

MAT 682 (Numerical Linear Algebra), Spring 2019
TuTh 11am-12:20pm in 110 Carnegie

Course instructor: Prof. Minghao Rostami, 304D Carnegie, mwrostam@syr.edu

Office hours: TuW 4pm-4:50pm or by appointment

Textbook: *Numerical Linear Algebra* by Trefethen and Bau, SIAM 1997

Course Description: Singular Value Decomposition, QR factorization, least-squares problems, condition number, stability of algorithms, LU factorization, preconditioning, iterative methods for solving large-scale linear systems of equations and eigenvalue problems.

Course webpage: Please check Blackboard frequently for course announcements and materials.

Calculator policy: You are allowed to use a calculator on homework and exams. You still need to show work to receive any credit.

Programming language: MATLAB. Please make sure that you have access to a computer with MATLAB installed on it. For example, you can use the computers in the lab located on the second floor of the Carnegie building. It is likely that there are other options on campus.

Homework: A set of homework problems will be posted on Blackboard on the Friday of each week. It will be collected on the Thursday of the following week. There are 15 sets of homework and each is worth 20 points. Homework often has a programming component.

Mid-term exam: There will be two in-class mid-term exams: one on Tuesday, February 19th and the other on Thursday, April 4th. Each mid-term exam is worth 100 points.

Final exam: 12:45pm-2:45pm on Friday, May 3rd. Location to be determined. The final exam is cumulative and worth 150 points.

Mark your calendar now: mid-term exams on Tuesday, February 19th and Thursday, April 4th, and final exam on Friday, May 3rd.

There will be no make-ups for homework, quizzes, or exams unless you have a truly exceptional excuse, which has to be corroborated by a statement from your doctor, coach, etc.

Grading Policy: Total points possible is $650 = 300$ (homework) + 200 (mid-term exams) + 150 (final exam). A letter grade will be assigned based on the percentage of points that you earn: 93% to 100% → A, 90% to 93% → A-, 87% to 90% → B+, 83% to 87% → B, 80% to 83% → B-, 77% to 80% → C+, 73% to 77% → C, 70% to 73% → C-, 60% to 70% → D, below 60% → F.

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS) at <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: 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 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 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/>

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.