

Math 213
Sections 9, 10, 11, 12
Fall 2014

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Office Hours 2:00-2:50 MWF, 755 POT

A Word from our Sponsor

Can you guess what, according to the Wall Street Journal, is the best job in America today? Take a guess and then [click here](#) for the answer.

Lectures

MWF 1:00-1:50, Room CP 320 (all sections)

Recitations

Section 009: Ding Zhao, ding.zhao@uky.edu TR 8:00-8:50 AM, CB 203

Section 010: Ding Zhao, ding.zhao@uky.edu TR 9:30-10:20 AM, Barker Hall, Room 206 (Note Change)

Section 011: Qiao Liang, qiao.liang@uky.edu TR 11:00-11:50 AM, CP 211

Section 012: Qiao Liang, qiao.liang@uky.edu TR 12:30-1:20 PM, CP 111

Exams

In-Class Exam 1: Monday, September 29, 1:00 PM, CP 320

In-Class Exam 2: Wednesday, October 22, 1:00 PM, CP 320

In Class Exam 3: Monday, November 17, 1:00 PM, CP 320

Final Exam: Tuesday, December 16, 8:00 AM CP 320

General Information

Text: *Calculus Early Transcendentals*, Second Edition, Jon Rogawski. ISBN-10: 1-4292-0839-4

Course Contents: We will cover chapters 12-16 of the text and part of chapter 17. The material to be covered is:

- Unit I: *Geometry and Motion in Space*: Vectors, lines and planes in three dimensions, quadric surfaces, polar and cylindrical coordinates, vector-valued functions, curvature, motion in space, (sections 12.1-12.7 and 13.1-5)
- Unit II: *Differential Calculus of Several Variables*: Functions of several variables, limits and continuity, partial derivatives and their geometric meaning, the gradient, directional derivatives, chain rule, optimization in several variables (sections 14.1-14.7)
- Unit III: *Integral Calculus of Several Variables*: Integration in two and three variables over general regions, integrations in polar, cylindrical, and spherical coordinates, applications of multiple integrals, change of variables theorem (sections 15.1-15.6)
- Unit IV: *Vector Field Theory*: Vector fields, line integrals, conservative vector fields, Green's theorem, divergence and curl (sections 16.1-16.3, 17.1-17.3)

Expectations: Attendance and active participation in lecture and recitation is expected. Students should read the text with pencil and paper in hand before class. Lecture activities will include interactive problem-solving and group work. During regular class periods, cell phones must be turned off and laptops may not be used.

Web Homework: Online homework assignments may be found on [Webwork](#). Due dates are given in the Course Schedule. Under exceptional circumstances, students may be granted an extension on homework and will be asked to turn in *written homework with complete solutions* in lieu of submission on Webwork.

Written Homework Written homework assignments may be found [here](#). Homeworks are to be turned on due dates in the [Course Schedule](#). No late homework will be accepted.

Exams: Exams will be given in class. Students who request make-up exams should present documentation that the make-up exam is required by University rules. Students requiring accommodated testing should present a letter of documentation from the Disability Resource Center during the first week of classes.

Students may use a graphing calculator on exams but may not use any device with the ability to do symbolic computations such as the TI-89, TI-92, HP-48 or a laptop, netbook, tablet, etc. Any device capable of electronic communication such as a cell phone or a computer must be turned off and put away out of sight during examinations.

Grading

Your *midterm grade* will be posted by October 24 and is for your information only (it does not appear on your transcript). It will be computed as follows:

Exam 1	100 points	(40%)
Exam 2	100 points	(40%)
Homeworks 1-5	50 points	(20%)

Letter grades will be determined as follows:

A	225-250
B	200-224
C	175-199
D	150-174
E	0-149

Your *course grade* is based on:

3 In-Class Exams	300 points	(60%)
Final	100 points	(20%)
Homework and Attendance	100 points	(20%)
Total	500 points	

Letter grades will be determined as follows:

A	450-500
B	400-449
C	350-399
D	300-349
E	0-299

The "Homework and Attendance" part of your course grade is computed as follows:

14 weekly homeworks at 10 points each (rescaled to 0-50)	50 points
Lecture attendance (40 lectures)	5 points

Recitation Attendance	5 points
WebWork assignments	40 points
Total	100 points

Lecture attendance is based on sign-in sheets each day in lecture beginning with the September 3 lecture and continuing until the end-of-term.

Recitation attendance is based on sign-in sheets each day.

Excused absences will not be counted against the attendance grade. In each case, the 5 points will be assigned as follows:

No Unexcused Absence	5 points
1 Unexcused Absence	4 points
2 Unexcused Absences	3 points
3 Unexcused Absence	2 points
4 Unexcused Absences	1 point
5 or more Unexcused Absences	0 points

Excused Absences

University Senate Rule 5.2.4.2 defines the following acceptable reasons for an "excused absence" from class:

1. Serious illness (must be documented by doctor's excuse)
2. Illness or death of a family member
3. University-related trips (must be documented by a letter from sponsor)
4. Major religious holidays
5. Other circumstances that your instructor finds to be "reasonable cause for nonattendance"

Students should notify the instructor of an excused absence *prior* to the absence whenever possible and complete all work prior to the absence (unless for illness or for the illness or death of a family member).

Civility in the Classroom

I like to teach a highly interactive class with lots of student participation. For the class to function well, it must function in an atmosphere of mutual respect, consideration, and responsible conduct. Be attentive to the needs and rights of your fellow students, and spend your time in class totally focused on the material and the learning process.

Academic Integrity, Cheating, and Plagiarism

We encourage collaborative study and group work, but any work you submit for a grade should be your own work. This applies to exams, quizzes, and homework.

Academic dishonesty, including copying a classmate's work, allowing a classmate to copy your work, and modifying an exam after it has been handed in or handed back in order to deceive the instructor into believing that the assignment was graded incorrectly. A student found guilty of academic dishonesty will receive an automatic "E" on the assignment, and in some cases the offense could lead to an "E" for the course, academic probation, or expulsion.

Disability Accomodation

If you have a documented disability that requires accomodation, please see me as soon as possible during office hours. In order to receive accommodations in this course, you will need to provide a Letter of Accomodation from the [Disability Resource Center](#).

Interesting Links

- [Wolfram Alpha](#), a knowledge engine which does calculus problems. You can get a nice app for smartphones, which is why they have to be off during exams!
- [Kahn Academy Calculus](#) with high-quality, online tutorials
- [SpaceX](#), manufacturers of advanced rockets and spacecraft. Watch applied mathematics sizzle!
- [Careers in Mathematics](#)
- [Mathematical Moments](#) from the American Mathematical Society - see how Math is applied in science, technology, and culture
- [MacTutor History of Mathematics](#): Biographies of famous mathematicians such as [Leibniz](#) and [Newton](#), the co-inventors of Calculus
- Websites for Mathematicians Mentioned in Class:
 - [Miryam Mirzakhani, Stanford University \(2014 Fields Medallist\)](#)
 - [William Massey](#), Princeton University
 - [Ingrid Daubechies](#), Duke University
- [African-Americans in Mathematics](#)
- [Women in Mathematics](#)