

Course Syllabus

Course: Mathematics 2943.001.

Course Title: Calculus III.

How this course will be taught: This course will be taught in person except for the first two weeks of the semester. For these weeks, and later if necessary, we will use Zoom (during its regularly schedule time, TT 9:50-11:30). The link to the Zoom meetings is posted on the Canvas page for this course. Attendance is required.

Time: Lectures: TR 9:50-11:30.

Place: In person lectures: Wachman 308. Online lectures: Zoom using the link posted on the Canvas page for the course.

Instructor: Gerardo A. Mendoza.

Instructor Office: Wachman 618.

Instructor Email: gerardo.mendoza@temple.edu

Instructor Phone: 1-5053.

Course Web Page: <http://math.temple.edu/~gmendoza>, also Canvas.

Office Hours: Wednesday, 1:00-3:00. Office hours by appointment are also possible, arranged one day in advance. Or just come to my office: if I have time, I'll see you.

Prerequisites: Minimum grade of C in (Math 1042, Math 1942, Math 1951, 'Y' in MA07, 'Y' in MATW, 'Y' in CRMA09, or 'Y' in CRMA11).

Course Materials: Textbook: James Stewart: Calculus: Early Transcendentals; 8th Edition, Cengage Learning. Additional material such as problems will posted on the website for this course.

Course Goals: Establish the mathematical foundations and tools of calculus in several variables needed in future courses and eventually in research and development in science and technology.

How to get there: It is of fundamental importance that you attend classes (I know you do, but I have to say it) and keep up with the material. Doing weekly homework will help you maintain discipline. Do not be afraid to ask questions: I expect them, after all, you are learning; take advantage of me being there. Keep in mind that your teachers are there to help you. But learning is something only you can do.

When writing up your homework, take the point of view that what you are doing is explaining your ideas to someone (and not to me). This helps you focus on clarity of expression of ideas, which ends up improving your understanding.

Topics Covered: General introduction to analysis and elements of linear algebra in several variables: vectors, dot and cross product, equations of lines and planes and the geometry of space; functions: partial derivatives, linear approximation; maxima and minima; integration: line integrals, double and triple integrals, Green's, Stokes' and divergence theorems. Length of a curve, surface area, volume, changes of variable in multiple integrals.

Outline of chapters and sections to be covered (some only in part, I may add some material as needed):

Chapter 12: Vectors and the Geometry of Space; 12.1–12.5.

Chapter 13: Vector Functions; 13.1–13.4

Chapter 14: Partial Derivatives; 14.1, 14.3–14.7.

Chapter 15: Multiple Integrals; 15.1–15.3 and 15.5–15.8.

Chapter 16: Vector Calculus; 16.1–16.4, 16.7–16.9.

Course Grading: Quizzes (15%), two midterm tests (25% each), and a final exam (35%). Some quizzes will be ‘take home.’

Exam Dates: Test 1 - Wednesday, February 16, (5:30 - 7:00 PM); Test 2 - Wednesday, April 6, (5:30 - 7:00 PM); Final Exam - Thursday, April 28, (3:30 - 5:30 PM), in common with all 2043 sections. The rooms for these will be announced later.

Attendance Policy: Attendance is required.

Attendance and Your Health: To achieve course learning goals, students must attend and participate in classes, according to your instructors’ requirements. However, if you feel unwell or if you are under quarantine or in isolation because you have been exposed to the virus or tested positive for it, you should not come to campus or attend in-person classes or activities. It is the student’s responsibility to contact their instructors to create a plan for participation and engagement in the course as soon as they are able to do so, and to make a plan to complete all assignments in a timely fashion, when illness delays their completion.

Letter Grades: 93-100 A, 90-92 A-, 87-89 B+, 83-86 B, 80-82 B-, 77-79 C+, 73-76 C, 70-72 C-, 65-69 D+, 55-64 D, 50-54 D-, 0-49 F.

Make Up Policy: There will be no make up exams except in the case of a documented emergency, like an illness or an accident. The documents confirming the emergency (from a hospital or police) must be provided. If you miss an exam, you must contact me **and** Professor Boris Datskovsky (Director of Advising and Coordinated Courses) by email right away, ideally before the exam (the email address of Professor Datskovsky is: bdatstemple.edu). Requests for makeups will not be honored if they come more than 48 hours after the time of the exam.

Quizzes: There will be in class quizzes some Thursdays near the end of the class, based on problems that I’ll be posting throughout the semester. Some quizzes will be take-home with a due date. As mentioned above, when writing up your answers, take the point of view that what you are doing is explaining your ideas to someone (and not to me).

Calculator Policy: No calculator or cheat sheets will be allowed on any exams or quizzes.

