

Mathematics 223, Spring 2007 (Section #63722)
Vector Calculus (3 credits)

Lectures: Tue/Thu 11:00 – 12:15 PM in 301 Snow Hall.

Instructor: Jeremy Martin

E-mail: jmartin@math.ku.edu (the best way to contact me)

Office: 541 Snow Hall, (785) 864-7114

Office hours: Tue/Thu 1:30–2:30 (**subject to change**), or by appointment

Website: The course website is:

<http://www.math.ku.edu/~jmartin/math223/>

Bookmark it and check it frequently! You are responsible for all information posted on the website, including announcements and homework assignments.

Textbook: *Vector Calculus*, 3rd edition, by Susan Jane Colley. Available at KU Bookstore (800-458-1111, <http://www.kubookstore.com>). We will cover most of Chapters 1–7, focusing on the later chapters.

Prerequisites: Math 122/142 (Calculus II) or the equivalent. You should be pretty comfortable with the following list of topics (see, e.g., chapters 9–12 of Stewart's *Calculus: Concepts and Contexts*, KU edition):

— Vectors in 2- and 3-dimensional space; dot and cross products; equations of lines and planes; polar, cylindrical and spherical coordinates (Stewart, chapter 9)

— Vector functions in 2- and 3-dimensional space, and their derivatives and integrals (Stewart, chapter 10)

— Functions of multiple variables; partial and directional derivatives (Stewart, chapter 11)

— Double integrals in rectangular and polar coordinates (Stewart, chapter 12)

These topics overlap somewhat with the material of Math 223, but Math 223 covers them in greater depth.

A linear algebra course such as Math 290 is helpful, but not required (we'll develop the linear algebra we need as we go along).

Calculator: You should have a graphing calculator, such as the TI-83. It's okay if you have a more powerful calculator (such as the TI-89), but it's not necessary. You'll be permitted to use your calculator on all tests. Two students may not share a calculator.

Homework: Homework is due at 5:00 PM every Tuesday (except days after midterm tests), starting January 30. I'll post each assignment on the website at least a week before the due date. There are a total of 12 homework assignments; your two lowest scores will be dropped. The homework is worth 20% of your grade. You can hand in homework in class, leave it in my mailbox in the Math Department office, 405 Snow, or bring it to my office, 541 Snow. Your homework should be as neat and legible as if it were typed, and all sheets should be stapled together. *Homework turned in late will not be accepted.*

Quiz: The first half of class on **Tuesday, February 6** will consist of a quiz, worth 10% of your grade. (This is intended partly as a diagnostic, to give you some idea of how you're doing before the first drop date.)

In-Class Tests: There will be two in-class tests, on **Thursday, March 1** and **Thursday, April 12**. Some or all of the Tuesday before each test day will be devoted to a Q&A review session. Each test is worth 20% of your grade.

Final exam: The final exam is scheduled for **Friday, May 18**, from 10:30 AM–1:00 PM, location TBA. I'll schedule a Q&A session sometime during exam week. The exam is worth 30% of your grade.

Makeup tests and exams: If for some legitimate and unavoidable reason you are unable to attend a scheduled midterm or final exam, it is your responsibility to notify me *beforehand* to arrange a makeup

exam. KU policy is that no student is required to take more than two final exams on a single day; check the Registrar's website *now* to find out the dates of your exams.

Approximate time commitment: This is a 3-credit course, so I would guess that the average student should spend at least 6 hours per week outside of class to get a decent grade. In addition to spending time on homework problems, you should get into the habit of reading a section or two ahead in the book, so as to be better prepared for lecture.

Grading: I will calculate each student's raw score as follows:

- Homework: 200 points
- Quiz: 100 points
- Test #1: 200 points
- Test #2: 200 points
- Final exam: 300 points
- **Total: 1000 points**

Scoring 900 points guarantees you an A, scoring 800 guarantees you at least a B, etc. After grading the final exam, I may lower these requirements (i.e., use a "curve") at my discretion.

Incompletes: A grade of I is a rare occurrence and is reserved for cases in which a student has completed most of the course work at an acceptable level, but is prevented from completing the course due to *extraordinary* nonacademic circumstances. If you think an I may be warranted, you must talk to me *before* the final exam. Note that a grade of I cannot be made up by taking the course again.

Drop policy: Drop periods for Spring 2007 are as follows (per the Registrar's office):

- Through 2/8: Course is erased from your record
- 2/9 – 4/19: Instructor's signature required; WP/WF assigned
- After 4/19: Dropping no longer permitted

Academic honesty and collaboration: You are required to abide by all KU policies on academic integrity. Cheating, plagiarism or other academic misconduct will result in a failing grade on the assignment in question, notification of the student's dean, and usually further disciplinary sanctions, possibly including a failing grade in the course.

You are encouraged to collaborate with other students on the homework assignments. However, *each student write up his or her own solutions and acknowledge all collaborators*. Copying someone else's homework, or allowing someone else to copy yours, is considered to be a form of cheating.

For official policies on academic honesty issues, see www2.ku.edu/unigov/usrr.html#art2sect6.

Accommodation:

— The KU Office of Disability Resources (22 Strong Hall; 785-864-2620 (V/TTY); <http://www.disability.ku.edu>) coordinates accommodations and services for all students who are eligible. If you have a disability for which you wish to request accommodations, please contact Disability Resources as soon as possible. Please also contact me privately in regard to your needs in this course.

— If you have a conflict between a scheduled assignment and a mandated religious observances, contact me as soon as possible.

Intellectual property: Course materials prepared by the instructor, together with the content of all lectures and review sessions, are the intellectual property of the instructor. Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited. Upon reasonable request, the instructor will usually grant permission to record lectures, on the condition that such recording is used only as a study aid by the student making the recording, and is not modified or distributed in any way.