

CS320L/Math320L

Discrete Mathematics Fall 2009 Syllabus

Instructor: Prof. Patrick O'Neil, Dept of CS

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Phone: 617-287-6468, Dept. Secretary: 617-287-6440, -6441, -6442

Home: 617-354-6460, Wkdays & Wkends 9:30 AM to 10:00 PM

Class Meets: Mon & Wed 7:00 to 8:15 PM, M-1-206

Office Hours: Mon & Wed, 5:30 to 6:50 PM in my office or directly after class,
Or by special arrangement

***** PHONE ME ANYTIME FOR ADVICE, ANSWERS, HELP *****

Grader: Chonho Lee, email: chonho@gmail.com

Prerequisites: CS110 and Math260 (linear algebra), or permission of instructor

NOTE ON CANCELLED CLASSES: In the past, there have been occasional mistaken announcements about classes being cancelled, either written on the room blackboard or announced by a student who knows the instructor to be sick. Often there will be a replacement for an instructor who must be absent, so you should not leave the classroom until ten minutes past the normal start of class, UNLESS a representative of the Math & CS Department who is known to you tells you that the class is cancelled.

Texts:

- User Guide to UNIX Systems, on Course Homepage: www.cs.umb.edu/cs320/
- Discrete Mathematics and its Applications 6th Edition, Kenneth H. Rosen, McGraw Hill
- o If you haven't yet bought Rosen's Discrete Math, BUY IT NOW!

Purpose of Course: CS320L/Math320L is a course designed to help you begin learning about mathematical thinking that involves questions about finite sets of objects, unlike Geometry (where lines and angles have an infinite number of points) and Calculus (where infinite series converge to a value, and this gives up derivatives and integrals). Discrete math prepares you for understanding how proofs work, and is a precursor to other mathematical/computational fields such as Automata theory. In computer science, database queries (in SQL) typically require concepts from Discrete Math.

Here is a list of some of the topics that are typically covered in CS320L/Math320L:

Logic and Propositional Calculus, Set Theory, Relations, Functions and Algorithms, Induction, Recursion, Counting, Advanced Counting (e.g., Inclusion-Exclusion), Graph Theory, Trees, Boolean Algebra, Finite State Machines.

Please do homework immediately so you can follow the discussion. To keep you up to date, we will generally have a fifteen-minute quiz each Thursday once homework solutions have been posted

(see other side)

Students With Disabilities. Section 504 of the Americans with Disabilities Act of 1990 offers guidelines for curriculum modifications and adaptations for students with documented disabilities. If applicable, students may obtain adaptation recommendations from the Ross Center for Disability Services, M-1-401, (617-287-7430). The student must present these recommendations and discuss them with each professor within a reasonable period, preferably by the end of Drop/Add period.

Grading: Breakdown of grades (total of 150 points)

-> Several fifteen-minute quizzes in class, drop lowest two: 40 points

These quizzes will be on the homework or reading, at the beginning of the class period, and will be announced one class in advance. If you miss the quiz, you get a zero, but one grade is dropped.

-> Weekly homework: 10 points

I think of the homework as a big help in learning the needed material, and I GUARANTEE there will be many Quiz and Exam questions that you will ONLY be able to answer by doing the homework. I also **WARN YOU NOT TO DEPEND ON HOMEWORK GRADES TO PULL UP YOUR AVERAGE! YOU MUST DO WELL ON QUIZZES AND EXAMS, WHICH COUNT FOR THE MOST POINTS!**

-> Three Exams, drop lowest one: 100 points; There will be a Make-Up for Exam 1.

There will be three exams counting equally, of which the lowest one will be dropped, for a total of 100 points (67% of the final grade). The third exam will be given during final exam period, but will count the same as the others, so you can skip the final if you're happy with your average.

Exams and Quizzes will allow open book and open notes, but this will not save you if you have missed work. You cannot learn the course during the Exams and Quizzes!

Missing an Exam: If you miss the first exam, or feel you didn't do as well as you should have (up to a grade of A-), I will provide a make-up exam, intended to be somewhat more difficult (but you will have had a few more classes, so that's fair). **If you miss a later exam, that will be an exam grade dropped.** I basically want to make sure that as we reach the WITHDRAWAL date, nobody stays in because they think they simply had bad luck on the first exam.

Incomplete: If you miss two Exams, you will receive an F for the course unless you are in good standing on previous Quizzes and on one Exam and you have at least a "C-". If you miss the Final Exam as well as Exam 2 and are otherwise in good standing, I will examine you to make sure you can pass an exam on the final material. It is your responsibility to contact me about absence. The only alternative to receiving a possible low grade after failing to withdraw by the withdrawal date is a documented medical emergency or life crisis to receive an "Incomplete", and for that you must have a passing grade at the time. This is school policy, and cannot be changed by me.

NOTE WITHDRAWAL DATE: The University requires that you withdraw from the course by Thursday, **November 12, 2009** or receive a letter grade. I will see that Exam 1 and the Make-up for Exam 1 are graded in time for you to make a decision by that date. Note that students whom I warn to withdraw that do not do so should not expect to receive a later INCOMPLETE in the class.