

AMS-505 **Applied Linear Algebra**

Instructor: Prof. Roman Samulyak

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Textbook: Gilbert Strang, Linear Algebra and Applications, Thomson Brooks/Cole, 4th Edition. Supplementary books are listed on the AMS-505 web page, in the section Tentative Class Schedule.

Course description:

This course will deal with central problems of linear algebra: solving linear systems of equations and eigenvalue problems, and finding properties of linear operators. The main topics are as follows:

- Matrices and Gaussian elimination
- Vector spaces, orthogonality
- Matrix determinants, eigenvalues and eigenvectors
- Positive definite matrices
- Matrix norm and condition number
- Iterative methods for linear systems

Classes: Tuesdays and Thursdays, 5:20 – 6:40 pm, Physics P-112

Attendance: Students are expected to attend all classes and all exams. Students are encouraged to ask questions during and after the class.

Office hours: Tuesdays and Thursdays, 11:00 – 12:00 pm, or by appointment.

Grading: Homework assignments: 20%
Midterm exam: 30%
Final Exam: 50%

Academic Integrity

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at

<http://www.stonybrook.edu/uaa/academicjudiciary/>

Americans with Disabilities Act:

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.