18.06: Linear Algebra, Prof. Elchanan Mossel (Fall 2020)

Prerequisites: 18.02.

Topics: Linear equations and their solutions, subspaces and dimensions. Geometric view of vectors and matrices, including, norms and inner products, eigenvalues, eigenvectors and singular values. Applications in engineering.

Resources:

- The main resource is: OCW course Linear Algebra by Prof. Gil Strang `https://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/syllabus/`.
- Recommended: Strang, Gilbert. Introduction to Linear Algebra. 5th ed. Wellesley-Cambridge Press, 2016. ISBN: 9780980232776. `https://math.mit.edu/~gs/linearalgebra/`.
- Recommended: Linear Algebra visualizations on `https://www.3blue1brown.com/`.
- Recommneded: 18.06 taught on Spring, 2020 (includes an archive of exams and HWs): `https://mitmath.github.io/1806/`

Attendance: Attendance: A good fraction (but not all) of the lectures will be mandatory. Attendance will be taken in these lectures, and they will include quizzes, midterms, etc. Taking two courses at the same time is not an acceptable excuse to miss exams, quizzes, or mandatory lectures.

Grading:

- $10\times$ HW sets (5% each) = 50%.
- $3\times$ in-class midterms (10% each) = 30%.
- Final exam = 20%.
- Minimal requirements for a passing grade: You have to attend $\geq 90\%$ of the mandatory lectures, $\geq 80\%$ of your recitations, get a grade $\geq 70\%$ in ≥ 8 of the HW sets, a grade of $\geq 60\%$ in ≥ 2 of the midterms and a grade $\geq 40\%$ in the final exam.

Homework Submission. You are encouraged to work on HW together in (disjoint) groups of up to 4 students. Each student must write her own solutions. Please write your name, ID and all your group members' names on each submission. You are welcome to use any resource (including books, the internet, and your friends) but you must fully cite any resource you have used in your homework including hints from the TA and the Professor.

Disability accommodations. If you have a disability accommodation letter from SDS, please speak with the mathematics disabilities accommodation coordinator, Theresa Cummings in MAS (tcumming@mit.edu), as soon as possible to make arrangements for the semester.

More details: Many more details including on recitations and office hours will be provided on Canvas which will be the main portal for the class.