

office: LA 148

office hours: Tuesday and Thursday 11:00-11:50 and by appointment

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Introduction to Logic: Deduction
Tuesday/Thursday 9:30-10:50a, LA 105

A deduction is an argument in which, certain things being laid down, something other than these necessarily comes about through them. —Aristotle, *Topics* 100a25

Whatever has at any time been concluded justly, whatever knowledge has been acquired otherwise than by immediate intuition, depended on the observance of the laws which it is the province of logic to investigate. If the conclusions are just, and the knowledge real, those laws, whether known or not, have been observed. —John Stuart Mill, *A System of Logic*

It ain't necessarily so. —Ira Gershwin

Text:

Virginia Klenk, *Understanding Symbolic Logic*, 5th edition. This text is required and available at the University Bookstore in the UC. There is also a copy on 2-hour reserve at the library. Earlier editions are ok, but the exercises in them differ in places from the ones in the newer edition; earlier editions may also contain some errors.

Course Description

This is an introductory course in logic. The objective is to provide you with a basic understanding of deductive logic in preparation for more advanced courses in philosophy and other subjects. Most meetings will consist of a brief lecture followed by lots of cooperative problem solving.

We will be studying *artificial* languages that operate according to very strict rules. These languages are much simpler than 'natural' languages such as English (so-called because their acquisition is a universal part of human development) but they throw light on the reasoning we do in our day-to-day lives and help to refine that reasoning. Specifically, we will learn how to translate from English into the languages of sentential and predicate logic and how to determine the validity of arguments in each of these languages.

The principal aim of the course is to help you to acquire certain intellectual skills. Whether or not you acquire these skills depends, mostly, on whether you dedicate enough time to the course *outside of the classroom*. You will need to do the

homework assignments in order to master the material. (Attending class is not enough!) *Doing the exercises is indispensable.* You cannot learn how to do logic by watching. You learn it mostly by doing—the way you learn to ski or to ride a bike.

Friendly advice: Don't fall behind in the course. The material is cumulative, with each lesson building on preceding lessons. Since the only way to learn is by doing problems, cramming won't get you very far. There are no extra credit opportunities.

Evaluation and Course Requirements

Your grade will be based on 3 exams worth, respectively, 10%, 40% and 50% of your final grade. Consistent attendance (no more than one absence for *any* reason) will up your final grade if it's a borderline case.

You may retake (or make up) either your first or your second exam on November 20th. This is your one and only opportunity to retake or to make up an exam.

Grading Scale

| | | | |
|----|----------|----|----------|
| A | 95 – 100 | A- | 90 – 94 |
| B+ | 87 – 89 | B | 83 – 86 |
| B- | 80 – 82 | C+ | 77 – 79 |
| C | 73 – 76 | C- | 70 – 72 |
| D+ | 67 – 69 | D | 63 – 66 |
| D- | 60 – 62 | F | Below 60 |

Note that (a) you must receive a final grade of 'C-' or higher if the course is to count toward the fulfillment of the requirements for a major or minor in philosophy and (b) you must receive a final grade of 'C-' or higher to pass the course if you take the Pass/Fail option.

Homework:

You should read each unit we cover in class and do the problem sets at the end of the corresponding unit *before* we discuss the material in class. **You will get much more out of our meetings if you do the assigned reading and exercises first.** The problem sets consist of a number of starred and unstarred exercises. We will go over some of the unstarred exercises in class; the answers for the starred exercises are in the back of the book, so you can check these yourself, as you go. Remember: *you have to do the exercises to master the material.* You will need to be doing homework each week.

Mansfield Library Reserve and Moodle:

I have placed a copy of the text, the syllabus, and answers to the unstarred exercises, on two-hour reserve at the library. You can also find the syllabus and unstarred answers on the Moodle page for this course. Go to: umonline.umt.edu and login. From here you can access the course Moodle page or select 'Moodle 101 for students' if you 'd like help with using Moodle.

Seeing Me:

If you have trouble with any of the material, come see me. Don't wait. *Time is of the essence.* Come to my office hours. If you can't make these, let me know and we can set up another time to meet. Bring problems you've started to our meeting. I can best help you by seeing your attempts.

Disability

Please let me know if you have a disability so we can make accommodations.

Academic Dishonesty

In keeping with the UM Student Conduct Code, I will not tolerate cheating or academic dishonesty of any kind in this course. As a rule, the first instance of such misconduct will result in an "F" for the course and may also be subject to University sanction.

Course Schedule

Please note that the exam dates are subject to change in order to accommodate our specific needs. It is your job to keep abreast of any changes.

- **Week 1** (Aug. 28 and 30): Units 1-2
- **Week 2** (Sept. 4 and 6): Units 2-3

Sept. 11, 13, and 18. I'll be in Europe to deliver a lecture. Someone may provide assistance while I'm away. Stay tuned.

- **Week 4** (Sept 20): Review Units 1-3; Mini-Exam Units 1-3

***Mini-Exam Units 1-3* on Thursday Sept. 20**

- **Week 5** (Sept. 25 and 27): Unit 4
- **Week 6** (Oct. 2 and 4): Units 5-6
- **Week 7** (Oct. 9 and 11): Unit 7
- **Week 8** (Oct. 16 and 18): Unit 8
- **Week 9** (Oct. 23 and 25): Unit 9
- **Week 10** (Oct. 30 and Nov. 1): Review; Exam Units 4-9

***Exam Units 4-9* on Thursday Nov. 1**

- **Week 11** (Nov. 8): Units 10-11 (No class November 6: Election Day)
- **Week 12** (Nov. 13 and 15): Units 12-14
- **Week 13** (Nov. 20): Exam Redo (optional); **No class November 22 (Thanksgiving)**
- **Week 14** (Nov. 27 and 29): Unit 15
- **Week 15** (Dec. 4 and 6): Unit 15; Review Units 10-15

***Final Exam Units 10-15* on Wednesday, Dec. 12 from 10:10a-12:10p in LA 105**