PHIL 2352: Introduction to Contemporary Logic
Sam Houston State University
Fall 2025 | CRN: 86610
M/W/F 1-1:50 PM | SHB 341

Instructor: Dr. Thomas Brommage
Office: CHSS 347
Office Hours: M/T/W/Th 2-3 PM

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 available 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 non-valid 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.

Aug 25 – 29	Course Introduction and Orientation; History of Logic
Sept 1 – 5	Arguments: Inductive and Deductive Form
Sept 8 – 12	Well-Formed Formulae and Sequents; **Exam #1**
Sept 15 – 19	Conjunction (&I, &E)
Sept 22 – 26	Conditionals and Modus Ponens
Sept 29 – Oct 3	Conditional Proof
Oct 6 – Oct 10	Biconditionals and Df $\leftrightarrow$; **Exam #2**
Oct 13 – 17	Modus Tollens and Double Negation
Oct 20 – 24	Disjunctions (vI, vE)
Oct 27 – 31	Reductio Ad Absurdum
Nov 3 – Nov 7	DeMorgan's Laws (DeM) and Df $\rightarrow$; **Exam #3**
Nov 10 – 14	Semantics I: Truth-Tables
Nov 17 – 21	Semantics II: Implication/Equivalence
Nov 24 – 29	Thanksgiving Break
Dec 1 – 5	Semantics III: Validity; **Exam #4**
Dec 9	**Final Exam (Exam #5)**

Important Dates:

First Day of Classes	Monday, August 25th
Labor Day (holiday)	Monday, September 1st
Add/Drop Deadline	Wednesday, September 10th
Q-Drop Deadline	Wednesday, October 29th
Thanksgiving Break	Wednesday, Nov 26th – Friday, Nov 28th
Final Exam	Tuesday, December 9th (12:45 – 2:45 PM)

The following weighting will be used to calculate your grade:

Exams (best 4 of 5): 4 x 20% ea. =	80%
Attendance	10%
Participation	10%

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%

Exams: There will be five in-class exams given throughout the course, which includes the cumulative final exam. Each exam (except for the cumulative final) will cover around 2 to 3 weeks of content. The best four of five exams will be counted into calculating your final grade. If a student were to be absent on a day when an exam is given, it is his or her responsibility to contact the professor to schedule an alternate time to complete it. Any missed exam *must be completed before the start of the next scheduled class meeting*, otherwise no credit will be given for that assignment.

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). Aside from the two automatically excused absences, *no additional absences will be considered excused* except when required by law or university policy.

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 in-class participation. In most cases, your participation grade will be no higher than your attendance grade–since, of course, if you're not in class, then you can't participate.

More information on each of the types of assignments will be available under a separate "Assignment Guidelines" sheet, posted on Blackboard.

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 and possible university disciplinary action.

SHSU Academic Policy Statement 810213 outlines academic honesty and related disciplinary procedures. You should also familiarize yourself with Academic Policy Statement 900823, which outlines procedures for students to file an academic grievance should you wish to appeal your grade for reasons other than academic dishonesty.

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.

Artificial Intelligence in the Classroom: Students submitting work entirely or substantially generated through AI is unethical and a mix of plagiarism, collusion, and abuse of academic resources. Doing so will result in a violation of the Academic Integrity Policy.

Pregnant and Parenting Students: Pregnant and parenting students fall under Title IX equal educational opportunities that "prohibits educational institutions from discriminating against students based on pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery from any of these conditions." Resources are available on the SHSU Pregnancy & Parenting page.

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. Mastering logic requires practice. As we spend more time doing the deductions, for example, you'll find yourself getting better at it. Don't get frustrated; if you can't finish a problem, move on and come back with"fresh eyes."

2. Try to complete the week's work early. Waiting until the due date to begin the week's assignment is not advisable. Some of the assignments may take several hours to complete.

3. 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.

4. Expect to have up to five hours a week of reading and practice each week in order to earn an "A" for the course. Additionally, for these reasons, attendance at class meetings and active participation is of vital importance. *If you do not regularly log in or keep up with the reading and exercises, do not expect to pass this class!*

5. Please come to class prepared (i.e., any reading assigned read, any questions concerning exercises or lectures prepared, etc.)

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–including 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.