

## MAT 531-001 Second Course in Linear Algebra Spring 2018

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Lecture: MW 12:45–2:05, 200 Carnegie.  
Office hours: MW 10:00–11:30.  
Also by appointment, and any time my door is open.

**Text:** *Linear Algebra* by Friedberg, Insel and Spence, Fourth Edition, Prentice Hall, 2003.

**Course description:** The course will cover chapters 1, 2, 5 and 6 in the textbook as well as some additional topics if time permits. Mathematically, the course is similar to MAT 331. However, it is not intended to be an immediate continuation of MAT 331. Certain important concepts of linear algebra will be reintroduced in a more abstract, coordinate-free setting. Consequently, the focus of this course will be on proofs and concepts, not on calculations. Prerequisites MAT 331 and 375. The course will cover the following topics:

- Abstract vector spaces and bases.
- Linear transformations and their matrix representations.
- Eigenvalues and eigenvectors.
- Inner product spaces.
- Applications

**Homework:** Homework problems to be collected and graded will be assigned regularly (roughly every week). Working independently on the assignments will probably help you to learn the material more effectively and to do better on exams. However, you may (and sometimes should) work with others to fully understand the material. You must write your own solutions to homework problems. You are encouraged to see me for help. You should not limit your practice only to the assigned problems. Find and do other problems. You may ask about any linear algebra problems during class. In addition to problems from our text that I have not assigned, there are other sources of problems including other texts and problem books. Homework is due at the beginning of class.

**Phone, Laptop, Tablet in class policy:** Phones, laptops, and tablets are not allowed to be out during class.

**Exams:** There will be one midterm exam at a date to be announced, and a cumulative final exam. The final exam will be given on Tuesday, May 8, 2018 from 8:00-10:00 AM in Carnegie 200. Time and location are subject to change.

**Grading:** The midterm exam will count for 30% of your course grade, and the final exam will count for 40%. The remaining 30% will come from homework and (almost weekly) quizzes.

**Academic Integrity:** Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The university policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and

the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same written work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the university's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. The Violation and Sanction Classification Rubric establishes recommended guidelines for the determination of grade penalties by faculty and instructors, while also giving them discretion to select the grade penalty they believe most suitable, including course failure, regardless of violation level. Any established violation in this course may result in course failure regardless of violation level. For more information and the complete policy, see <http://class.syr.edu/academic-integrity/policy/>

**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 309 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 for 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 your instructor privately to discuss your academic needs although I cannot arrange for disability-related accommodations. Making arrangements with ODS takes time. Do not wait until just before the first test.

**Faith Tradition Observance:** SU's religious observances policy can be found at

[http://supolicies.syr.edu/emp\\_ben/religious.observance.htm](http://supolicies.syr.edu/emp_ben/religious.observance.htm)

Under the policy, students are provided an opportunity to make up any examination, study, or work requirement that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. There is an online notification process available on MySlice.