday
9:00am–1:00pm Friday

Spring Branch Campus
(713) 718-5669

9:00am–7:00pm Monday thru Thursday
9:00am–1:00pm Friday

ADDITIONAL INFORMATION:

http://northwest.hccs.edu/northwest/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 713-718-8520, if you have any questions about your visa status and other transfer issues.**

- **Homework – 30 % (300 Points) Assigned Exercises from required text units (15 worth 20 points each for a total of 300 points, or equivalent to three letter grades).   All points will be awarded for <u>timely</u>, <u>completed</u> assignments.   Missing, or incomplete submissions will receive no points.   Learning Outcomes 1, 2, 3, 4, and 5.**

- **Online Discussions – 10 % (100 Points) Five BLACKBOARD discussion topics adhering to a two-phase format of threaded discussions and complying to announced minimum length and entry requirements for each phase. Each topic will require an initial reply to the topic question, plus five subsequent replies to fellow student posts. All Points will be awarded for <u>timely</u>, <u>completed</u> topics.   No points are awarded for missing, or partial entries.   Each completed topic will earn 20 points, or 2 % of your total semester grade. Learning Outcomes 1, 2, and 3.**

- **Examinations – 60 % - Three Exams, each worth 200 points.   Point Recovery is available on Exam One, and Exam Two (600 total). Learning Outcomes 1, 2, 3, 4, and 5.**

- **Extra-credit Pop Quizzes – There will be a number of unannounced graded "pop quizzes" during this course over weekly homework assignments. Points earned from these quizzes are over and above those earned from Homework, Discussions, and Examinations. Learning Outcomes 1, 2, 3, 4, and 5.**

 * <u>Point Recovery</u> – Students who are disappointed in their performance on the first two exams may "recover" up to one-half the points missed by completing a thorough prescribed review of all questions missed.   This opportunity does not apply to the third and final exam.

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

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% (900 to 1000 point)**
>   **B = 80% to 89.9% (800 to 899 points)**
>   **C = 70% to 79.9% (700 to 799 points)**
>   **D = 60% to 69.9% (600 to 699 points)**
>   **F = 0% to 59.9% (000 to 599 points)**

Make-up policy

Students are responsible for materials covered in-class and online during their absences, and it is the student's responsibility to contact and consult with the instructor for make-up assignments (AFTER CHECKING THE ONLINE BLACKBOARD COURSE CALENDAR). 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. Make-up examinations are taken by appointment at the campus Testing Center. 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. Finally, there will be no extension of due dates and/or make-ups for Online Requirements. <u>Except for a medical excuse or documented family or personal emergency, there is no exemption from these rules.</u>

Course Content

This is a course about the origins of philosophical discourse and history of ideas, 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 are taken from a range of primary sources beginning with ancient philosophers, then to the medieval period, the moderns, and finally to thinkers on the contemporary scene. Selected readings focus first on the logic of sentences in the sentential arguments and are assessed by exams, quizzes, presentations, and discussions. Later 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. This number is achieved in online submissions for required Blackboard Vista discussion forum posts. 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.