

Engineering 143

Mondays & Wednesdays 5:00 – 6:20pm

*This syllabus is preliminary and may be updated.**Please read the entire syllabus carefully. Make sure you are available for the exams.***Instructor:** Yongquan Zhang (Yongquan.Zhang@stonybrook.edu)

Office: Math Tower 5D148C

Office hours: Mondays and Wednesdays 3:30 – 4:50pm in Math S-235,
or by appointment

MLC hours: Tuesdays 3:00 – 4:00pm in Math S-235

Recitations: R20 Wednesdays 11:00 – 11:55am Library E4130 with Matthew Huynh
R21 Fridays 12:30 – 1:25pm Physics P112 with Xuande Liu
R22 Tuesdays 5:00 – 5:55pm Earth&Space 069 with Xuande Liu**TAs:** Matthew Huynh (Matthew.Huynh@stonybrook.edu)

Office hours: TBD

MLC hours: TBD

Xuande Liu (xuande.liu@stonybrook.edu)

Office hours: TBD

MLC hours: TBD

Course description: Vector algebra in two and three dimensions, multivariate differential and integral calculus, optimization, vector calculus including the theorems of Green, Gauss, and Stokes. Applications to economics, engineering, and all sciences, with emphasis on numerical and graphical solutions; use of graphing calculators or computers. May not be taken for credit in addition to AMS 261 or MAT 205. **SBC:** STEM+ **Credits:** 4

Prerequisites: C or higher in MAT 127 or 132 or 142 or AMS 161 or level 9 on the mathematics placement examination.

Textbook: OpenStax *Calculus Vol. 3*. Our goal is to cover Chapter 1-6.

Course homepage: Brightspace or <https://sites.google.com/view/yqzhang/teaching/fall-2024-mat-203-lec-02>. Both are regularly updated, and should contain essentially the same information.

Grades: Homework	20% [†]
Weekly quizzes	10% [†]
Exams (1 test, 1 midterm, & 1 final)	70%*

[†]One lowest homework score and two lowest quiz scores will be dropped.

*Calculated as follows: the maximum of $(0.45 * \text{TestMidtermScore} + 0.55 * \text{FinalScore})$ and $(0.55 * \text{TestMidtermScore} + 0.45 * \text{FinalScore})$, where both TestMidtermScore and FinalScore has a max total of 70 points. MidtermScore is the maximum of $(5/6 * \text{TestScore} + 9/8 * \text{MidtermScore})$ and $(7/6 * \text{TestScore} + 7/8 * \text{MidtermScore})$, where TestScore has a max total of 30 points, and MidtermScore has a max total of 40 points.

Exam dates: Test Wednesday, October 2, 5:00 – 6:00pm
Midterm Wednesday, November 13, 5:00 - 6:20pm
Final Wednesday, December 11, 2:15 – 5:00pm

Generally, no make-up exams will be given, but this can be discussed on a case-by-case basis with documented evidence (illness or emergency).

Homework, quiz and recitation problems: Each week, a list of roughly 10-12 problems will be assigned by Tuesday. The first two problems are Homework problems, to be submitted via Gradescope. The next five problems are in the quiz pool, and one will be randomly chosen from them as the quiz problem during recitation of the following week. The last two to four problems are additional problems to be discussed after the quiz during recitation. These will be clearly marked on each week's list.

Homework: Each week's homework is usually due on Friday at 11:59pm the week after they are assigned. Please check the schedule on the course homepage for the actual deadline. Late submission is generally not accepted so that solutions can be posted promptly, but this can be discussed on a case-by-case basis with documented evidence.

You are welcome to collaborate with your classmates on homework, but you must write up your own solutions, understand them, and give credit to any collaborator(s) on the first page of your submission. Only materials from this course can be referred to for the homework (textbook, notes taken in class), e.g. searching for solutions online is not permitted.

Weekly Quizzes: A weekly quiz will be held for the first 15 minutes of each week's recitation. The problem will be randomly chosen from the quiz pool. Although you are not tested on all five problems from the pool, you are advised to go through all of them and thoroughly understand their solutions in order to prepare for the quizzes. You may seek help from the teaching team and MLC, and are encouraged to collaborate with your classmates during the week.

Recitations: The remaining time during each week's recitation will be spent on discussing the remaining problems on the problem list. It is a good opportunity to ask questions and participate in discussions more freely in a smaller classroom.

Communications: Outside of class and office hours, I am best reached by email (please use your SBU email address!). Please check Brightspace or the course webpage regularly for updates.

Course and University Policy Statements

Student Accessibility Support Center Statement: If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website: <https://ehs.stonybrook.edu//programs/fire-safety/emergency-evacuation/evacuation-guide-disabilities> and search Fire Safety and Evacuation and Disabilities.

Academic Integrity Statement: 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 is required to report any suspected instances of academic dishonesty to the Academic

Judiciary. Faculty in the Health Sciences Center (School of Health Professions, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at <http://www.stonybrook.edu/commcms/academic.integrity/index.html>

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 Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn.

Syllabus Revision: The standards and requirements in this syllabus may be modified at any time by the instructor. Notice of such changes will be announced in class and changes to this syllabus will be posted on the course website.

Last updated: August 25, 2024