MATH 255 Section 004: Applied Honors Calculus III, Winter 2008

Meetings

MWF, 1–2 PM, Dennison 130; Tu 1–2 PM, Dennison 501.

Instructor

Peter Miller, 5826 EH, (734) 647-4473, millerpd@umich.edu.

Office Hours

TBA (See course website).

Course Website

www.math.lsa.umich.edu/~millerpd/CurrentCourses/255_Winter08.html

Text

Calculus, University of Michigan Edition for Math 156/255, by James Stewart, Thomson Publishing Company, 2008. ISBN-13: 978-0-495-44273-8.

Course Description

Math 255 is a 3rd semester honors calculus course for engineering and science students. In this course, the notions of calculus already familiar to students are lifted into two and three dimensions. In this higher-dimensional context these notions acquire elegance and strength and become fundamental tools for understanding such physical phenomena as electric fields and turbulent fluid flows. The course emphasizes computational skills, conceptual understanding, and applications. Math 255 provides students with the calculus background they need for subsequent courses in math, science and engineering. The syllabus for the course will cover most of Chapters 11 and 13–17 of the textbook. The course also includes practice exercises with *Maple*, a software tool for solving math problems on a computer.

Prerequisite

MATH 156, MATH 186, or permission from instructor.

Homework

Homework will be assigned on the course website and collected in class each week. Students may work together in groups and discuss the homework problems with each other, but students must each write up and submit their own solutions. The homework must be written neatly with work shown clearly. Please staple the sheets together.

Grading

- Homework: 25%. This will be graded by the instructor. It is in your interest to keep up with these problems as a substantial fraction of the exam questions will be taken from the assigned homework.
- Three tests ("mini-midterms"): 15% each. These will probably be during normal class hours unless we find we are running short on class time.

- Final exam: 30%. At the officially scheduled time for our course: Tuesday, April 22, 4–6 PM, in 130 Dennison.
- There may be some projects based on applied problems for extra credit.

Advice

1. Questions in class are encouraged — if something is unclear, ask a question.
2. Take notes in class and review them regularly. When you review the notes, make a list of anything that is unclear and ask your instructor about these points, either in class or office hours. A good strategy is to share the job of taking notes with a partner.
3. On homework and exams, show your work and explain the steps clearly. Getting the correct answer is part of the process, but you must also explain what you are doing so clearly that someone else can understand your reasoning.