

Spring 2016
MAT 331: FIRST COURSE IN LINEAR ALGEBRA

Section 1, MW, 12:45 – 2:05, 115 Carnegie

Instructor: Prof. Uday Banerjee, 215 Carnegie, banerjee@syr.edu

Office Hours: Tuesday 3-4, Friday 9-10, also by appointment

Course Supervisor: Prof. Vincent Fatica, 313A Carnegie, 443-1587,
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Course Information: *Course Description:* Linear equations, Linear transformations, Matrices, n -dimensional Euclidean spaces, Associated geometry.

Course Restrictions: Credit will not be given for both MAT 331 and MAT 485.

Prerequisites: MAT 286 or MAT 296

Textbook: Linear Algebra and its Applications, 5th edition, by David C. Lay, Steven R. Lay, and Judi J. McDonald; Publisher, Addison-Wesley

Exams: There will be two hour exams – one on March 7 and another on April 13.

Homework/Quiz: Homework will be assigned in class (see pages 2,3) and some of the problems will be selected for grading. Pop-up quizzes will also be given and graded.

MATLAB: MATLAB is the state of the art programming software and it is easy to learn. You will be assigned 2-3 MATLAB projects, which will be graded.

Make-up Policy: There will be no make-ups for homework, quizzes, and exams. Exceptions will be made only under extreme health problems, which have to be corroborated by a letter from the doctor. Contact the instructor as soon as you can in such cases.

Calculator Policy: Calculator (such as TI-84, TI-85) will be allowed. Symbolic calculator (such as the TI-89 or the TI-Nspire with CAS) is not allowed on homework, quizzes or exams. Students may need to show work to receive full credit. There may be quizzes and specific exam questions that are designated *no calculator*.

Grading Policy: Homework/quizzes/projects will comprise 25% of the course grade, two in-class exams each 25%, and the final exam 25%. Letter grades will correspond to numeric grade intervals as follows.

[93,100]→A [90,93)→A- [87,90)→B+ [83,87)→B [80,83)→B-
[77,80)→C+ [73,77)→C [70,73)→C- [60,70)→D [0,60)→F

Final Exam Date: The final exam will be given on **Monday, May 9, 2016** during a two-hour period between 8:00 and 2:30, and at no other time. *Do not plan to leave the campus before 3 PM on this day.*

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located in Room 303 of 804 University Avenue, or call 315-443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations.

Academic Integrity: The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academicintegrity.syr.edu>

Religious observances policy. SU religious observances policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to are religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice (Student Services - > Enrollment -> My Religious Observances) from the first day of class until the end of the second week of class.

Please inform me of any problems that you have with the course. Problems not satisfactorily resolved by me should then be brought to the attention of the Course Supervisor.

| Section | Suggested Problems |
|---------|---|
| . 1.1 | 11, 13, 15, 17, 19, 23, 24, 25 |
| . 1.2 | 2, 5, 6, 11, 13, 14, 15, 19 (find all such values of h and k), 21, 25, 26 |
| . 1.3 | 9, 11, 13, 17, 21, 23 (b-e), 24 (b-e), 25 (b, c) |
| . 1.4 | 1, 3, 7, 9, 11, 15, 17, 19, 21, 23 (b-e), 24, 31, 33 |
| . 1.5 | 1, 7, 9, 11, 19, 23, 29, 30, 31, 32 |
| . 1.7 | 1, 5, 7, 9, 11, 15, 17, 19, 21, 22, 31 |
| . 1.8 | 1, 3, 5, 7, 8, 9, 13, 14, 15, 16, 17, 19, 21, 22, 27 |
| . 1.9 | 1, 3, 5, 7, 9, 17, 19, 23, 24 |
| . 2.1 | 1, 3, 5, 7, 11, 12, 15, 16, 19, 20, 27, 28 |
| . 2.2 | 1, 5, 9, 10, 13, 15, 21, 22, 24, 31, 32, 33, 35 |
| . 2.3 | 4, 8, 11, 12, 13, 14, 15, 16, 17, 33, 35 |
| . 2.7 | 2, 3, 5, 7 |
| . 2.8 | 1, 3, 5, 7, 9, 11, 13, 15, 17, 21, 22, 23, 25 |
| . 2.9 | 1, 3, 5, 9, 11, 13, 15, 16, 17, 18, 19, 20, 21, 22 |
| . 3.1 | 9, 11, 13, 15, 17 |
| . 3.2 | 15, 17, 19, 29, 31, 34 |
| . 3.3 | 19, 21, 23, 27, 28 |
| . 5.1 | 3, 5, 9, 13, 15, 17, 18, 19, 21, 22, 25, 29 |
| . 5.2 | 1, 3, 5, 7, 13, 15, 16 |
| . 5.3 | 7, 9, 11, 17, 21, 22, 23, 25 |
| . 6.1 | 5, 7, 9, 11, 15, 17 |
| . 6.2 | 1, 5, 9, 11, 13, 15 |
| . 6.3 | 3, 5, 7, 9, 11, 13 |
| . 6.4 | 3, 5, 7, 9, 11 |