

More Than One Variable? - An Introduction to Multivariable Calculus - Syllabus

Prerequisite: Single-variable calculus knowledge, AP Calculus AB/BC (BC preferably), or equivalent.

Course Description: We will start by introducing linear algebra and a new approach to solving problems by thinking of how to use vectors. From there onwards, we will cover concepts similar to single-variable calculus but in multivariable forms, such as Lagrange multipliers, gradients, partial differentiation, and line and surface integrals.

Overall Topics (To Be Finalized)

1. Linear Algebra And Why Is It Important?
2. Transitioning into Multivariable Calculus
3. Lagrange Multipliers and The Derivatives!
4. Integration in Multivariable Form
5. Rectangular Coordinates to Polar Coordinates to Cylindrical Coordinates. Huh?
6. Fun Things!

Lectures: Zoom

Office Hours: TBD

Instructors: Prince Tufon (he/him), Yahir Hernandez (he/him)

Questions: Email us at M15663-teachers@esp.mit.edu

Homework: Optional?

Exams: No exams lol

Grading: Having Fun - 100%

Resources: We will provide additional readings that dive deeper into content we could not cover in class, which may include some applications of the mathematics you've learned for that week.

If a personal or medical issue is interfering with your studies:

- Reach out to us by email, especially if you will not be able to make a class or need extra assistance to complete any work.
- Feel free to talk to either of us (e.g. after class, office hours, or email) at any time.

Don't be afraid to reach out to us if you have any questions about anything at all! We know this course moves rather fast, so we would like for every student to be comfortable with asking for assistance.