MTH 254H VECTOR CALCULUS I-HONORS - Fall 2015

Class Meetings MWF 2:00-3:20 in LINC 343

Instructor Elaine Cozzi

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- Phone: 737-4175
- Office Hours: Tues 11:00 AM-1:00 PM, Fri 10:00 AM-11:00 AM

Texts

- Calculus, Early Transcendentals (2nd edition), by Briggs and Cochran
- MyMathLab access code

Course Webpage http://people.oregonstate.edu/~cozzie/MTH254HF15.html

The first-day handout, daily schedule, and other course materials will be posted on the course webpage.

Content of the course Vectors, vector functions, and curves in two and three dimensions. Surfaces, partial derivatives, gradients, and directional derivatives. Multiple integrals in rectangular, polar, cylindrical, and spherical coordinates. Physical and geometric applications. The course material is contained primarily in Chapters 11-13 of the text.

Prerequisites MTH 252 [C-] or MTH 252H [C-] with Honors College approval.

Course Assessment Your overall grade will be determined by the following:

- Homework: 20%
- Worksheets: 20%
- Midterm Exam: 25%
- Final Exam: 35%

Homework Homework will generally be posted on MyMathLab on Fridays and will be due the following Friday night by midnight. There will be a total of 8 homework assignments, and each assignment will consist of roughly 15 problems. Late homework will not be accepted under any circumstance. Your lowest homework grade will be dropped.

Worksheets On most Wednesdays, you will get in groups of approximately four students and work on worksheets, to be turned in the following Wednesday for a grade. Note each group will hand in exactly one solution set.

Exams There will be one in-class midterm and a final exam. The midterm is tentatively scheduled for Wednesday, November 4 in class. The final is
cumulative and will be held on Thursday December 10, 9:30 AM - 11:20 AM.

Learning outcomes A successful student in MTH 254H will be able to
• represent vectors both algebraically and geometrically and be able to use vector methods effectively in problem solving.
• use the dot and cross product to solve problems in a geometrical or physical setting.
• apply partial derivatives, directional derivatives, and gradients to solve problems of multivariable differential calculus such as max-min problems and rates of change of physical processes in space.
• evaluate multiple integrals in rectangular, polar, spherical, and cylindrical coordinates.
• use vector functions to analyze particle motion (position vectors, components of acceleration) and to represent curves parametrically.
• integrate and differentiate vector functions.

If You Need Help You are encouraged to attend my office hours whenever you have questions or concerns about the course. In addition, drop-in tutoring with faculty, graduate students, and undergraduate tutors will be available at the Math Learning Center (KIDD 108E) beginning the second week of the term. For more information about the Math Learning Center (hours, etc.), see http://www.math.oregonstate.edu/mlc.

Students with Disabilities Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

Academic Honesty Students are expected to be familiar with Oregon State University’s Statement of Expectations for Student Conduct. Please review this statement at http://oregonstate.edu/admin/stucon/achon.htm