

Frey Hall 217
Physics P113

Monday/Wednesday 4:25-5:45 (Lecture)
Thursday 4:45-5:40 (Recitation)

Please read the entire syllabus carefully before continuing in this course. Be sure that you are available for the exams.

Instructor: Dr. Matthew Romney (matthew.romney@stonybrook.edu)

Office: Math Tower 4-101B

Office Hours: Monday 3-4pm, Wednesday 12-1pm, or by appointment.

Teaching assistant: Georgina Spence (georgina.spence@stonybrook.edu)

Office: Math Tower S-240A

Office Hours: Monday 1:30-2:30pm, or by appointment.

Course Description Linear algebra: determinants, eigenvalues and eigenvectors, diagonalization. Differential equations; existence and uniqueness of solutions. First- and second-order equations; linear versus nonlinear equations. Systems of linear equations. Laplace transform. Applications to physics. More theoretical and intensive than MAT 303, this course is primarily intended for math majors. Together with MAT 307, it forms a 2-semester sequence covering the same material as the 3-semester sequence of MAT 205, MAT 211 and MAT 305. May not be taken for credit in addition to MAT 303, MAT 305 or AMS 361.

Prerequisites: MAT 307 or MAT 205 and MAT 211.

Course Webpage: www.math.stonybrook.edu/~mromney/mat308.html

Exam Dates

- Midterm 1: Wednesday, March 8, 4:25-5:45pm
- Midterm 2: Wednesday, April 26, 4:25-5:45pm
- Final Exam: Tuesday, May 16, 2:15-5:00pm

Graded Components

- **Homework** – 30% of course average.
- **Quizzes** – 10% of course average
- **Two Midterm Exams** – 30% of course average
- **Final Exam** – 30% of course average

The grades threshold will be no worse than the following: A 93-100; A- 90-92; B+ 87-89; B 83-86; B- 80-82; C+ 77-79; C 70-76; D 60-69; F 0-59. Depending on the final score distribution, these cutoffs may be relaxed.

Overview

This course will use the textbook *Multivariable mathematics* by Williamson and Trotter. We will cover this material at a comparatively advanced level, for example including proof problems and extended applications on the homework assignments. You are expected to read the book and learn things on your own initiative.

Homework

There will be a homework assignment most weeks. These will be listed on the course website. Homework should be submitted on Brightspace. Each week's homework assignment is due Wednesday of the following week (at midnight). Homework may be turned in up to a week late for 70% of the points. The lowest homework score will be dropped. If you have a question about grading, please contact the TA.

You are welcome to work together with your fellow classmates on the homework, provided that each person in a group is actively contributing. In particular, you must completely understand your solution and write it in your own words. If you use an outside resource, such as an internet site, you should cite this in your solution.

Quizzes and Exams

There will be a short quiz most weeks as part of the recitation. These are meant to provide additional practice and feedback prior to the exams. The lowest quiz score will be dropped.

There will be two in-class midterms and a final exam. No make-up exams will be given. If a student misses a midterm exam with documented evidence, then the student's final exam grade will be substituted for the missed midterm. A student must submit a final exam in order to receive a passing grade in the class.

Student Absences Statement

Students are expected to attend every class, report for examinations and submit major graded coursework as scheduled. If a student is unable to report for any exams or complete major graded coursework as scheduled due to extenuating circumstances, the student must contact the instructor as soon as possible. Students may be requested to provide documentation to support their absence and/or may be referred to the Student Support Team for assistance. Students will be provided reasonable accommodations for missed exams, assignments or projects due to significant illness, tragedy or other personal emergencies. In the instance of missed lectures, the student is responsible for the material covered. Please note, all students must follow Stony Brook, local, state and Centers for Disease Control and Prevention (CDC) guidelines to reduce the risk of transmission of COVID. For questions or more information, visit <https://www.stonybrook.edu/commcms/comingback/students.php>.

Student Accessible Support Center Services

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services (631) 632-6748 or

studentaffairs.stonybrook.edu/dss/

They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

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. Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at

www.stonybrook.edu/uaa/academicjudiciary/

Critical Incident Management

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

The instructor reserves the right to modify the standards and requirements in this syllabus. Notice of such changes will be by announcement in class, and changes to this syllabus will be posted on the course website.