

Math 108, Introduction to Combinatorics and its Applications: Syllabus

Classroom: 380-380Y **Class Time:** MWF 11:00-11:50
Instructor: Robert J. Lemke Oliver **Email:** rjlo@stanford.edu
Office: 380-383A **Office Hours:** MW 4-5, R 3-4

Textbook: van Lint and Wilson, *A Course in Combinatorics*
Website: <http://math108.stanford.edu/>

Course content: Combinatorics is an area of mathematics concerned with discrete structures. In this class, we will begin by discussing *graph theory* (including Eulerian and Hamiltonian circuits, trees, colorings, planarity, Ramsey's theorem, Turán's theorem, and Hall's theorem), and then move into *enumerative combinatorics*, i.e. "clever counting" (including inclusion-exclusion, inversion formulae, Stirling and Bell numbers, partitions, recursive formulae, and generating functions). Most of the course will follow the textbook fairly closely, but there may be additional supplements used as needed.

Grading: There are three main components of your grade: Homework (30%), a midterm exam (30%), and the final (40%).

Homework: Homework will be due weekly, on **Wednesdays in class**; any exceptions will be noted in class and in an email. Math is wonderfully social and you are encouraged to work on problems with others, but you are responsible for writing up (and understanding!) your own set of solutions. If you do work with others, please indicate their names on your paper.

Exams: There will be one midterm exam and one final exam. You are required to take the exams at the scheduled date and time. If for some reason this does not work for you, please let me know at least a week in advance. If you are unable to take an exam at the scheduled time due to medical reasons, accommodations will be made only with a note from a doctor. Please note: **Travel plans are not an acceptable reason to miss an exam!**

- *Midterm:* The midterm exam will be **Friday, February 6th** at 11 AM, in class.
- *Final:* The final exam will be on **Friday, March 20th** from 8:30 to 11:30 AM.

OAE Accommodations: If you have an academic or physical disability which requires academic accommodations, please obtain a letter from the Office of Accessible Education. Once you have done so, please let the instructor know as soon as possible so that proper accommodations can be made.

Student athletes: If you are involved in a sport which may require you to travel this quarter, and especially if you will miss the midterm, please let the instructor know as soon as possible so that appropriate accommodations can be made. If you do not let the instructor know at least a week in advance of a missed exam, you may be denied the opportunity to take it at an alternate time. You are also responsible for homework while traveling. You may turn it in early or arrange to have a friend turn it in for you. If neither of these work for you, please contact the instructor to make alternate arrangements.