CS 30: Discrete Mathematics in Computer Science

Fall 2014 | 2 hour (MWF 13:45-14:55, x-hr Th 13:00-13:50) | LSC 100

About Schedule Homework

Course Description

This course will cover fundamental mathematical foundations required for computer science, arising in many algorithms, concepts, and techniques.

We will begin with an overview of mathematical notation and the basic concepts of sets, functions, and relations. We will then study logic, proof techniques, combinatorics (counting), probability, and the beginnings of graph theory. By the end of this course, you will have become familiar with a number of discrete structures that are used throughout computer science.

The main purpose of this course is for you to become comfortable with mathematical thinking that allows you to write clean, logical, proofs.

Administrative Information

Instructor

Amit Chakrabarti | Sudikoff 107 | Office hours: Mon 9:00-11:00

Teaching Assistants

Suman Kalyan Bera | Sudikoff 115 | Office hours: Mon 18:00-20:00
Sagar Kale | Sudikoff 115 | Office hours: Tue 18:00-20:00
Zhao Tian | Sudikoff 219 | Office hours: Wed 9:00-11:00

Getting Help

Primary method: piazza
Only under exceptional circumstances: cs30-help@cs.dartmouth...

Textbooks (recommended but not required)

Lehman, Leighton, and Meyer. *Mathematics for Computer Science* (May 2014 revision; Ebook).
Kenneth Rosen. *Discrete Mathematics and Its Applications* (Seventh Edition).

Grading and Policies

Grading Scheme

Weekly homeworks (25%); two evening midterms (40%); final exam (33%); quizzes (2%)

Homework and Exam Schedule

Homework given out each Friday, due next Thursday 11:59pm
(Exception: due Friday 11:59pm on the two midterm weeks)
Midterm 1: Thu Oct 9, 18:00-21:00 (Silsby 028)
Midterm 2: Thu Nov 6, 18:00-21:00 (Silsby 028)
Final exam: Sun Nov 23, 11:30-14:30 (LSC 100)

Late Submissions

Each student has 3 free late days to be used for homework assignment over the course of the term as he/she likes. Once these days are used up, any homework turned in late will be returned ungraded (and earn a score of 0). *No exceptions!* Any portion of a late day is counted as one full day (i.e., even one minute late counts as a full day, no exceptions!). Homework can only be turned in electronically, via canvas.

Regrading Policy

If you are unsure why you lost points on a homework or exam problem, or feel that the grader made a mistake, you must act before the *resolution deadline* for that homework/exam. The resolution deadline for a homework is the submission deadline of the next homework. The resolution deadlines for Midterm 1, Midterm 2, and Homework 8 are 11:59pm on Oct 16, Nov 13, and Nov 18 respectively. Before the resolution deadline you *must first* contact the relevant grader(s) and try to resolve the matter with them. If you are unable to resolve the matter at this step, you may (optionally) make a *formal regrade request*. This must be made within 12 hours of the resolution deadline. To make such a request you must email the course staff (cs30-help@cs.dartmouth...) with a subject line that says something like "Formal regrade request for HW1", give evidence of having tried to resolve the matter with the graders, and say why you still feel something is wrong. The professor will then make a final determination. Be aware that if you make a formal regrade request then *the professor may regrade your entire homework* and the professor typically has stricter standards than the graders.

No-Laptop/No-Phone Policy

We have a firm no-laptop/no-phone policy in class. Texting, sleeping or engaging in other activities unrelated to the lecture is also forbidden. This policy will be strictly enforced so as to encourage active participation by all students and to avoid distracting people that are focusing on the lecture. If you come to class you are expected to obey this policy. A penalty of 5% will be applied to the final grade every time this policy is violated. (Please read this article to better understand this policy.)

Academic Integrity

Collaboration

When working on homework problems, you may collaborate and discuss with the course staff and other students enrolled in this term's offering of this course (and not with any other persons). However, when you prepare the final draft of your solutions, you must work entirely by yourself and write answers in your own words. At the top of your submission, you must list all people you collaborated with, received help from, or gave help to. If you did the entire homework on your own, you must state that in writing.

Sources

When working on homework problems, you may consult this course's website, any handouts given out in class, discussions on this course's piazza forum, the two recommended textbooks for this course, and your own notes. Consulting any other sources is forbidden, unless the professor has made an exception in writing.

Exams

The exams in this course are closed-book and closed-notes, except that each student is allowed to bring in a one-page "cheat sheet" (you may write/print on both sides of the page). The contents of the cheat sheet must be prepared by you on your own and you must submit the cheat sheet along with the exam. Consulting any other sources is forbidden. Giving and receiving help is forbidden, except that you may ask the course staff for clarifications.

These rules will be strictly enforced and any violation will be treated with the utmost seriousness.