

18.204 Undergraduate Seminar in Discrete Mathematics

László Miklós Lovász

Spring 2020

Class time: Mondays and Wednesdays, 2:30pm - 4pm

Instructor: László Miklós Lovász, 2-246A, <https://math.mit.edu/~lmlovasz>

Email: lmlovasz@mit.edu

Communication Specialist: Malcah Effron, <https://cmsw.mit.edu/profile/malcah-effron/>

Website: https://math.mit.edu/~lmlovasz/204_sp_20.html

Goals: The goal of this class is to read and present papers on various topics in Discrete Mathematics, and learn how to effectively communicate mathematical ideas both in presentation and in writing. Each student will give one 35-40 minute chalkboard talk, write a term paper, and give two approximately 25 minute presentations on Zoom. The students will also do a peer review of other students' term papers. There will be one quiz with questions submitted by other presenters. For the second and third round of talks, students should submit a summary of each talk, and feedback. The summaries will be graded. The presentations and term paper should discuss and summarize recent results around a single topic, though students can switch topics after the first talk. There will be four workshops in total, run by Malcah Effron.

Presentations: Students should schedule at least one mandatory practice session before the first presentation with both Malcah Effron and me, either together or separately. Students should also schedule a Zoom session with me to discuss the math, and one practice session with Malcah Effron before the second presentation. Students should schedule a mandatory practice session before the third (slide) presentation as well. For the chalkboard presentation, students should send me proposed multiple choice quiz questions on the day of the talk.

Term paper: Each student should complete a term paper on a topic in Discrete math, at least 10 pages long. The paper should be completed based on the following stages:

- Propose a topic by March 4
- Submit draft of introduction and outline by March 30 (extensions available) (2 pts)
- Submit a draft for feedback from me by April 13 (3 pts)
- Revise and submit a draft for review from peers by April 27
- Peer review the draft of two classmates' papers, due May 4 in class
- Submit the final paper by May 11 (last day of class) (20 pts)

Grading:

- 20% for the chalkboard presentation
- 25% for the term paper

- 15% for the slide presentations (30% total)
- 10% for the quiz
- 15% based on the summaries of the two slide talks

Attendance: *First half of semester:* If you miss your talk, or miss more than three classes, you will automatically fail the class. Exceptions will be granted for students who have a note from Student Support Services.

Second half of the semester (with virtual classes): Students should attend classes if possible, or watch recorded classes afterwards if not. Students should submit a summary of each talk afterwards.

Resources

In addition to assistance from your peers and from me, help with presenting and writing is available from the communication specialist assigned to the course, Malcah Effron. 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>

The WCC at MIT (Writing and Communication Center) offers free one-on-one professional advice from communication experts. The WCC helps you strategize about all types of academic and professional writing (dissertations, theses, papers for courses, articles for publication, job applications and CVs) as well as about all aspects of oral presentations. The WCC also helps with all English as Second Language issues, from writing and grammar to pronunciation and conversation practice. As of March 30, 2020, the WCC is only providing consultations remotely. To see available appointments, check the online scheduler at <https://mit.mywconline.com/>.

Student Support Services

If you are dealing with a personal or medical issue that is impacting your ability to attend class, complete work, or take an exam, please discuss this with Student Support Services (S^3). The deans in S^3 will verify your situation, and then discuss with you how to address the missed work. Students will not be excused from coursework without verification from Student Support Services. You may consult with Student Support Services in 5-104 or at 617-253-4861. Also, S^3 has walk-in hours Monday-Friday, 10-11am and 2-3pm.

Student Disability Services

MIT is committed to the principle of equal access. Students who need disability accommodations are encouraged to speak with Kathleen Monagle, Associate Dean, prior to or early in the semester so that accommodation requests can be evaluated and addressed in a timely fashion. Even if you are not planning to use accommodations, it is recommended that you meet with SDS staff to familiarize yourself with the services and resources of the office. You may also consult with Student Disability Services in 5-104 or at 617-253-1674. If you have already been approved for accommodations, please contact me early in the semester so that we can work together to get your accommodation logistics in place.