1 General Information

1.1 Class time/location
MWF 9:40am–10:30am, JTB 130

1.2 Office Hours
MF 10:30am–11:30am at JTB 130, or by appointment.

1.3 Textbook

1.4 Course Webpages
Check the Canvas course page in your CIS

1.5 Prerequisite
At least a C grade in Math 1220 or Math 1250 or Math 1320, or AP calculus BC score of at least 4 (within the last two years).

1.6 Calculator
You may find it helpful to have a graphing calculator for your own personal use. However, no calculators are allowed on quizzes and exams.

2 Course Structure

2.1 Homework
Homework will be assigned weekly (check Canvas for listings of problems), and will be collected every Wednesday in class. The homework will typically cover lectures through to the preceding Friday. You are encouraged to discuss homework with your classmates, however, the final write-up must be on your own. Homework must be clearly written and must be stapled. No scanned or electronic copies will be accepted. No late homework will be accepted. Two of a student’s lowest homework scores will be dropped.
2.2 Quizzes

Quizzes will be (roughly) bi-weekly, it will be either on Friday’s class or take-home. Questions in the quizzes will be basic questions. One of a student’s lowest quiz scores will be dropped.

2.3 Midterms

There will be two in-class midterms on **Wednesday Sep 27** and **Wednesday Nov 15**. Each midterm exam is 50 minutes.

2.4 Final Exam

The Final Exam will be on **Tuesday Dec 12** from 8:00am–10:00am.

2.5 Course Grade

Your course grade will be determined using the following distributions (subject to minor adjustments):
- Homework: 15%
- Quizzes: 10%
- Two Midterms: 20% each
- Final Exam: 35%

3 More details about this course

3.1 Course Description:

Vectors in the plane and in 3-space, differential calculus in several variables, integration and its applications in several variables, vector fields and line, surface and volume integrals. Green’s theorem and Stokes’ theorem.

3.2 Course Outline

1. Chapter 10 (10.4) Parametric Representation of Curves
2. Chapter 11 (11.1–11.9) Geometry in Space and Vectors
3. Chapter 12 (12.1–12.8) Derivatives for Functions of Two or More Variables
4. Chapter 13 (13.1–13.9) Multiple Integrals
5. Chapter 14 (14.1–14.7) Vector Calculus
3.3 Students with disabilities

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

3.4 Expected Learning Outcomes

Upon successful completion of this course, a student should be able to:

1. Compute dot and cross products of two vectors, projection of one vector onto another vector.
2. Convert between cylindrical, rectangular and spherical coordinates.
3. Determine the equation of a plane in 3-space, including a tangent plane to a surface in 3-space.
4. Find the parametric equations of a line in 3-space.
5. Perform calculus operations on functions of several variables, including limits, partial derivatives, directional derivatives, and gradients; understand what the gradient means geometrically.
6. Find maxima and minima of a function of two variables; use Lagrange Multipliers for constrained optimization problems.
7. Compute double and triple integrals in rectangular, spherical and cylindrical coordinates; proper use of double or triple integrals for finding surface area or volume of a 3-dimensional region.
8. Compute line and surface integrals.

3.5 Student Responsibilities

All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. You have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, collusion, fraud, theft, etc. Students should read the Code carefully and know you are responsibility to enforce responsible classroom behaviors, beginning with verbal warning and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee. http://regulations.utah.edu/academics/6-400.php
3.6 Lecture Videos

There is a complete set of lecture videos, free to the public, for Math 2210. They are located under the Lecture Videos tab from the main math department webpage: http://www.math.utah.edu/lectures/

3.7 Tutoring/Computer Lab

T. Benny Rushing Mathematics Student Center (adjacent to JWB and LCB), Room 155. Open Monday–Friday.