

Honors Multivariate Calculus

MATH 2415.029 | FALL 2023

Course Description

In this class, we will be studying Calculus in multi-dimensions. We will study many of the same things as we did in Calculus I and II, but added additional dimensions will change the nature of the solutions.

The topics we cover will include n-dimensional Euclidean space, functions of multiple variables, partial differentiation and multiple integration.

The pre-requisite for this course is a grade of C or better in Calculus II and permission from the instructor.

Website

You will be using Canvas. Go to www.utt Tyler.edu/canvas to log into Canvas using your regular patriots account. If you have enrolled in the course, you will have access to the website.

You will find important documents, grades, lecture notes, and announcements on Canvas. In general, I will notify you by email and on Canvas if there are any disruptions or changes to our class.

Instructor: Dr. Deborah Koslover

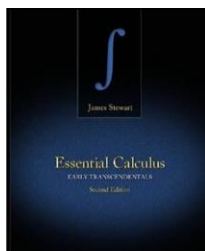
Office: RBN 4010

Email: dkoslover@utt Tyler.edu

Classroom: RBN 4034 and 4025

Meeting Time: TTh 11AM – 12PM
And 12:30 -1:30 PM

Office Hours: MWF 10:40 – 11:40 AM or



Textbook

Essential Calculus Early Transcendentals, by James Stewart, Brooks/Cole, Cengage Learning, 2013, Second Edition, ISBN – 10: 1-133-11228-5, ISBN – 13:978-1-133-11228-0

Attendance is mandatory and records will be kept. Notify Dr. Koslover in advance if you must miss a class, be late or leave early. (University Policy: Class attendance is the responsibility of the student. When a student has a legitimate absence, the instructor may permit the student to complete missed assignments. In many cases class participation is a significant measure of performance, and non-attendance may adversely affect a student's grade. When a student's absences become excessive, the instructor may recommend that the student initiate a withdrawal.)

Learning Outcomes

At the conclusion of this course, you will be able to

1. Use vectors to describe lines, planes and curves.
2. Apply calculus operations to multivariable functions.
3. Solve problems using the Fundamental Theorem of Line integrals, Green's Theorem, Stoke's Theorem and the Divergence Theorem
4. Solve real world theorems using multivariate techniques.



Course Evaluation

At the end of the semester, you will find your final grade on my.uttyler.edu. It will also be posted on Canvas.

A final course grade of

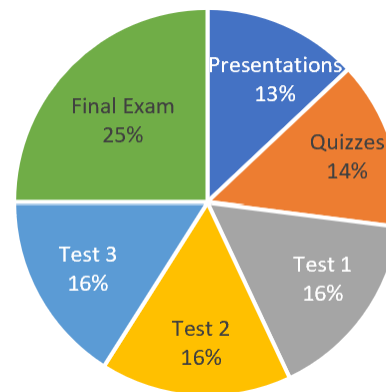
90% is guaranteed to be at least an A

80% is guaranteed to be at least a B

70% is guaranteed to be at least a C

60% is guaranteed to be at least a D.

All grades below 60% will be F.



The Plan



Presentations (13%) Homework will be assigned daily. Assignments will appear on

Canvas. Homework, in the form of presentations, will be due one week after it is assigned. Students will be asked to get up and present one or two problems. You may show your paper on the overhead projector or start from scratch and demonstrate by writing what you did. You will be graded on correctness of work, clarity of presentation and your answers to questions asked. Each student will be allowed one "pass" per class but will receive a zero on the assignment if they ask for two passes.

Students watching the presentations will be awarded points for insightful questions or comments. If you have done a problem in a significantly different fashion than the presenter, you may ask to show your solutions for credit.

Solutions will be posted on Canvas. Do not sell them to Chegg or similar websites. Do not pass down to future generations of students.

Striving for success without hard work is like trying to harvest where you haven't planted.
__David Bly

Q₁₀ U₁ I₁ Z₁₀ Z₁₀ E₁ S₁ (14%): There will be four quizzes. Please see the calendar at the end of the syllabus for dates. The quizzes will be easier than the tests.

It's not that I'm so smart, it's just that I stay with problems longer. __Albert Einstein

TESTS (16% each) and FINAL EXAM (25%): There will be three tests and a final exam. These exams will test your knowledge of the material taught in the class and practiced on the homework. The final exam will be comprehensive, but will emphasize material in the final weeks of the course. No tests will be dropped. See Important Dates below for the schedule.

Success is dependent on effort. __Sophocles

- Test 1 – Thursday, September 14
- Test 2 – Thursday, October 12
- Test 3 – Thursday, November 9



Final Exam: (Tentative) Thursday, December 7, 12:30 – 2:30 PM

Please don't plan to start your holiday travel before the date the final exam is scheduled!

Make-ups

Make-ups for **documented** absences that are **required** as part of a UT Tyler obligation (e.g. athletes participating in an event, participating in a debate contest, etc.) or for religious observation will be granted. For all make-ups of this type, prior notification of at least one week and documentation are required. Other make-ups are granted only in extreme cases such as hospitalization and at the sole discretion of the instructor.

Make-ups will be allowed for the following excused absences.

- 1) Illnesses, with a doctor's note, no exceptions.
- 2) Your child's illness, with a doctor's note.
- 3) Court appearances, including citizenship court, with documentation
- 4) Weddings, funerals or military advancement with documentation **and** a photograph showing that you attended the event.



Other Details

Calculator Policy: No calculators or other electronic devices may be used on tests or the final exam. During the exam, you must place your cell phone on the desk where it is visible. If you need to use the restroom during the exam, you must leave your phone on the desk or with the professor.



Cell phones and other electronic devices: Please set your cell phones to silent mode. If you are expecting an emergency call, please notify the professor in advance, sit near the door, and answer the phone outside. You will not be allowed to wear electronic devices (except hearing aids) during an exam. During tests, cell phones must be turned off and placed in sight on your desk.

Calendar

AUGUST		
MON	TUE	THUR
21	22	24
First Day		
28	29	31
		Quiz 1

September 4
Census Date

December 7
Final Exam
12:30 – 2:30 PM

SEPTEMBER		
MON	TUE	THUR
4	5	7
Labor Day		
11	12	14
		Test 1
18	19	21
25	26	28
		Quiz 2

OCTOBER		
MON	TUE	THUR
2	3	5
9	10	12
		Test 2
16	17	19
23	24	26
		Quiz 3
30	31	
Drop Day		

NOVEMBER		
MON	TUE	THUR
		2
6	7	9
		Test 3
13	14	16
20	21	23
Thanksgiving		
27	28	30
		Quiz 4