312. Linear Algebra.   *Spring 2015 Syllabus*

Professor: Stefan Ivanov (ivanovs at math DOT upenn DOT edu)
Professor office hours: Monday 11am-12pm, Wednesday 11am-12pm
Professor office: DRL 3N8E

TA: Yu Wang (wangyu1 at sas DOT upenn DOT edu)
TA office hours: Wednesday 12.30-2pm and Thursday 10.30-12pm
TA office: 1N1 suite, Room 1N5a in DRL.

Course Web Page: `http://www.math.upenn.edu/~ivanovs`
Class schedule: Monday, Wednesday and Friday @ 10:00 - 11:00AM in DRL A2.
First class, last class: January 14, April 29.

Textbook: "Introduction to Linear Algebra" by Gilbert Strang (4th Ed)

Brief course description: Linear Algebra is central to numerous modern applications of Mathematics. For instance, anytime a computer is parsing a large amount of information you can be sure that Linear Algebra is involved. Our goal is to present the major ideas and to increase your technical skills.
Prerequisites: Math 240 or its equivalent.

Canvas: The class will make use of Canvas to post assignments, grades, announcements, etc. Students will be responsible for checking Canvas regularly during the semester.

Homework: Weekly, posted on the courses Canvas website. Homework will be assigned on Fridays, and it will be due the following Friday at 4pm in your TA's mailbox. You will be allowed one week to complete each assignment. Collaboration between students is encouraged, but you must write your own solutions, understand them and give credit to your collaborators. (To be precise, put a list of the students with whom you collaborated on your homework.)

Late homework will not be accepted.
Your two lowest homework scores will be dropped.

Attendance and Course Notes: It is in your best interest to attend each lecture and take accurate notes. You will be tested on the material as it is covered in class. If you miss a lecture, make sure that you copy from a classmate and review the notes from that day.

Exams: There will be two in class exams and one final exam. Exam attendance is *manditory*; please make sure you can attend the exams *before* enrolling in the course. Make-up exams will only be administered for medical reasons with a doctor's note. Exams are closed-book and closed-notes. No calculators, computers, or smart phones are allowed.

The first exam is on Wednesday, February 18. **Before drop deadline.**

The second exam is on Wednesday, March 25. **Before withdraw deadline.**

The final exam is on Wednesday, May 6. **Note that this exam dates were updated. Be sure you have the correct dates.**

Evaluation: Your final grade is based on your level of the homework (20%), as well as the in class exams (25% the first two and 30% the final).

Topics to be covered:

- Solving Linear Equations (Strang Chapter 2)

- Vector Spaces and Subspaces (Strang Chapter 3)

- Orthogonality (Strang Chapter 4)

- Determinants (Strang Chapter 5)

- Eigenvalues and Eigenvectors (Strang Chapter 6)

- Linear Transformations (Strang Chapter 7)

- Various Applications (Strang Chapter 8)

(The above topics are conditional on time constraints and subject to change.)