MA 225: MULTIVARIABLE CALCULUS, FALL 2024

Course name. MA 225—Multivariable Calculus.

Time and location. Monday, Wednesday, Friday 1:25 PM – 2:15 PM in SCI 113.

Instructor. Brian R. Williams. Office: CDS 411. email: bwill22@bu.edu.

Summary.

This course is about calculus in two and (mostly) three dimensions. We begin with vectors, lines and planes and then move on to parametrizations of curves and surfaces. Then we will cover partial derivatives, directional derivatives, multivariable integration, special coordinates (cylindrical and spherical). The course culminates with important theorems pertaining to the integration of vector fields (Stokes' theorem and Green's theorem). We will cover chapters 12–17 of the text (see below).

Textbooks and recommended readings.

Calculus: Early Transcendentals, third edition with MyMathLab access by William Briggs, Lyle Cochran, et al. Please wait to purchase the text until you receive an email with instructions.

Prerequisites.

Mastery of single variable calculus (MA 124 or MA 129).

Assessment.

- Two in-class midterm exams. Makeup midterm exams are only given in the case of a serious illness and require a doctor's note.
- Weekly homework problems assigned and submitted using Pearson's My-MathLab platform. **Under no circumstances will late homework be accepted.** Your two lowest scores on homework assignments will be dropped.
- Weekly quizzes taken during discussion section pertaining to the current weeks homework problems and lectures. There will be **no makeup quizzes**, and the quiz must be taken in the discussion section that you are registered in. Your two lowest scores on quizzes will be dropped.
- A final exam.

The breakdown for grades is as follows.

First midterm	20%
Second midterm	20%
Homework (total)	15%
Quizzes (total)	20%
Final exam	25%
Total	100%

Tips for success.

- This class moves at a fast pace and attendance in class is necessary.
- I recommend solving the electronic homework assignments by hand in your own notebook before submitting answers through MyMathLab. There is no 'partial credit' for homework, but this will allow you to identify mistakes or gaps in your understanding of the problem.
- Both I and the TF will hold weekly office hours which you are encouraged to attend. These office hours should be your primary means of getting help outside of class and discussion.
- For additional help please visit the math department tutoring room, located in CDS 261. This room is staffed by graduate students during the day (precise hours are posted here: https://bu.edu/math/tutoringroom/.
- The Educational Resource Center (https://www.bu.edu/erc/) organizes peer tutoring and provides other academic support options.