

## COURSE OBJECTIVES

To gain the ability to prove arguments valid or invalid.

To gain familiarity with the rules of symbolic logic.

To increase critical thinking skills by increasing familiarity with some common mistakes in informal reasoning.

TEXT: *Introduction to Logic*, Irving Copi and Carl Cohen, 11<sup>th</sup> edition

## ASSIGNMENTS

66% of your grade will be based on quizzes. We will have quizzes every other Friday, more or less, for a total of seven quizzes. You can NOT make up any quiz that you miss. But, instead, every student can drop her lowest quiz grade. So if you miss a quiz, you can drop that score of zero. Each of the six remaining quizzes is worth 11% of your total course grade. If class is cancelled on a day that a quiz is scheduled, then the quiz will be held on the first day back after the cancellation.

25 % final exam. The final exam will be held at the time scheduled by the registrar's office.

5% contributions to class. Your grade on this will be based on how much your presence adds to or subtracts from the class. If you regularly bring up interesting points or useful questions and steer the class in a positive direction, you'll receive a high grade. If you regularly disrupt class, sleep during class, arrive late, steer class discussions onto irrelevant topics, or generally diminish the quality of the class, you'll get a low grade. If you come regularly and seem to mostly pay attention, you'll get a medium grade (in the mid to upper 70s). Note that your participation grade is separate from the deductions that you can get from your overall course grade if you disrupt class (I discuss this below).

2% two special assignments (one point each). The first is to fill out a card with information about yourself, and to write your name on a seating chart, both of which are to be done on the first day of class. People who skip the first day of class will get a zero on this. The second special assignment is to read and sign the sheet I'll hand out on the first day of class, about policies regarding appropriate behavior in class. If you don't hand me back this sheet by the third day you're in the class, you'll get a zero on it.

2% two assigned homework days. Each of you will be required to sign up for two days on which you will do specific homework problems. On those two days, you should be prepared to present your answer to the class, and you will turn in the homework to me. If you do not complete your homework on these days, you will get a zero.

Other homework: I will assign suggested homework problems regularly. None of these homework assignments (except the problems on your two assigned days, as described above) need to be turned in, but you will probably do much better in the course if you do them when they are assigned. You may always turn in homework to me if you'd like, so I can check it and make suggestions. And of course you can come to my office hours or arrange a time to meet me whenever you want help.

NOTE: I recognize that there are legitimate reasons you may need to miss class, such as illness, family emergencies, transportation problems, religious holidays, etc. The reason you can drop one quiz is so you won't be penalized for missing class for these legitimate reasons, NOT so you can blow off a quiz and then still make up quizzes you miss. So do not ask to make up any quizzes. If you miss one, you'll get a zero on it (and you can then drop it). If you miss more than one quiz for actually legitimate and unavoidable reasons, then you'll need to talk to me about it and provide documentation.

## Disruptive Behavior

Each time I must ask a specific student to stop disrupting class, one point will be deducted from that student's overall grade for the course. This is besides the fact that your grade for class contribution will be affected if you disrupt the class. For more details on possible grade penalties for inappropriate behavior, see the separate sheet that I will hand out on the first day of class. You must sign that separate sheet and return it to me, or you will be dropped from the course.

## LIST OF ASSIGNED READINGS

The following is a list of the assigned readings, in the order in which we'll talk about them in class. I don't give exact dates on which we'll talk about a specific topic, because usually when a teacher does this, the course gets behind schedule anyway. But if you want to read ahead, you can count on the fact that we will cover the following topics, in more or less the order they are given below. All the readings are from the textbook, but I sometimes switch the order or skip parts of the book. I will assign specific suggested homework at the beginning of each class, but you can also make a good guess at which problems go with which readings, if you want to work ahead.

1. logic, propositions, and arguments. p. 3-8
2. more about arguments, p. 21-28, deduction, induction, truth and validity, p. 42-50, uses of language, p. 71-97.
3. analyzing arguments, p. 11-18, and p. 50-54.
4. symbolic logic: conjunction, disjunction, negation, punctuation, p. 299-309.
5. conditionals, material implication, p. 312-319.
6. argument forms, truth tables, p. 321-326.
7. disjunctive syllogism, modus ponens, modus tollens, hypothetical syllogism, p. 326-30.
8. invalid argument forms, substitution instances, p. 330-331.
9. statement forms, tautologies contradictions, 335-6.
10. material equivalence, more truth tables, p. 337-9
11. logical equivalence, p. 340-43.
12. paradox of material implication, three "laws of thought," p. 343-47.
13. formal proof, rules of inference, p. 349-51
14. rule of replacement, p. 359-63
15. proving invalidity, inconsistency, p. 372-78.
16. fallacies of relevance, p. 137-50, fallacies of presumption and of ambiguity, p. 156-170
17. quantification, p. 385-396
18. proving validity, p. 398-404.
19. asyllogistic inference, p. 411-14
20. proving invalidity, 406-409.

Probably this is as far as we'll get. But if we have time, we'll also read:

22. argument by analogy, p. 423-426.
23. appraising analogical arguments, 430-34.
24. refutation by analogy, p. 440-43.
25. science and explanations, p. 492-510