

**Instructor:** Peter Horn, Assistant Professor of Mathematics

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**Office:** 304A Carnegie

**Phone:** 3-1700

**Office hours:** Monday - Thursday 3:45 - 4:45, and by appointment.

**Lecture:** MW 2:15 - 3:35, 119 Carnegie

**Text:** *Linear Algebra, 4th edition* by Friedberg, Insel, and Spence.

**Prerequisites:** ((MAT 375 or CIS 275) and MAT 331) or graduate standing in mathematical sciences.

**Course description:** The main goal of this course is to give a rigorous, proof-based treatment of linear algebra. Some of the material will be familiar from MAT 331, but here it will be developed in a more abstract setting. We will emphasize proof-writing skills.

The course will cover chapters 1 - 6 of the text, including vector spaces, linear transformations, inner products, eigenvalues, and diagonalization.

**Course website:** Please check <https://pdhorn.expressions.syr.edu/fall2013mat531/> for any homework, handouts, or other information.

**Grading policy:** Homework (30%), one midterm exam (30%), and one final exam (40%). Good mathematical exposition is expected on all written assignments.

You may work together on the homework, but you are required to hand in your own work. Homework will be assigned roughly once a week, and the lowest homework score from the semester will be dropped.

One of the homework assignments is a proof presentation. Roughly once a week, one student will present his or her solution to one of that week's homework problems (chosen with the help of the instructor). Each student must present a problem in the course of the semester, and this grade cannot be dropped. Comment cards will be filled out by the other students (filling out the comment cards will count as an *additional* assignment), and these comments will be factored into the presenter's grade. A sign-up sheet will be distributed early in the semester.

The exams are scheduled tentatively for:

- Midterm exam: Monday, October 14, in class
- Final exam: Friday, December 13, 3 - 5 pm, 119 Carnegie

Please note that the final exam slot is scheduled by the registrar and is subject to change.

**Attendance policy:** Regular attendance is highly recommended, but roll will not be taken formally. You are responsible for all material covered and announcements made in class, whether or not you attend class. If you will miss class for a religious reason, **you must notify me within the first two weeks of the semester.**

**Disability policy:** If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), 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 me privately to discuss your academic needs although I cannot arrange for disability-related accommodations.

**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 a 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.

**Academic integrity:** Syracuse University sets high standards for academic integrity. Those standards are supported and enforced by students, including those who serve as academic integrity hearing panel members and hearing officers. The presumptive sanction for a first offense is course failure, accompanied by the transcript notation "Violation of the Academic Integrity Policy". The standard sanction for a first offense by graduate students is suspension or expulsion. Students should review the Office of Academic Integrity online resource "Twenty Questions and Answers About the Syracuse University Academic Integrity Policy" and confer with instructors about course-specific citation methods, permitted collaboration (if any), and rules for examinations. The Policy also governs the veracity of signatures on attendance sheets and other verification of participation in class activities. Additional guidance for students can be found in the Office of Academic Integrity resource: "[What does academic integrity mean?](#)"

*Any form of cheating will not be tolerated in this course.* First offenses in cheating will result in a failing grade on that assignment, and subsequent offenses will be reported to your dean.

**How to succeed:** Here are a few basic suggestions for how to succeed in this course.

1. Know how to solve each assigned homework problem.
2. Ask questions at the earliest sign of confusion.
3. Stay caught up. Mathematical concepts build on each other cumulatively.
4. Form a study group.
5. Study early and often, for shorter lengths of time than you would if you

crammed.

6. Read ahead for key definitions.

7. Once you understand a solution, practice communicating your solution effectively.

**Use of student work:** In compliance with the federal Family Educational Rights and Privacy Act, registration in this class is understood as permission for assignments prepared for this class to be used anonymously in the future for educational purposes