

Syllabus

1. CS 250-1E --- Discrete Structures

2. **In Charge:** Kevin D. Reilly

3. **Office Hours:** AFTER class! BEFORE class is possible, but occasionally can be a problem. Other times: by appointment. Thurs at 9:30 AM.

4. **Office Locations:** 141 Campbell Hall - often found in 139 Campbell Hall (across hall).
Phone/Email: 934-2213/reilly@uab.edu.

5. **Class Meeting Times and Locations:** M-W-F 12:20-1:10 pm --- 101 CB.

6. **Course Description and Objectives:** This is a first course in Computing Theory and covers basic logic (propositional and 1st order theories), proof techniques, set foundations, relations and functions, and graphs. As a first course it acts as prerequisite to CS 350 as well as providing many insights into a number of other courses which follow it. **Preq:** CS201 & MA 125 (with a "C" or better in both).

7. **Major Evaluations/Exams:** Expect *midterm* exams, the first week of every month (Feb., Mar., Apr) and a *final*. Note the final's date: MONDAY, May 1, 10:45-1:15.

Chaps. 1-2, 3-4, and 5-6 would be "ideal" groupings for midterm tests, but we will not be able to match them perfectly; i.e. Chap 1 has SO MUCH MATERIAL that some Chap 2 material may roll over to be with Chap 3-4 test material, *and so on down the chapters* --- A snowball effect!

The final will be **comprehensive**, but slightly favor early (logic) and late (Chap. 5 & 6) material (particularly late material that comes after the third test). Note that logic is used throughout the book as a formulating mechanism ... and we are very interested in your being able to "read" about mathematical structures when logic formulae are used to describe them!

A "Cheat Sheet" (aka "Crib Sheet") is permitted for all tests. It is based on one (1) "8 1/2 x 11" sheet, both sides, as small a print as you can manage. Also, you will be able to bring the logic formula sheet we hand out.

Homework is graded: All homework is to be turned in on Fridays; "grace period" to Monday. All HW after this grace period will be noted *only* and not automatically added to your HW grade. The note will do you good, of course, but mainly if your course grade ends right on top of a grade border.

Question: Just what is due on each Friday?

Answer: HW from **BOOK SECTIONS** that were finished by Friday of the previous week.

Example: Let's say we finish Section 1.1 on Friday the 6th, but get only part way into Section 1.2. Homework for section 1.1 will be due on Friday the 13th --- Horror of Horrors! But, joyfully, nothing will be due for Section 1.2. Understand?

Note: This "delay" (between your instructor's finishing a section and your turning in the associated HW) leads to a difficulty at the end of the course. That is, some HW *may not* get

enough time to get completed. *However*, you need not fear: this is factored into the way we grade HW.

Thinking about Dropping Out? --- Do it by March 7.

8. Grading Policy: Exams: Each MidTerm test is worth 20 pts. The final is worth 40 pts. Total: 100 pts. ON TOP: **Homework:** 25 pts. Sooooo... you have 125 pts to work with. You can even add up to five (5) points --- MOST UNLIKELY TO GET ALL --- for the "noted" items at a couple of points in this syllabus (late HW being one and class contribution (very limited opp., for example). We will employ these only in borderline cases --- hopefully. Also, attendance will help in borderline cases. The grade will be put on a "curve" if we need to. Last semester we graded an A down to close to 85 points and B down 10 pts to 75, etc. --- the only "curve" factor being a bit of generosity 'up top'!

Rank in the class can (also) be useful for you to follow to assess your progress. We can almost always tell you where you rank (especially with respect to tests).

9. Schedule/Principal Topics: Chaps. 1-6 are the key chapters. Chapters 7 and 8 have topics we mention from time to time (and Chap. 8 is covered in detail in CS 350). **Pace:** roughly two weeks per chapter, prominent deviations being: **1)** Chap. 1, which slows us down somewhat --- Expect 3-4 wks on it --- and --- **2)** Chaps. 5-6, which have fewer pages we can cover and which help us catch up! Here are **principal sections**. Material outside these ranges or from other sources is delineated.

Ch. 1: 5 sections: 1.1, 1.2, 1.3, 1.4, 1.5	--- Sec. 1.6 will be outlined/mentioned
Ch. 2: 3 sections: 2.1, 2.2, 2.3	--- Sec. 2.4 & 2.5 are worthy topics; outlined?
Ch. 3: 5 sections: 3.1, 3.2, 3.3, 3.4, 3.6	--- Sec. 3.5 (Probability) will be given some time
Ch. 4: 3 sections: 4.1, 4.4, 4.5	--- Sec. 4-2 & 4.3 are worthy of mention/outline
Ch. 5: 2 sections: 5.1, 5.2	--- Non-covered secs are good & may be outlined
Ch. 6: 2 sections: 6.1, 6.4	--- Sec 6.2 and 6.3 are good for outlines
Ch. 7: not able to cover	--- Sec 7.1, 7.2, we love and recommend for <i>fun</i> !
Ch. 8: not covered	--- See it all in CS 350!

10 . Text: J. L. Gersting, **Mathematical Structures for Computer Science**, 5th ed., W. H. Freeman, 2003.

11. Other Course Policies/Reminders:

- 1) MakeUp Exams will given only under extreme conditions - if you are ill and need medical treatment, provide a written document.
- 2) MakeUp Exams may include an **oral** as well as a written component, time permitting.
- 3) See "Other" in **Grading Policy** re Attendance and class participation (a small opp. to get "noted"). Other small opps are mentioned there too, like what we do with late HW.
- 4) Review Cheat/Crib Sheet policy re **Exams**.

12. Website: www.cis.uab.edu/cs250 - Experience old goodies Spring '06 info., including this syllabus. You will also find .ppt files that I use in the course. .ppt files and other information from earlier courses may still exist on the Y-drive on the CIS PC Network!