SYLLABUS
MATH 225 - Linear Algebra and Matrix Theory
Fall 2018

Instructor: Kalina Mincheva
Lecture: TTh 9:00-10:15
Office hours: DL 406, Tuesday 5-6pm

Teaching Fellow: Shiyue Li
Discussion session: Monday 7-8pm in LOM 214
Office Hours: Tuesdays 4-5pm in DL 415

Peer Tutor: Joy Qiu
Office Hours: Sundays 7-9 pm in Wright Reading Room B67, Wednesdays 8-10 pm in the Math Lounge - DL 432.

Course webpage: http://users.math.yale.edu/~km995/linearF18.html

Course description: The course Math 225 is a rigorous proof-based introduction to linear algebra. Math 225 (as opposed to Math 222) is focused on the abstract aspects of linear algebra and will demand a fair amount of maturity of mathematical thinking, as opposed to just problem solving. The main topics covered will be vector spaces, linear transformations, matrices, systems of linear equations, determinants, eigenvalues, eigenvectors, diagonalization, and applications. Problem sets will consist of a mix of computational and proof-based problems.

Textbook: Linear Algebra, 4th ed., Friedberg, Insel, and Spence Pearson, 2003. ISBN-13: 978-0-13-008451-4.

Prerequisites: Officially this class has to be taken after or concurrently with Math 120: Multivariable Calculus. We will not require any calculus, but familiarity with vectors and operations on vector spaces will be very useful.

Grading: The final grade for the class will be formed by:
Homework: 35 %
Quizzes: 10 %
Midterm Exam: 20 %
Final Exam: 35 %

Exams: There will be two (out of class) exams - a midterm and a final. The midterm is scheduled for October 11 and the final exam - Wednesday, December 19, 2018 at 9am.

- Make-up exams will only be allowed with a deans excuse.

Quizzes: There will be two in-class quizzes scheduled for September 20 and November 8, which will be announced a few days in advance. They will focus on testing basic knowledge of the material - important definitions and theorems and the ability to solve problems similar to the ones offered for homework.

- Make-up quizzes will only be allowed with a deans excuse.

- Your top quiz scores will be weighted twice as much as your lowest score.

Homework: Assignments will be posted on the course webpage and on Canvas in advance.

- Homework will be due at the be beginning of class every Thursday.

- Late homework will not be accepted unless accompanied by a dean's excuse.

- The lowest grade homework will be dropped.

- Homework should be *legibly written* otherwise we will not grade it.

Completing the homework is essential for understanding and practicing the material. You should put an effort into your homework, your first draft should probably not be your last. It is not enough to just find to a solution to the problems - you should be able to present it as clearly as possible. Mathematics is about developing and communicating ideas. It often helps to talk to others - this will help putting your ideas into words, turning the "vague feeling" of how "the solution should go" into an idea understandable not only to you. A rule of thumb - if you cannot understand your own solution after a day or two it is not well written.

Academic Honesty: At Yale, academic honesty is taken very seriously. The use of electronic devices during quizzes and exams will not be allowed. All exams and quizzes are closed books. You are welcome and encouraged to collaborate with other students, however writing the final draft should be your own individual effort.