

Introduction to Contemporary Logic

Sam Houston State University

PHIL 2352-01 (22650)

M/W/F 8:00 - 8:50 AM, CHSS 249

Instructor: Dr. Thomas Brommage

Office: CHSS 347

Office Hours: 9:00-9:50 AM and by appt.

Office Phone: 936-294-2460

Google Voice: 267-CALL-DR-B

Email: brommage@shsu.edu

Course Description: This course will introduce the student to the principles of ordered thought and to the terminology and rules of symbolic logic. Topics to be discussed include the logic of statements and the logic of predicates, quantifiers, and identity.

Prerequisites: N/A

Textbook: No textbook is required for the course. All reading and additional course materials will be posted through [Blackboard](#).

Course Objectives and Learning Outcomes:

1. *Learning fundamental principles, generalizations, or theories.* Students successfully completing this course will gain an understanding of the concepts and methods of symbolic logic. They will be able to use that logic to express patterns and relationships and to clarify ordinary language statements. We will cover topics such as deductive vs. inductive reasoning, logical connectives and truth-tables, conditional statements and quantifiers, valid and invalid arguments.
2. *Applying course material to improve thinking, problem solving, and decisions.* Students successfully completing this course will have gained skills at constructing multi-step logical proofs for arguments—a skill vital not only to mathematics, but also the legal profession, science, medicine, etc.
3. *Analyzing and critically evaluating ideas, arguments, and points of view.* Students successfully completing this course will come to a familiarity with the basics of inductive arguments, including being able to articulate the distinction between inductive and deductive reasoning and being able to recognize different types of inductive arguments and critical factors regarding each.

Skill Objectives:

1. *Critical Thinking Skills:* This course will emphasize basic aspects of critical thinking by giving students consistent practice in systematic, structured thinking wherein each step of inference is assessed for its validity. Also, the practice of translating ordinary language statements into symbolic language of necessity compels giving careful attention to determining what exactly the statements express, another basic critical thinking skill. In addition, the critical thinking skill of being able to distinguish valid patterns of inference such as Modus Tollens (Denying the Consequent) and nonvalid patterns such as Affirming the Consequent is an integral feature of the course.
2. *Communication Skills:* Communication skills will be reinforced with practice since students will regularly be doing homework problems that require written responses. Also students will routinely be called upon to present their responses to the class, orally on some occasions and, on other occasions, visually with diagrams on the board.
3. *Empirical and Quantitative Skills:* In the inductive logic portion of the course empirical and quantitative skills will be emphasized as students become familiar with the logic of hypothesis testing, in particular the need to present falsifiable hypotheses, and as they practice applying basic concepts of sampling, experimental design, and probability to situations that model real world circumstances.

Course Outline: The course content will begin with understanding arguments and understanding the basic tools of propositional calculus, through the syntax of propositional logic, and culminate in the semantic features of truth-functional expressions.

January 15-17	.....	Course Introduction
January 20-24	.....	Arguments
January 27-31	.....	Inductive Arguments
February 3-7	.....	Introduction to Propositional Logic, Exam #1
February 10-14	.....	Conjunction (&I, &E)
February 17-21	.....	Conditionals I: Modus Ponens
February 24-28	.....	Conditionals II: Conditional Proof, Df \leftrightarrow
March 2-6	.....	Conditionals III: Modus Tollens, DN, Exam #2
March 9-13	.....	Spring Break (no class)
March 16-20	.....	Disjunctions (\vee I, \vee E)
March 23-27	.....	Reductio Ad Absurdum
March 30-April 3	.....	DeM, Df. \rightarrow , Exam #3
April 6-10	.....	Semantic Implication and Equivalence
April 13-17	.....	Truth Tables II: Semantic Implication/Equivalence
April 20-24	.....	Truth Tables III: Testing for Validity
April 27- May 1	.....	Exam #4 , Review for Final

Important Dates:

MLK Holiday (no class)	January 20th
Add/Drop Deadline	January 23rd
Spring Break (no class)	March 9th-13th
Q-Drop Deadline	April 3rd
Good Friday (no class)	April 10th
Course Final	May 4th (8-10 AM)

Course Evaluation: There will be five exams given throughout the course. All of the exams (except for the cumulative final) will be given during the regular class period, and there will be NO "make-up" opportunities on the exams. The best four will be used to calculate your final grade. In addition to the exams, your attendance will be also included in your final grade.

