

# CMPE 16

## Applied Discrete Mathematics

### Spring 2002

#### Description:

An introduction to applications of discrete mathematical systems. Topics include sets, functions, relations, graphs, trees, Boolean algebra, propositional logic, predicate calculus, mathematical induction, permutations, combinations, summation, and recurrences. Examples are drawn from computer science and computer engineering.

#### Prerequisites:

Eligibility to enroll in Mathematics 19A (completion of MATH 2B or 3 or mathematics placement exam score of 40 or higher) or completion of either Mathematics 19A or 11A.

**Time and Place:** MWF 12:30 – 1:40 Kresge 321

**Instructor:** Patrick Tantalo (<http://www.soe.ucsc.edu/~ptantalo/>)

**Email:** [ptantalo@soe.ucsc.edu](mailto:ptantalo@soe.ucsc.edu)

**Office:** Baskin Engineering 343A

**Office Hours:** MWF 2:30 – 4:30, and by appointment.

**Phone:** 831-459-3898

#### Teaching Assistants:

Hari Rangarajan ([hari@soe.ucsc.edu](mailto:hari@soe.ucsc.edu))

Fangyi Luo ([luofy@soe.ucsc.edu](mailto:luofy@soe.ucsc.edu))

**Discussion Sections:** A schedule of discussion section times will be posted on the class webpage. These secondary meetings will be used by the teaching assistants to discuss homework problems, quiz solutions, and exam preparation. Attendance is entirely optional.

**Required Text:** *Discrete Mathematics and its Applications* by Kenneth H. Rosen, 4<sup>th</sup> edition, published by WCB/McGraw-Hill (1999). We will cover sections 1.1-1.7, 2.3, 2.4, 3.1-3.3, 4.1-4.4, 4.6, 5.1, 5.2, 6.1, 6.3, 6.5. If time permits, we may also cover: 4.5, 6.4, 6.6, and chapter 7.

**Class Webpage:** <http://www.soe.ucsc.edu/classes/cmpe016/Spring02/>

**Class News Group:** [ucsc.class.cmpe16](mailto:ucsc.class.cmpe16)

#### Coursework and Evaluation:

**Homework** will consist of written assignments taken from the exercises at the end of each section. Due dates will be announced in class and on the webpage. The first of five **Quizzes** will be held on Friday of the second week, and every two weeks thereafter. The **Final Exam** will be held on **Monday June 3, 8:00-11:00 am**. Please make arrangements now to be available at that time.

Coursework will be weighted as follows:

<b>Homework</b>	<b>20%</b>
<b>Quizzes</b>	<b>40%</b>
<b>Final Exam</b>	<b>40%</b>

The grading scale for the class will be approximately: A::90%-100%, B::80%-89%, C::70%-79%, D::60%-69%, F::0%-59%. For those taking this class Pass/Not Pass, C or better translates to P, D or below translates to NP. For graduate students whose grade code is SL, B or better translates to S, C or below translates to U. Letter grade boundaries may be lowered at my discretion in order to eliminate some borderline cases.

### **Academic Honesty:**

In recent years, there has been an increased number of cheating incidents in many UC campuses, and unfortunately, UCSC is no exception. The Baskin School of Engineering has a zero tolerance policy for any incident of academic dishonesty. If cheating occurs, consequences within the context of the course may range from getting zero on a particular assignment, to failing the course. In addition, every case of academic dishonesty is referred to the students' college Provost, who sets in motion an official disciplinary process. Cheating in any part of the course may lead to failing the course and suspension or dismissal from the university.

What is cheating? In short, it is presenting someone else's work as your own. Examples would include copying another student's written homework assignment, or allowing your own work to be copied. Although you may discuss problems with fellow students, your collaboration must be at the level of *ideas* only. Legitimate collaboration ends when you "lend", "borrow", or "trade" *written solutions* to problems, or in *any way* share in the act of *writing* your answers. If you do collaborate (legitimately) or receive help from anyone, you must credit them by placing their name(s) at the top of your paper.

The following is from the Spring 2002 Schedule of classes under General Information:

### **Academic Integrity**

All members of the UCSC academic community have an explicit responsibility to present as their original work only that which is truly their own. Cheating, plagiarism, and other forms of academic dishonesty are contrary to the ideals and purposes of a university and will not be tolerated. Note that plagiarism includes the deliberate misrepresentation of someone else's words and ideas as your own, as well as paraphrasing without footnoting the source. Students and faculty are jointly responsible for assuring that the integrity of scholarship is valued and preserved.

To view the full text of the new policy on academic integrity on the Web, see:

[http://www.ucsc.edu/academics/academic\\_integrity/](http://www.ucsc.edu/academics/academic_integrity/)

### **Due Process**

Students charged with academic dishonesty have the right to due process through established policies and regulations concerning student conduct and discipline. Copies of these policies and regulations can be found in the Rule Book (<http://www2.ucsc.edu/judicial>) which is available at the offices of each college provost, the dean of graduate studies, and the Vice Chancellor of Student Affairs.