

MAT 581 Numerical Methods with Programming - Spring 2017

Course Instructor: Yi (Grace) Wang, ywang392@syr.edu, 306C Carnegie Hall

Lecture Meetings: MW 12:45-2:05 PM, Carnegie 100

Office Hours: Mon 2:15-4:30 PM, Carnegie 306C

Course Description: Interpolation problems. Numerical integration. Approximation methods for solution of nonlinear equations. Solution of ordinary differential equations. Other numerical methods, error analysis and writing computer programs.

Prerequisites: MAT 397.

Textbook: "Introduction to Scientific Computing: A Matrix-Vector Approach Using MATLAB" by Charles F. Van Loan, 2nd Ed. ISBN 9780139491573.

Grading: The grades will be based on homework assignments (35%), midterm exams (20% each), and final exam (25%).

Exams: The two midterms will be given in class. However, the final exam is 2 hour long and its location will be announced later. There will be no make-ups.

Exam 1: February 22,

Exam 2: April 5,

Final: May 9, 12:45 - 2:45 PM

Homework: Homework will be assigned in class and collected at the beginning of the Wednesday class every week (written part). The computational parts of the assignments are collected on Blackboard. MATLAB is involved for computational assignments and is available at SU computer clusters. Group work is encouraged for homework but everyone must write their solution independently for written problems. For computational problems, a group may submit one solution. A group can have at most two students.

Tips for success:

1. It is absolutely essential that you understand how to solve all the assigned problems. Once you understand how to solve a problem, write your solution down neatly and in full detail with explanations that make your reasoning clear.
2. Don't fall behind. If you are having difficulties keeping up with the material, see me to discuss the problem.
3. Ask questions: in class, during office hours and by email.
4. Discuss problems with a classmate/friend.
5. Expect to work hard. Don't get discouraged if you find some of the material difficult. Be persistent and patient.

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 or TDD: (315) 443-1371 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.

Religious observances policy: Syracuse University 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 holy days 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 no later than the end of the second week of classes for regular session classes and by the submission deadline for flexibly formatted classes. Student deadlines are posted in MySlice under Student Services/Enrollment/My Religious Observances/Add a Notification.

Academic Integrity: Syracuse University 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. The presumptive penalty for a first instance of academic dishonesty by an undergraduate student is course failure, accompanied by a transcript notation indicating that the failure resulted from a violation of academic integrity policy. The presumptive penalty for a first instance of academic dishonesty by a graduate student is suspension or expulsion. SU students are required to read an online summary of the university academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. For more information and the complete policy, see <http://academicintegrity.syr.edu>.