

Math 244 - Discrete Mathematics - Summer 2024

Instructor and Class Information

- **Instructor:** Meghan Anderson (call me Meghan or Professor Anderson)
- **Instructor Email:** meghan.anderson@yale.edu
- **Class Times:** Mondays and Wednesdays, 1:00 - 4:15 pm on Zoom
- **Office Hours:** TBD
- **Course Website:** forthcoming at <https://yale.instructure.com/courses/97696>

Course Description

Discrete mathematics describes structures for which all of the component pieces can be enumerated in a list, unlike the continuous structures studied in calculus. (Think integers versus the real numbers.) In this course, we will focus on finite sets. Topics include orderings, counting, graphs, and trees, with some applications to computer science and probability. We will also develop methods for doing math: forming logical statements, constructing arguments, writing proofs, and sharing ideas with each other.

Participation and Active Learning

This is a highly interactive class. Attendance is mandatory, as in all YSS courses. Each class period will include lecture, discussion, and problem solving. Participation is included in your course score.

Textbook

Invitation to Discrete Mathematics (2nd ed.) by Jiří Matoůsek and Jaroslav Nešetřil

ISBN-10: 0198570422 ISBN-13: 978-0198570424

We plan to cover most of Chapters 1 - 6 of the textbook.

Assessment

Your course score will be computed as follows:

Class Participation: 10%, Homework: 30 %, Midterm Exam: 30 %, Final Exam: 30 %.

Class participation (10%): You are expected to actively participate in class by working through examples, discussing problems with your peers, and presenting ideas to the class.

Homework (30%): Problem sets will be due each week, tentatively on Mondays. Because of the fast pace of the course, these will be substantial. You should expect them to be at least twice as long as weekly problem sets in a regular semester course.

You are strongly encouraged to work with your classmates to solve homework problems, but you should not look up solutions. You are also encouraged to ask questions about the problem sets during office hours. You must write up solutions to the problem sets on your own, scan your work, and upload it to Gradescope.

Exams (30% ea.): We will have one midterm exam and a cumulative final. Both exams will include three parts: an individual written test during class time, a take-home proof assignment, and a brief check-in on Zoom outside of class time. The in-class tests are scheduled for Wednesday June 12 (midterm) and Wednesday June 26 (final).