Syllabus for 18.901: Introduction to Topology

Course webpages: There are two webpages: a public one, which will serve as the main course webpage, at https://tinyurl.com/2mmdjfev and the Canvas page https://canvas.mit.edu/courses/18657 where assignments are uploaded, grades are posted and so on.

The class:

- Short description: The first half of the course is an introduction to general topology (topological spaces, continuous maps, connectedness and compactness), the second half is an introduction to algebraic topology (fundamental group and covering spaces).

- Prerequisites: It is recommendend (but not mandatory) to have followed a class in real analysis (such as 18.100A, 18.100B, 18.100P or 18.100Q).

Course information:

- Class meetings: The class runs Mondays, Wednesdays and Fridays from 9:05am to 9:55am.

- Room number: The class will be held in Room 4-163.

Instructor: Anthony Conway, 2-231b, conwaya@mit.edu.

Office hours:

- My office hours: Mondays 1:30pm-2:30pm (office 2-231b). This is subject to change depending on students' schedules.

- TA office hours: Thursdays 4:30pm-5:30pm in 2-146.

Textbook and resources:

- Textbook: We will loosely follow Topology (2nd edition) by James Munkres.

- Lecture notes: Lecture notes are posted on the website.

- Other references: For the second half of the class, another useful resource is Allen Hatcher's freely available textbook on algebraic topology: https://pi.math.cornell.edu/~hatcher/AT/AT.pdf.

Attendance and active learning sessions

- Attendance: Students are strongly encouraged to attend class, but are not required to do so.

- Active learning sessions: Approximately once every two weeks, there will be an active learning session which is part problem session, part lecture.

    - The students work on a short problem set and are encouraged to collaborate and ask questions.
    - The session will often conclude by a short lecture.
    - The material from these sessions may appear in the homework, midterms and exam.

– Active learning sessions will not occur on a weekly basis. Dates will be posted in the lecture plan.

The goal of the active learning sessions is for the students to get to know each other better and to build additional intuition for the material.

Homework and midterm

- <u>Midterms</u>: There will be two midterms, one on March 10 and one on April 21. Note that drop date is April 25.

- <u>Number of p-sets</u>: There will be 12 p-sets.

- <u>Deadlines</u>: p-sets are due on Mondays, before 11:59pm.

- <u>Collaboration</u>: Students may work together on p-sets but must write up their own solutions; p-set groups can be found on https://psetpartners.mit.edu.

- <u>Late Homework</u>: turning in an assignment late (i.e. after Monday 11:59pm) will not be accepted. To be granted an exception (in case of illness or extenuating circumstance) you must write to S^3 and have them contact me. I must receive S^3's email <u>before</u> the deadline.

- <u>p-set directives</u>: At the top of each assignment, write

  – your name,

  – the name of classmates you worked with,

  – either "Sources consulted: none" or a list of all sources consulted other than those listed in the resources above.

Grading

- <u>Final grade</u>: The final grade will be determined as follows. Homework 35%, Midterms 30%, Final 35%.

- <u>Potential errors in grading (p-sets and midterms)</u>: these must be brought up before a certain date: this is March 7, for grades obtained in February; April 7, for grades obtained in March; May 7, for grades obtained in April; and any time before the final exam, for May grades.

Student Support Services

If a personal or medical issue is interfering with your studies:

- Contact your medical provider if you need medical attention.

- Do not hesitate to email me.

- If an illness or serious personal problem will cause you to miss a p-set or an exam, please discuss this with S3; see https://studentlife.mit.edu/s3.

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, early in the semester so that accommodation requests can be addressed in a timely fashion. 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 asap so that we can work together to get your accommodation logistics in place.