

MWF 11:00-11:50 AM, King 241

- Instructor:** Jim Walsh, King 220C
775-8387 (office); 775-8380 (messages)
(syllabus, homework assignments, handouts on Blackboard)
- Office Hours:** Monday 3:00-4:00 PM
Tuesday 2:30-4:00 PM
Friday 2:00-3:00 PM (*also by appointment*)
- Text:** Stewart, J., *Multivariable Calculus*, 7th edition (Brooks/Cole, 2012). This text is required and is available at the College Bookstore.
- Homework:** Homework will be collected approximately once per week. You will be given handouts containing reading assignments and both practice problems and problems to be collected. Assignments will also be posted on Blackboard. *I urge you most strongly to try the practice problems.* You may work with other members of the class on all homework problems, but not to the extent that you copy any portion of another's work and submit it as your own. Please note that
- (i) *you must staple pages together when submitting more than one page, and*
 - (ii) *late assignments will not be accepted.* (Your lowest homework score will be dropped when computing final homework averages.)
- Exams:** We will have three midterm exams and a final exam. The first midterm will take place in class 4 March. The remaining two midterm exams are take-home exams, due 10 April and 8 May, respectively. The final exam will be held on 16 May from 7-9 PM. Please let me know if there is a problem with any of these dates.
- Grading:** The three midterm exams each count 20% towards the final grade, while the final exam accounts for 25% of the final grade. The homework will comprise 15% of the final grade.
- Expectations:** You are expected to attend class. You are expected to be seated and ready to go at 11:00 AM (I will do my best to start at 11:00 AM and finish by 11:50 AM). As a general rule, expect to put in approximately 2 hours of work outside of class for every hour of class time (thus 6 hours per week in addition to the 3 hours of class time). If you find yourself working either much more or much less than six hours per week outside of class please stop by my office to discuss possible alternatives to this course. You are expected to keep up with the homework—this course can be difficult for students who work on multivariable calculus once or twice per week or only before exams.
- You are expected to read the text. You should read each section twice (at least): once before it is discussed in class, and once after the class discussion, but before you do the exercises. At any time during the semester you should feel free to stop by to discuss any issues related to this course.

Honor System: You are urged to review the Honor Code and Honor System, available, for example, on the Blackboard site for this course. You will be expected to adhere to the Honor Code and Honor System with respect to all of your work in this class. One example: You may not use solutions to homework or exam questions found on the internet, or homework or exam solutions I have distributed for this course in the past. Another example: You may not copy any portion of the work of another student and submit it as your own.

Mathematica: *Mathematica* is a computer algebra system that comes in handy at times, particularly for certain sections of Mathematics 231. You can download *Mathematica* for free at this CIT webpage: <https://hera.cc.oberlin.edu/cit/downloads/>. I will do my best to post all *Mathematica* notebooks used in class for demonstration purposes on Blackboard.

Course Outline

<u>Topic</u>	<u>Chapters</u>	<u>Approximate allotted time (weeks)</u>
Vectors	12	2
Vector functions	13	1.5
Differentiation in several variables & optimization	14	3.5
Multiple integration	15	3
Vector analysis; Line & surface integrals	16	3

I remembered something the Professor had said: “The mathematical order is beautiful precisely *because* it has no effect on the real world. Life isn’t going to be easier, nor is anyone going to make a fortune, just because they know something about prime numbers. Of course, lots of mathematical discoveries have practical applications, no matter how esoteric they may seem. Research on ellipses made it possible to determine the orbits of the planets, and Einstein used non-Euclidean geometry to describe the form of the universe. Even prime numbers were used during the war to create codes—to cite a regrettable example. But those things aren’t the goal of mathematics. The only goal is to discover the truth.” The Professor always said the word truth in the same tone as the word mathematics.

—Yoko Ogawa, *The Housekeeper and the Professor*, Picador (2009), p. 114.