MA 213: Calculus III, Sections 5, 6, 7, 8
Fall Semester 2014
Time: MWF 9:00-9:50 am
Location: Chemistry-Physics Bldg - Room CP 320

General information

Instructor:	David Murrugarra
Email:	murrugarra@uky.edu
Website:	http://www.math.uky.edu/~dmu228/MA213_fall14
Phone:	(859) 257-4734
Office:	771 Patterson Office Tower
Office hours:	(subject to change!) MW 4:00 - 5:00 pm and by appointment
Text:	*Calculus Early Transcendentals (Second Edition)*, by Jon Rogawski. ISBN-10: 1-4292-0839-4.
Note:	I will post course material on the course website and/or on Blackboard.

Recitations

All recitations meet TR. You must attend the correct recitation section. The locations and meeting times are,

- Section 5, TR 8:00 am-8:50 am , Whitehall Classroom Bldg-Rm CB 205.
- Section 6, TR 9:30 am-10:20 am, Whitehall Classroom Bldg-Rm CB 243.
- Section 7, TR 12:30 pm-1:20 pm, Chemistry-Physics Bldg-Rm CP 201.
- Section 8, TR 2:00 pm-2:50 pm, Chemistry-Physics Bldg-Rm CP 287.

Teaching Assistants

- Carolyn E Troha. Office: POT 902. Email: carolyn.troha@uky.edu. Sections 5 and 6.
- Andrew O Rast . Office: POT 706. Email: andrew.rast@uky.edu. Sections 7 and 8.

Course Description

Multivariable calculus: Geometry and Motion in Space, Differential Calculus of Several Variables, Integral Calculus of Several Variables, Vector Field Theory.

Topic Outline

Topic	Text Sections
Unit I: Geometry and Motion in Space: vectors, lines and planes in three dimensions, quadric surfaces, polar and cylindrical coordinates, vector-valued functions	12.1-12.7
Unit II: Differential Calculus of Several Variables: Curvature, motion in space, functions of several variables, limits and continuity, partial derivatives and their geometric meaning, the gradient, directional derivatives, chain rule, optimization in several variables.	13.1-13.5, 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	15.1-15.5
Unit IV: Vector Field Theory: Vector fields, line integrals, conservative vector fields, Green's theorem, divergence and curl.	16.1-16.3, 17.1-17.3

Grading Policy

Final grades will be determined by the following distribution:

Homework and Attendance	20%
Tests	60% (20% each)
Final exam	20%

Grading Scale

Final grades: In general, a 10 point scale is used.

a 90% will guarantee an A
an 80% will guarantee a B
a 70% will guarantee a C
and a 60% will guarantee a D
below 60% will guarantee an E

Tests

There will be thee tests during the term, each counting 20% of the final grade, i.e., altogether, these three tests will count for 60% of the final grade. Make-up exams will be given only for (1) official representation of the University, and (2) documented medical emergencies requiring hospitalization. Notice of being seen at the Student Health Center is not accepted as documentation. Unexcused absences will result in a zero score. **Test 1**, Monday, September 29. **Test 2**, Wednesday, October 22. **Test 3**, Monday, November 17.

Homework:

20% of the final grade will be determined by online and written homework and attendance. Students are strongly encouraged to collaborate with other students on homework problems but must write up their solutions independently.

- **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.

Final Exam

The final exam will be given on Wednesday, December 17 at 8:00 am. This exam will be cumulative and will count for 20% of the final grade.

Attendance

Attendance is required and class participation is encouraged. Any student who misses a class meeting is responsible for any assignments and/or announcements made. Office hours will not be utilized to re-teach material presented in class. However, questions to better understand the course are always welcome.

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

14 weekly homework 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:

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

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).

Laptops, cell phones, PDAs

All use of cell phones is prohibited during lectures. Cell phones, laptops, and PDAs will not be allowed during exams.

Student Support

There are two main sources for you to get help.

First and foremost are your fellow classmates. I encourage you to work together on your homework as well as studying and learning the material in groups. The second source is your instructor. The instructor holds regularly scheduled office hours, and students are strongly encouraged to drop by for help. Come sooner rather than later. Experience shows that some UK students are reluctant to ask for help as it something they never had to do in high school. Don't fall into this trap. The Mathematics Department wants every student to succeed and we will help you if you make the effort.

Additional Resources

In addition to the textbook, lectures, and office hours there are other resources available that might be of use for you during the course. There is the Mathskeller, CB 063, M–F, 9–5, `http://www.mathskeller.com`.

Academic integrity

You should feel free to study with friends, but any work you submit for a grade should be your own work. This applies to all exams, quizzes, and writing assignments, with the exception of any assignment that is specifically designated as a group assignment.

Academic dishonesty, in any form, will not be tolerated. This includes, but is not limited to, copying a classmate's work, allowing a classmate to copy your work, modifying an exam after it has been handed back in an attempt to deceive the instructor into believing 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 may lead to an E for the course, academic probation, or even expulsion. See sections 6.3.1 and 6.3.2 at www.uky.edu/StudentAffairs/Code/part2.html for more information regarding academic integrity.

Disability Accommodations

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 859 257 2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Classroom Behavior, Decorum, and Civility

I expect that you will not only attend class, but that you will participate in class. I expect that you will be respectful of yourself and others. Please turn off your cell phones when you enter class. Please do not work on other classes during class. Please do not surf the internet during class. Please do not read the newspaper during class, work on Sudoku, etc. during class. Please do not talk or whisper during lecture unless the instructor has given you the floor. In a classroom it is difficult for other students and the instructor to hear if there are several little conversations taking place at the same time.

The university, college and department has a commitment to respect the dignity of all and to value differences among members of our academic community. There exists the role of discussion and debate in academic discovery and the right of all to respectfully disagree from time-to-time. Students clearly have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/or other students

(S.R. 6.1.2). Equally, a faculty member has the right—and the responsibility—to ensure that all academic discourse occurs in a context characterized by respect and civility. Obviously, the accepted level of civility would not include attacks of a personal nature or statements denigrating another on the basis of race, sex, religion, sexual orientation, age, national/regional origin or other such irrelevant factors. Students who are not respectful, not civil, or disruptive in any way may be asked to leave the class.