

Syllabus — Math 301

Introduction to Discrete Mathematics, Fall 2023

1 Professor and contact information

Professor: David Ross

Office: Physical Sciences Building (PSB) 319

Phone: 956-4673 (but I often ignore the phone, and the voicemail is flaky - email is much better)

Email: ross@math.hawaii.edu

Course Website: www.math.hawaii.edu/~ross/301.htm

Professor Website: www.math.hawaii.edu/~ross

Office Hours: TBD

2 General

Lecture: MWF, 2:30–3:20, in Keller 301; Attendance is mandatory (see below).

Web: You should check the website regularly for announcements, assignments, and (especially) handouts.

3 Grades, Policies, Etc.

Text: *Discrete Mathematics and its Applications* (8th edition) by Kenneth Rosen. We will cover most of Chapters 1–2, 4–6, 8–11, and some other material from other chapters or not in the text. This is a lot of material for one semester!

Mid-term exams: There will be 3 of these. You will be not allowed to use a calculator on these or on quizzes (nor should you need them). I will permit a crib sheet (one side of one 8×11 sheet of paper) for the exams. On some or all of the exams I will also give you some formulas.

Final exam: Cumulative, worth roughly 1.5 midterms (but see below).

Homework: There will be three kinds of homework assigned:

1. Text homework *not* to be turned in. This will be assigned frequently, and assignments will be posted on the website.
2. Text homework to be turned in. This too will be posted on the website.
3. Webwork. I will be assigning homework from an online system called WebWork. This is a free system run by the math department, you don't need to buy anything but you will need access to some kind of computer: while the system is browser-based, it is much easier to see on a bigger screen than a phone, and easier to enter formulas if you have a real keyboard.

Homework and WebWork will together give you a **homework grade**, worth 50% of a midterm exam.

Extra Credit: We might do other activities in lecture or outside of class that will be graded according to rubrics to be discussed, for example as extra credit. This will factor into your homework grade.

+/-: No plus/minus grades will be given.

Grades: Scores will be amalgamated at the end of the semester, and your final class grade based on the total. The homework grade *or* 1/2 the lowest midterm *or* the 1/3 the final exam will be dropped, whichever one helps your grade the most. The scores are added together to get a first approximation of the grade. A final grade is assigned based on this approximation, but the grade might be pushed up or down based on score trends, preponderance of evidence, attendance, etc., or the special conditions from the next paragraph.

Special conditions: (a) A student cannot pass by passing just one midterm (or the quiz grade). For example, if a student receives an F on the final and 2 midterms, but a C or D on one midterm, and the numerical average turns out to be a D, the student will still receive an F. (b) A student will not receive more than one letter grade lower than the Final Exam letter grade, unless the Final was borderline and the other scores were appreciably worse. For example, a student with a middle B on the Final Exam will not earn worse than a C for the semester. However, a student with a borderline B/C on the final, and midterms so low as to drag the cumulative average down to a D, will earn the D for the semester.

Make-up work: MAKE-UP MID-TERM EXAMS OR QUIZZES WILL NOT BE GIVEN UNDER ANY CIRCUMSTANCES. If you miss an exam, that is the exam that gets dropped in the grade computation. If you have an excused absence, then your final exam grade will be substituted for the missing exam.

Cheating: Cheating will not be tolerated in this class. It is the student's responsibility to ensure that (s)he does not copy from another student, or let another student copy from him or her. If I have strong reason to suspect that some infraction has incurred, I will at the very least adhere strictly to my policy (above) on the granting of partial credit, and not give any to the suspected student(s); under egregious circumstances I will fail the student.

Attendance: Mandatory. I might take roll at random times, or use quizzes for the same purpose, and a final attendance grade will be computed based on attendance. The attendance grade will be used to help determine what to do with borderline grades. You are responsible for everything we do in class, even on days you do not attend. In particular, the make-up policy for any surprise quizzes I decide to give is the same as for midterms (ie, none permitted).

Cell phones etc: If you have a cell phone, the ringer must be turned off during the class.

Expectations: Please read the statement at the 'Academic Expectations' link at the Math Department website, <https://math.hawaii.edu/wordpress/academic-expectations/>. It will give you a sense of what I expect from you as far as work and personal responsibility.

Laptops: Please close all computing devices and do not use them in this classroom during lecture. (This includes phones!) Tablets or tablet PCs will be allowed for note-taking provided I can be sure they are not being used for anything else.

Exam Schedule: (All in class except Final Exam)

Midterm 1: September 25 (Monday)

Midterm 2: October 23 (Monday)

Midterm 3: November 17 (Friday)

Final Exam: Monday, December 11, 2:15–4:15

Notice that the date for the Final Exam is set in stone; please do not schedule a family holiday at this time.

Catalogue Description:

Symbolic logic, sets and relations, algorithms, trees and other graphs. Additional topics chosen from algebraic systems, networks, automata. Pre: one semester of calculus from mathematics department; or consent. Recommended: one semester programming.