Math 330	Discrete Mathematics	Spring 2010

Professor: Dr S.P. Glasby

Course Information

Office:	Rm 119, Bouillon Hall.
Office Hours:	At times outside office, and by appointment.
URL:	http://www.cwu.edu/~glasbys/
Lectures:	Mon–Fri 11:00 a.m., BU 111.
Text:	J. L. Gersting, Mathematical Structures for Computer Science, 6th Ed., W. H. Freeman and Co., New York, 2007
Assessment:	midterm test (50%); final exam (50%).
Dates:	Midterm: Thu May 06; Exam: Wed Jun 9 8-10 (TBC)
Safari:	http://portal.cwu.edu/ for final exam time, and final grades

Discrete mathematics covers things that come in "chunks" and are not "continuous." It covers many topics, however, we shall cover the following: recursion, proofs, mathematical induction, solving recurrence relations, generating functions, arithmetic base b, elementary combinatorics, elementary graph theory, and asymptotics. Although the topics chosen are particularly valuable to students majoring in computer science and mathematics education, students majoring in other disciplines such as mathematics, chemistry, physics, biology and economics will definitely benefit.

A brief description of the course content and the approximate number of lectures spent on each topic is: Towers of Hanoi (2), revision of proofs (2), recursion and mathematical induction (4), solving recurrence relations (6), forward and backward difference operators (2), arithmetic base b (2), elementary combinatorics (4), elementary graph theory (6), and asymptotics (3). We shall cover parts of chapters 2.1, 2.2, 2.4, 3.1–5, 5.1, 6.2, 6.3, 4.4. I should stress though that the lecture notes, not the textbook, form the body of examinable material. I strongly encourage you to read the relevant parts of the textbook *before* attending lectures, review your lecture notes *after* each lecture, and do all the assigned problems! The way to become a good violin player is to practice. To become good at this course (and obtain a good grade) you must practice. You will learn much more doing the exercises yourself than watching an expert solve them for you! You should spend on average 10 hours per week of private study in addition to the 5 class hours per week.

If you are unable to attend a lecture, make sure you get a copy of the notes from a classmate. Consider forming your own study groups: you can learn a lot by explaining solutions to a friend, and by hearing solutions.

As mentioned above, the assessment for this course comprises (i) a 50 minute midterm exam (50%), (ii) a comprehensive 2 hour final exam (50%). The midterm will be held on the above date during class time, unless otherwise announced. After

each exam I will post adjacent to my office a list of scores and approximate grades, so you can determine your relative position in the class. You should double check the time of the final exam by using Safari.

I plan to make each **Tuesday** a **problem solving** class. Please bring the questions, your answers and our queries on Tuesdays.

Students requiring special accommodation, because of a physical or mental disability, should see me in the first week of the course. Also, if you are quite sick or suffer a notable hardship, then please let me know promptly. Claims of lengthy hardship that are disclosed the day before the final exam receive less sympathy. The best way to determine how well you are performing is via your *relative position* in the class. Although the Registrar will mail you your final grades, you can find out your unofficial grades earlier by using Safari.

I have collected useful URL's on my home page: `http://www.cwu.edu/∼glasbys/`. Follow the `teaching` link. There are a number of general purpose links, for example, `http://mathworld.wolfram.com/`.

The "course outcomes" or "student learning objectives" are (1) that students learn to think abstractly, laterally, logically and critically, and (2) that the passing students have a reasonable mastery of the concepts underlying the above topics.