The following weighting will be used to calculate your grade:

Exams (best 4 of 5)	80%
Attendance and Participation	20%

Your rounded average of these assignments will determine your grade, based on the following scale:

A	100 - 89.5
B	89.4 - 79.5
C	79.4 - 69.5
D	69.4 - 59.5
F	59.4 - 0

Homework: Problem sets will be assigned weekly. These are intended for practice, and will not be graded.

Attendance and Participation: An attendance sheet will be distributed most class days. It is your responsibility to sign-in on the official roll sheet, otherwise you will be considered absent. Your attendance will be judged as a percentage of the number of days that you attend class. Everyone will have three (3) absences that will not count against his or her grade (should you not use these three absences, your grade will be adjusted up accordingly). For example, if I take attendance 22 times in the semester, and you have attended 17 of those meetings, your attendance grade would be a 91% (20/22).

Your participation grade will be a qualitative measure based on your effective in-class participation. For this measure, "effective" participation is a function of the quality—not the quantity—of your participation. In most cases, your participation grade will be no higher than your attendance grade—since, of course, if you're not there you can't participate.

Academic Dishonesty: Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Please be aware that plagiarized work and any form of academic dishonesty will result in an "F" on the assignment. [SHSU Academic Policy Statement 810213](#) outlines the definition of academic honesty and the related disciplinary procedures.

You should also familiarize yourself with [Academic Policy Statement 900823](#), which outlines the procedures for students to file an academic grievance should you wish to appeal your grade for reasons other than academic dishonesty. Please read over these policies.

Classroom Conduct: Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cell phones must be turned off before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Course Evaluations: In accordance with University policy every student will have an opportunity at a specified date and time near the end of the semester to complete a course evaluation form from the IDEA course evaluation system.

For University policies on Student Absences on Religious Holy Days, Students with Disabilities, and Visitors in the Classroom you may view to the official statements on the SHSU Website, <http://www.shsu.edu/syllabus/>

Expectations, Suggestions and Mandates for an efficient class:

1. Please arrive to class on time and expect to stay the entire duration of the class. If this is an impossibility, please make every attempt to notify me in advance of tardiness or absence.
2. Especially true in philosophy more than most other subjects, diligence is important. Some of the reading will be difficult?since we are looking at some of the most profound ideas in the history of the world. The difficulty of the subject is indirectly proportional to the amount of work put into the course.
3. Expect to have up to five hours a week of reading and thinking about the material in order to get an "A" for the course. Additionally, for these reasons, attendance is of vital importance. *If you do not attend class or keep up with the reading and exercises, do not expect to pass this class!*
4. Please come to class prepared (i.e., any reading assigned read, any questions concerning exercises or lectures prepared, etc.)
5. Please be respectful of each other in the class. There will be times when students disagree about a topic discussed in class. This is a didactic process, not a combative one.
6. Due to the great excess of material and limited time in which we must over ground, please do not create a disruption for those people who are attempting to learn. Disruptions include blurting out answers, name calling, chiding each other, snoring, etc. Laughing at the Instructor's jokes is obviously exempted from this policy. In addition, personal audio devices (except those in use to record lectures) and loud crunching snack foods are prohibited from the classroom.
7. Please feel free to make mistakes. We all will from time to time—even your omniscient instructor.
8. Please feel free to make an appointment to discuss the material you do not understand. Waiting until the last moment in the semester to catch up is not advisable. I am excellent at fixing small problems, but horrendous at fixing large ones. The only difference between small and large problems is time.
9. Have fun! The material is only as dry as you make it out to be. Sharpening one's mind can be an exhilarating process.