18.304: UNDERGRADUATE SEMINAR IN DISCRETE MATHEMATICS SYLLABUS

Instructor: Vidya Venkateswaran, office: E17-331, email: vidyav@math.mit.edu

Office hours: Wednesday 3.30-5pm and by appointment

Class meetings: Tuesday and Thursday, 2.30 - 4.00pm in room E17-136

Course description: This is a CI-M course. The purpose of this course is for you to become comfortable communicating, reading, and writing mathematics. The instructor will not lecture on a set of predetermined topics. Instead, students will be able to choose interesting self-contained topics from discrete mathematics to study, present, and to write a term paper about.

Course level: undergraduate

Requirements:

- Prepare and present three 35-min. **talks**; the topics of your first two talks must be chosen from "Proofs from the BOOK" (excluding the sections in the "Analysis" chapter). The first talk should be a blackboard talk, the second a slides talk. The final talk must be on the results found in a **research article** published in a mathematics journal (on a topic within discrete math). You must:
  - Get approval for the **topic** of your talks at least a week before your presentation; topics from "Proofs from the BOOK" will be assigned based on who emails me first. You can check the calendar on the course website to see which topics have been taken.
  - Submit a **title and abstract** at least two days before each of your presentations
  - Submit 3 possible **quiz questions** for each of your first two presentations, due on the day of your presentation
- Take **2 quizzes** based on the content of the presentations.
- Write a **term paper** of length approximately 10 pages on one of your presentation topics, due date 5/12/15 (last class). You must also:
  - Submit and get approval for your choice of **topic**, by Thursday March 5
  - Submit a **first draft** for the term paper, due Thursday April 9
  - Submit a **second draft** of the term paper (if necessary), due Thursday April 23
- Pay **attention** during other students' talks and **participate**
  - You are encouraged to take notes during talks as this will help you prepare for the quizzes
  - Participation includes (but is not limited to) attendance, paying attention during other students' talks, asking/answering questions and providing feedback to the speaker.

Course Materials:
M. Aigner and G. Ziegler, Proofs from the BOOK. An electronic copy is avalable via MIT libraries for free. Also see list of possible papers for your research talk.

Grading Policy: Grades will be determined according to the following breakdown:

- Three presentations - 40 %
- Two quizzes - 10 %
- Term paper - 30 %
- Participation - 20 %

Personal/medical issues: If you are dealing with a personal or medical issue that is impacting your ability to attend class or complete work, please consider discussing this with Student Support Services (S3) as soon as possible. The deans in S3 will verify your situation, and then discuss with you how to address the missed work. You may consult with S3 in 5-104 or at 617-253-4861. Also, S3 has walk-in hours: Monday through Friday, 9-10am.

Disability accomodations: MIT is committed to the principle of equal access. Students who need disability accommodations are encouraged to speak with Kathleen Monagle, Associate Dean, early in the semester so that accommodation requests can be evaluated and addressed in a timely fashion. You may also consult with Student Disability Services in 5-104 or at 617-253-1674.