

Undergraduate Seminar in Discrete Mathematics

18.204, Spring 2016

SYLLABUS

Instructor: Alex Postnikov

Class meets: MWF 1-2 pm in Room 2-136

Office hours: TBA, Room 2-367

E-mail: apost (at) math (dot) mit (dot) edu

Course website: <http://math.mit.edu/~apost/courses/18.204/>

Goals: In a seminar, mathematicians help each other to learn a body of material. The main object of this undergraduate seminar is for you to help each other learn various topics in **Combinatorics and Discrete Mathematics**, while simultaneously helping each other to better **present, discuss, write, and read mathematical research**.

1. You will make three presentations in class during the semester:
 - A 40-minute talk on a classical topic in Discrete Math. This talk can be about your favorite theorem or a chapter for textbook.
 - A 20-minute talk on a modern research paper.
 - A 20-minute presentation of your term paper.

There will be suggestions for topics of your first talks. Before your talk you should make a practice presentation with me and/or with a few of your classmates.

2. You will write a term paper. This paper will be completed in stages. You will propose a topic, write a draft for feedback from me, revise and submit a draft for feedback from peers, critique the drafts your classmates, and submit the final draft of the paper by the end of the last class.

The paper need not contain original results, but the writing must be your own and all sources must be properly acknowledged (ask if you have questions). The paper must be written in LaTeX in the style of a research or expository journal article, must be about 10 pages long (in a standard format), and may be on the topic of your talks.

3. On class days that you do not present, you will write a brief summary (2-4 sentences) of one of the topics presented that day. Attendance is essential for this course. More than three unexcused absences will lead to automatic failure in the course.

Grading: 50% for the presentation; 30% for term paper; 20% for participation.

Resources: In addition to the assistance you will receive from your peers and from me, help with presenting and writing is available from the department's mathematical communication specialist, Susan Ruff. You can e-mail her to arrange a time to meet: ruff@math.mit.edu. General help with writing and presenting (not specific to mathematics) is available from MIT's Writing Center: <http://cmsw.mit.edu/writing-and-communication-center>