CS2305
Discrete Math for Computing I
Fall 2005

Instructor: Nancy Van Ness
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Time and Location: TR 11:00 a.m. - 12:15 p.m., ECSS2.306
Office Hours

Mon/Wed	5:30 –6:30 PM	in ECS 4.706
Tues	9 a.m. -10 a.m.	in ECS 4.706
Mon/Fri	11 am - 2 PM	in advising office
	or	by appointment

Textbook: *Discrete Mathematics and Its Applications, 5th ed., Kenneth H. Rosen*
Material: Selected material from Chapters 1, 2, 3, 4, 5 and 10

This course covers a large amount of material and is quite fast paced. Homework will be assigned almost every class. Check WebCT for any changes in the assignment. Hints and answers for the homework and the lecture slides are available there as well.

Grading: The grade in this course will consist of two mid terms, a final, quizzes and homework assignments..These will be weighted as follows:

Assignments	10%	see current assignment sheet
Midterm 1	20%	Thursday, September 15
Mid term 2	20%.	Tuesday, October 18
Quizes	20%	See current assignment sheet
Final	30%	Tuesday, November 29 11:00 a.m.

Grading Policies: As the number of quizzes and homework assignments is large, 1/3 of these will be dropped. Plan accordingly as late homework is not accepted (once answers have been posted) and no makeups are given for the missed quizzes.

ABET

ABET was established in New York in 1932 as the Engineers Council for Professional Development (ECPD). As a result of surveys conducted by professional engineering societies in the 1920s, ECPD was formed to fill the apparent need for a "joint program for upbuilding engineering as a profession." Hence, ECPD originally focused on the following

Guidance - Supplying information to engineering students and potential students.
Training - Developing plans for personal and professional development.

Education - Appraising engineering curricula and maintaining a list of accredited curricula.

Recognition - Developing methods whereby individuals could achieve recognition by the profession and the general public.

In 1980, **ECPD** was renamed the **A**ccreditation **B**oard for **E**ngineering and **T**echnology (ABET) in order to reflect more accurately its emphasis on accreditation, and it continues to put most of its emphasis on accreditation today. Now active in two additional areas, applied science and computing**, ABET** accredits some 2,700 programs at over 550 colleges and universities nationwide. Each year, over 1,500 volunteers from its now 30 member societies actively contribute to **ABET**'s goals of leadership and quality assurance in applied science, computing, engineering, and technology education, serving as program evaluators, committee members, commissioners, and Board representatives. (The preceding was taken from ABET 's web site history link. More information about ABET is available at its web site http://www.abet.org.)

UTD is actively pursuing accreditation by **ABET**. To this end, each course must have a set of state objectives. The objectives for CS 2305 are as follows.

Ability to understand mathematical facts in order to read, comprehend and construct mathematical arguments
Ability to use and apply basic definitions and properties of sets and logic
Ability to specify precise meaning of mathematical statements, using quantifiers and predicates as needed
Ability to recognize and construct valid proofs
Ability to understand and use various types of functions
Ability to understand and construct a proof by induction
Ability to use modular arithmetic as it relates to computer science problems such as hashing and encryption
Ability to recognize and use Boolean algebra applied sets and logic
Ability to understand what an algorithm is and to use algorithms
Ability to use basic counting techniques such as permutations, combinations
Ability to write recursive definitions and functions

These objectives will be measured by taking grades on one or more of the following designated problems from the homework, specific problems from the quizzes or specific problems from the exams, midterm 1, mid term 2 or the final. More than one measure may be taken for each objective. In addition a folder must be kept of three samples of all graded work, including exams and homework. The originals will be kept and a copy returned to the student.

Description of the Course

Looking at the ABET Objectives, one notes that a great emphasis is placed on the basic understanding of logic, proofs and counting in various mathematical contexts as well as fundamental concepts which will be expanded upon in later courses. The student will be encouraged to understand structure and not memorization and mimicking of previously solved problems. Connections and similarities of concepts in different contexts will be stressed. Applying learned ideas in new situations will be emphasized. In the process, it is hoped that the student will begin to learn how to learn, a technique absolutely essential in the fast-changing technological world of today.

Homework is absolutely essential in the understanding of the concepts. While a lot will be assigned, not all needs to be turned in. Feedback will be given quickly. Not only answers but also hints will be posted on WebCT. Every week there will be a quiz over the material covered. At that time, students will be allowed to work in groups, use their books and ask questions as the problems will be new and not necessarily simple but built on the understanding of the homework and lectures for that week. Exams will be closed book with permission given for bringing in two sheets (front and back) to the Mid Terms and 4 sheets to the Final of prepared information. Seating during exams will be randomized and identification will be required. Programmable calculators will not be allowed.

Cheating: Cheating will not be tolerated.

Those suspected of cheating will be referred to the unversity's policy on Scholastic Dishonesty.

The following is a statement taken from UTD's website regarding this.

All episodes of suspected scholastic dishonesty will be reported according to University policy. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students and the University, policies on scholastic dishonesty will be strictly enforced. Penalties that may be assessed for scholastic dishonesty may be reviewed in Subchapter D. Penalties at http://www.utdallas.edu/student/slife/chapter49.html.

Cell phones:

Students are expected to treat other students with respect. All cell phones should be turned off during class and will not be allowed during exams.