Exam Security Policy: We have a zero tolerance policy for cheating on the tests and quizzes. Any student caught cheating will receive a score of 0 on the test or quiz and will be reported to the Student Code of Conduct Board. This is consistent with the Temple University Academic Honor Code, see

<https://secretary.temple.edu/sites/secretary/files/policies/03.70.12.pdf>

that states: “Every member of the university community is responsible for upholding the highest standards of honesty at all times. Students, as members of the community, are responsible for adhering to the principles of academic honesty and integrity.” All electronic devices required for testing must be used only for the purposed of accessing and submitting the exam. They are not allowed to be used for accessing information from outside sources. Students are not permitted to communicate with one another during the exam or quiz.

Technology requirements: For the remote sessions: You must have (1) a computer with a webcam and audio and with reliable internet connection, (2) possibly also a smartphone with AdobeScan (free for Temple students) installed.

Disability Statement: Any student who has a need for accommodations based on the impact of a documented disability or medical condition should contact Disability Resources and Services (DRS) in Howard Gittis Student Center South, Rm 420 (drs@temple.edu; 215-204-1280) to request accommodations and learn more about the resources available to you. If you have a DRS accommodation letter to share with me, or you would like to discuss your accommodations, please contact me as soon as practical. I will work with you and with DRS to coordinate reasonable accommodations for all students with documented disabilities. All discussions related to your accommodations will be confidential.

Academic Freedom: Freedom to teach and freedom to learn are inseparable facets of academic freedom. The University has adopted a policy on Student and Faculty Academic Rights and Responsibilities (Policy # 03.70.02).

Add/Drop Policy: Students will be charged for a course unless dropped by the Drop/Add deadline date. Check the University calendar for exact dates.

During the Drop/Add period, students may drop a course with no record of the class appearing on their transcript. Students are not financially responsible for any courses dropped during this period. In the following weeks prior to or on the withdrawal date students may withdraw from a course with the grade of “W” appearing on their transcript. After the withdrawal date students may not withdraw from courses. Check the University Calendar for exact dates.

Incomplete Policy: The grade “I” (an “incomplete”) is only given if students cannot complete the course work due to circumstances beyond their control. It is necessary for the student to have completed the majority of the course work with a passing average and to sign an incomplete contract which clearly states what is left for the student to do and the deadline by which the work must be completed. The incomplete contract must also include a default grade that will be used in case the “I” grade is not resolved by the agreed deadline.

Expectations for Class Conduct: The best way to maintain a safe and focused learning environment is for everyone to get vaccinated. Masks must be worn by vaccinated and unvaccinated people in all indoor or in enclosed spaces (including classrooms, the Library, the TECH Center, the Student Center, shuttles/buses, administrative spaces, common areas in residence halls, etc.). For your general health and well-being, hand washing and monitoring your health is still highly recommended.

Student Support Services: The following academic support services are available to students:

- The Math Consulting Center
- Student Success Center
- University Libraries
- Undergraduate Research Support
- Career Center
- Tuttleman Counseling Services
- Disability Resources and Services

If you are experiencing food insecurity or financial struggles, Temple provides resources and support. Notably, the Temple University Cherry Pantry and the Temple University Emergency Student Aid Program are in operation as well as a variety of resources from the Division of Student Affairs.

FOR COURSES IN REMOTE MODE

Technology specifications for this course: A working computer with a reliable internet connection, a Webcam, and audio capability. Recommended Internet Speed: 8mbps download & 5mbps upload. You can test your connection at <https://www.speedtest.net>. Please note: Hard-wired connections are more consistent than Wi-Fi for Zoom sessions. A scanning app such as AdobeScan or CamScanner is required as is access to Zoom and Canvas (the Canvas app is also recommended). Limited resources are available for students who do not have the technology they need for class. Students with educational technology needs, including no computer or camera or insufficient Wifi-access, should submit a request outlining their needs using the Student Emergency Aid Fund form. The University will endeavor to meet needs, such as with a long-term loan of a laptop or Mifi device, a refurbished computer, or subsidized internet access.

Remote proctoring statement: Zoom, Proctorio or a similar proctoring tool may be used to proctor exams and quizzes in this course. These tools verify your identity and record online actions and surroundings. It is your responsibility to have the necessary government or school issued ID, a laptop or desktop computer with a reliable internet connection, the Google Chrome and Proctorio extension, a webcam/built-in camera and microphone, and system requirements for using Proctorio, Zoom, or a similar proctoring tool. Before the exam begins, the proctor may require a scan of the room in which you are taking the exam.

Online Classroom Etiquette: It is expected that each student attends every class on time for the full duration of each class and behaves, in the same professional manner, as if you are in a regular classroom. This refers in particular to your location and attire. It is not appropriate to eat a large meal, drink alcohol, smoke, or get up often during an online class.

Statement on recording and distribution of recordings of class sessions: Any recordings permitted in this class can only be used for the student's personal educational use. Students are not permitted to copy, publish, or redistribute audio or video recordings of any portion of the class session to individuals who are not students in the course or academic program without the express permission of the faculty member and of any students who are recorded. Distribution without permission may be a violation of educational privacy law known as FERPA as well as certain copyright laws. Any recordings made by the instructor or university of this course are the property of Temple University.