Linear algebra
MATH-UA 343.003
Fall Semester 2015

Instructor: Sophie, Marques,
Office 519 CIWW,
Phone number (212) 998-3136,
Mail: marques@cims.nyu.edu
Website: http://cims.nyu.edu/~marques/A1.html

Time and place: MW 2:00PM- 3:50PM, 194 merc 305.
Office hours: Tuesday 1-2PM or by appointment, please do not hesitate if the office hour schedule does not fit you.
Exams: There will be one in-class midterm and a final. According to the presently posted schedule, the midterm will be schedule on Wednesday 14 October. According to the presently posted schedule, the final exam is schedule Monday 21 December from 2:00 PM 3:50 PM

Textbook: Linear Algebra and its Applications by David C. Lay. Addison-Wesley, 2005. ISBN 978-0321287137. New and used copies are on sale in the NYU Bookstore and can also be found online. A copy will be put on reserve in Bobst Library.

Course Description: Systems of linear equations, Gaussian elimination, matrices, determinants, Cramer’s rule. Vectors, vector spaces, basis and dimension, linear transformations. Eigenvalues, eigenvectors, and quadratic forms.

Course Objectives:

Upon successfully completing this course students will be able to:

1. Formulate, solve, apply, and interpret systems of linear equations in several variables;
2. Compute with and classify matrices;
3. Demonstrate elementary facts in abstract vector spaces;
4. Decompose linear transformations according to their spectra (eigenvectors and eigenvalues)
5. Use length and orthogonality in each of the above contexts.

Course Requirements:

The course meets for lecture twice a week for 110 minutes each class period. Class will be a mixture of direct instruction (like a lecture) and guided practice (like a recitation). You are also expected to study outside of class, up to three hours for each hour of class. Studying can be reading the book, reviewing notes, practicing problems, or doing homework.
Calculator Policy

At NYU, undergraduate mathematics is largely conceptual rather than computational. Calculators may be used on homework but do not suffice on problems for which explanation is required. Calculators may not be used on quizzes or exams.

Policy on missed and out-of-sequence assessments

In general, out of fairness to the rest of the students in the class, late homework assignments and makeup quizzes or exams are not possible. We may approve a rescheduled or makeup exam or quiz in the following cases:

1. A documented medical excuse.
2. A University-sponsored event such as an athletic tournament, a play, or a musical performance. Athletic practices and rehearsals do not fall into this category. Please present documentation from your coach, conductor, or other faculty advisor describing your absence.
3. A religious holiday.
4. Extreme hardship such as a family emergency, again with documentation.

Weddings and other special family events do not qualify as any of the above; the free pass is appropriate here. Nor can we reschedule for purposes of more convenient travel, even if tickets have already been purchased. Rescheduled exams and quizzes (those not arising from emergencies) must be taken prior to your absence. Otherwise, please contact us before you return to class.

If you require additional accommodations as determined by the Moses Center for Student Disabilities, please let us know as soon as possible.

Policy on Academic Integrity:

New York University takes plagiarism and cheating very seriously and regards them as a form of fraud. Students are expected to conduct themselves according to the highest ethical standards. These offenses are all considered violations of academic integrity:

Use of unauthorized resources for completion of assignments (e.g., a solution manual illegally purchased or downloaded or an internet community that provides answers);

1. Nondisclosure of copying another student’s written solution (including for homework);
2. Discussion of a quiz or exam between someone who has taken it and someone who has not;
3. Copying another student’s quiz or exam;
4. Forging documentation to justify a makeup quiz or exam or late assignment.

There are of course other possibilities. We expect you to be familiar with your school’s student handbook and its statement of academic integrity. Penalties range from a score of zero on a problem, assignment, quiz, or exam, to a failing grade in the course and notification of the student’s Dean. Multiple violations can result in dismissal from the University.
Participation Participation will be taken under account at the end of the semester while deciding for the final grade. It is important for the class time to be dynamic. Sincere questions are important, and help the whole class. Please never stay bothered by a question after the end of the class. Questions should always be asked with respect and modesty.

Submission of assignments is mandatory. Homework will be given each week starting on the second week of classes.

Special note: Collaboration on the assignments is encouraged. Each student must submit the assignment separately and must note on the assignment the names of other students with which he/she has collaborated. If it is obvious, you looked up at the solutions or just copied the solution of someone else, all of the students involved will have 0 as grade no matter how copied. The policy about copying will be very strict. Quizzes will be given often to force you to realize your level, in order to not get submerged by the amount of new notion and always be updated at the course. Quizzes frequency will be determined as follow, if the class is experiencing a lot of difficulty overcoming the class, I will give quizzes more often.

Grading The final grade will be based 45% on the Final Exam, 25% on the Midterm, and 10% on the Homework and 20% on the quizzes. But grades are not determined by an algorithm, subjective factors such as class participation are a “fudge factor” that can carry great weight.