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Office hours: Tuesday, Thursday 12:15-1:45pm

**Brief Description**
Phil 200 is a first course in critical thinking that approaches the subject with the concepts and methods of formal logic. The general goal is to develop a precise analysis of what makes an argument irrefutable—or, in other words, what makes an argument logically sound. We will start off by defining logical soundness, and the prior notion of logical validity, with respect to the arguments of ordinary language. We will then build a precise formal analysis step by step. Specifically, we will (1) introduce a simple formal language, (2) evaluate validity and truth for arguments in the formal language (3) translate arguments of ordinary language into the formal language and (4) demonstrate validity by means of derivations in the formal language.

This material is foundational to disciplines as diverse as philosophy, mathematics and computer science. It is essential for those who will investigate theoretical underpinnings in such areas; it will be illuminating for those who would undertake further course work or reading in these and related disciplines.

**Course Expectations**
This is a “basic skills” course with no prerequisites. No background in logic or critical thinking is assumed. At the same time, it is a challenging (and interesting!) way to satisfy the critical reasoning requirement. In contrast to other courses in the GE critical reasoning category, Phil 200 positions students to consider further courses in logic, and is a prerequisite to the logic courses Phil 300, 306 and 308 that immediately follow it in the Philosophy logic sequence.

Your professor is obligated to be clear, to be responsive to questions, return work in a timely fashion, and so forth. At the same time, you cannot expect to succeed without fulfilling your obligations as a student. This means attending class regularly and participating in it, seeing me at my office hours if you are having trouble, and above all else keeping up with the homework. To develop the skills necessary for using the formal tools of this course you must faithfully complete the assigned exercises when they are assigned.
We need also to respect one another by observing basic rules of course etiquette: apart from special arrangements, arrive on time, do not leave early, or come and go during class. If you are in the room, be engaged in class activities (not surfing the web, playing with your phone, reading for other classes, or the like). Apart from special arrangements, phones should remain off (not on vibrate) during class; if one rings do not answer; as this can be difficult to remember, if your phone rings during class, the “penalty” is to bring cookies for all at the next class meeting.

Texts
The text for this course is a manuscript by Prof Tony Roy, *Sentential Logic*, excerpted from the longer *Symbolic Logic: An Accessible Introduction to Serious Mathematical Logic*. It is available in the Bookstore. The text is also online at [http://philosophy.csusb.edu/~troy/int-ml.htm](http://philosophy.csusb.edu/~troy/int-ml.htm). Though the electronic copies have value, everyone will need a bound hardcopy of their own.

Logic Lab
The logic lab is located in UH 047. It is the place where you go to complete the logic lab in class assignments, described in the next section. It is also the place where you go to remove an * given to a submitted assignment because it was not completed correctly. The lab assistants who staff the lab have already taken PHIL 200, and know the course material well. They are ready to help you with any aspect of it. If there is anything in the course you are having difficulty understanding, YOU ARE STRONGLY ENCOURAGED TO GO TO THE LOGIC LAB.

The hours for the lab are posted on the Philosophy department’s webpage for it: [https://philosophy.csusb.edu/logicLab.html](https://philosophy.csusb.edu/logicLab.html).

Grading
Grades are based on in-class assignments homework (15%), homework (15%), midterm tests (40%), and a final exam (30%). There is also some opportunity to obtain extra credit.

(a) In class assignments Understanding the concepts of the this course fully requires a substantial amount of time practicing how to apply them. And so, a substantial amount of class time will be devoted to in-class assignments where you will gain such practice. Half of the assignments will be completed in the classroom where lecture is held, the other half will be completed on the computer in the logic lab.

The in class assignments monitors regular effort and attendance; thus no late in class assignment will be accepted, and there is no makeup for this part of the grade apart from compelling, continuing reasons. However, the final in class assignment score is calculated by dividing points earned by two less than the points possible; the effect is to “forgive” one missing assignment or, if all in class
in class assignments have been turned in, to treat one assignment as extra credit.

(b) *Homework* The homework assignments parallel the in-class assignments. They consist of the same kind of exercises that make up the in class assignments, and are assigned at the same time. They are marked on a 2-point scale as follows: 2 homework is complete; 1 at least half complete; 0 missing or less than half complete.

(b) *Midterms* There will be three midterm exams over the term. Except for a take-home essay component drawn from “explain to Hannah” exercises at the end of each chapter, these are short closed-book examinations with questions drawn entirely from homework. There is no makeup for these exams! However, the lowest exam score will be dropped. For compelling, continuing and documented reasons, credit for one of these exams may be shifted from the final.

(c) The final is a comprehensive exam of material covered during the course. It will be given during the regular exam period:

(d) Extra credit assignments will be regularly assigned along with homework. These assignments are designed to go with corresponding homework, but will be accepted up to the next exam.

*Clearly indicate assignment numbers!* A student who completes every extra credit problem may increase the total grade by 5%. Most extra credit problems are associated with the logic lab. For extra credit, it will be sufficient to turn in a print out of the page(s) showing that the work has been done.

**Grading Notes**

All grading is numerical. Grades are not curved. Given your weighted score, you may expect to receive at least the grade associated with the usual scale: 90% for an ‘A’, 80% for a ‘B’, and so forth.

Given the way it is scored, homework is an effort component of the grade worth the same as a midterm. Even a student who is struggling on exams can significantly boost their overall grade with a strong homework score. But by the same token, a student who does well on exams can have their overall score significantly dragged down by missed homework. So in is important to put in the effort.

You may choose any method for getting homework done (short of photocopying or printing the work of another student). In this class you are encouraged to work together with other students, and even to “repair” a problem or two when you are given a chance to ask questions in class. But NOTE: Unless you have successfully worked on problems of the sort assigned in homework, you may be sure that you will not pass the exams!
With this said, all work on exams, including essay portions, is to be your own. Academic honesty is always essential. Plagiarism will result in standard University discipline and up to an 'F' for the course. Because this issue is so important, make sure you know what plagiarism is! If you have any questions or concerns about plagiarism, please talk things over with Prof Mumma. See also the CSUSB policy document http://academicaffairs.csusb.edu//personnel/fam/fam820.htm.

**Order of Instruction** (Dates of midterms subject to change with fair notice.)

I. Evaluating ordinary arguments    SL, Ch 1

II. The formal languages of sentential logic    SL, Ch 2

*First Midterm*

III. Truth and validity in sentential logic    SL, Ch 4

IV. Translation    SL, Ch 5

*Second Midterm*

V. Proof and Validity    SL, Ch 6

*Third Midterm*

**Details**

There are no adds after the census date. If you are in need of an accommodation for a disability in order to participate in this class, please let Prof. Mumma know as soon as possible and also contact Services to Students with Disabilities (UH 183, 537-5238). Everyone should receive messages from their CSUSB e-mail. An easy way to do this is to set it up to forward to your regular address.

Tutoring is available for this course through the philosophy Logic Lab (UH 047). Lab hours this quarter are partially supported by the CSUSB Student Success, Graduation and Career Placement Fee Initiative.