# MATH 20F SYLLABUS
# AUTUMN 2014

**Lectures**    MWF 1:00-1:50, CENTR 101.

**Instructor**    James M$^c$Kernan, APM 6260, ph. (858)-534-6347, jmckernan@math.ucsd.edu.

**Discussion Sections**    Tuesday, 12-7.

**Teaching Assistants**    Daniel Smith, [B0-3], des006@ucsd.edu; Calum Spicer, [B04, B05], calumspicer@gmail.com; Hanbo Li, [B06, B07], hal123@ucsd.edu.

**Office Hours**    MW 2-3:30, or by appointment if you cannot make these times. Hanbo Li, T 10-11, Calum Spicer, T 11-12, Daniel Smith W 9-11. Any student is welcome to attend any of these office hours.

**Text**    *Linear Algebra and Its Applications*, 4th edition, by David C. Lay; published by Pearson (Addison Wesley).

**Websites**    TED, https://ted.ucsd.edu (grades only), and the course webpage http://www.math.ucsd.edu/~jmckerna/Teaching/14-15/Autumn/20F/20F.html

**Reading**    Please read through the sections announced on the calendar on the online website *before* class.

**Grading**    Your final percentage is the maximum of

- 10% MATLAB (5% homework and 5% quiz), 10% Homework, 20% Midterm I, 20% Midterm II, 40% Final.
- 10% MATLAB, 10% Homework, 40% Best Midterm, 40% Final
- 10% MATLAB, 10% Homework, 20% Best Midterm, 60% Final

In addition *you must pass the final examination in order to pass the course.*

**Exams, Final**    Monday December 15th, 11:30-2:30pm, CENTR 101. *No calculators allowed in the midterms or final.*

**Midterms**    Wednesday October 29th, Friday November 21st. **No makeup exams.**

**MATLAB Quiz**    There will be a MATLAB quiz given at the end of the quarter. The quiz will be held during your scheduled MATLAB time in B432 on Thursday 11th of December. If you are unable to make the scheduled time, you will be able to schedule a different time online.

**Homework**    Homework is due every Wednesday by 5pm, in the dropbox of the basement of APM. Late homework is **not accepted**, however the lowest homework score will be dropped. At the top of every of each assignment should appear

(1) Your name.
(2) Your discussion leader's last name.
(3) Your discussion section.
(4) Either the text "Sources consulted: none" or a list of all sources consulted other than the main textbook and your own notes from lecture and discussion. This is

*required.* (Examples of things that should be listed if used: office hours, names of study group partners, Wikipedia, etc.)

You are encouraged to discuss questions with each other or to come to office hours. If you meet with a study group, you may find it helpful to do as many problems as you can on your own beforehand. But write-ups must be done independently. (In practice, this means that it is OK for other people to explain their solutions to you, but you must not be looking at other peoples solutions as you write your own.) Use examples in the book as a model for the level of detail expected. Write in complete sentences whenever reasonable. If you have questions about the homework, it is best to ask these in office hours.

**Matlab**     See `http://www.math.ucsd.edu/~math20f/` for assignments and due dates. Assignments should be turned in to the dropboxes in the basement of APM by 3pm of the due date. There will be MATLAB tutors available in APM B432 to help you with your assignments and you can also ask your teaching assistants for help.

The drop box for MATLAB is NOT the same as the drop box for paper-and-pen homework assignments, even though both are located in the basement of APM. There is often confusion about attending MATLAB lab sections because students are automatically assigned "lab sections" scheduled at the same time as their discussion sections, but on a different day. These lab sections have no meaning except the last week of instruction; students will take the MATLAB quiz during those times. Students may work on the assignments on their own schedules, provided they meet the assignment deadlines.

**Course Description**     Matrix algebra, Gaussian elimination, determinants. Linear and affine subspaces, bases of Euclidean spaces. Eigenvalues and eigenvectors, quadratic forms, orthogonal matrices, diagonalization of symmetric matrices. Applications. Computing symbolic and graphical solutions using Matlab.

**Syllabus**     We shall cover parts of chapters 1-7 of the text. See the online calendar for more details.

**Prerequisites**     Math 20C (or Math 21C) with a grade of C or better.

**Academic integrity**     UCSD's code of academic integrity outlines the expected academic honesty of all students and faculty, and details the consequences for academic dishonesty. The main issues are cheating and plagiarism, of course, for which there is a zero-tolerance policy. (Penalties for these offenses usually include assignment of a failing grade in the course, and can be much more significant.)