MATH 2443: Calculus and Analytic Geometry IV
Spring 2013, The University of Oklahoma
Section 008, Tuesday and Thursday 9:00 – 10:15 AM, PHSC 212

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Prerequisites: MATH 2433 at OU.

Textbook: *Calculus (7th ed)*, by James Stewart, Brooks/Cole, 2012, ISBN-13: 978-0-538-49781-7. We will cover Chapters 14 – 16 in this course and basically following the text but the order might be different.

Grading: Homework and quizzes: 10%; each of the two midterms: 25%; final exam: 40%. Grading scale:

A: 90-100%; B: 78-89%; C: 64-77%; D: 50-63%; F: 0-49%.

There is no curving of grades whatsoever. Your course grade will be assigned strictly according to the above grading scale.

Attendance and make-up exams: Attendance is required. 1-hour advance notice with legitimate and documented reasons is needed for missed midterms. 24-hour advance notice with legitimate and documented reasons is needed for missed final exam. There is no make-up exam/homework assignment for poor performance. Signed letters from your parent, your college advisor and/or your doctor are the only acceptable forms for proof.

Polices on Calculators and Computer Programs/Websites: Not allowed during exams or quizzes. You may only use them for checking your answers on homework assignments after you are done.

Mathematica: You can download the mathematics software Mathematica for free from `https://itstore.ou.edu/Download`. You may find some Mathematica notebook files (.nb) under "Content" on D2L from time to time. They will be related to the course materials and should be helpful for you to visualize 3-dimensional objects. You are encouraged to use Mathematica outside of the class due to classroom equipment limitations.

Review Previous Materials: You should refresh your memory in pre-calculus and single-variable calculus by doing a handful of problems which seem challenging for you in the "Diagnostic Tests" on p. xxiv – xxviii and the "REVIEW" exercise after Chapters 1 through 13.

Policies on Homework and Quizzes: After each lecture, you are expected to 1) go over the material covered in the class in the textbook, read through all the examples and solutions; and 2) do the assigned problems and write the solutions neatly with blue or black-inked pens or pencils on lined letter-sized sheets for yourself to keep. You may discuss with others when you do your homework. Except for the first set of homework, no homework will be collected. However, there is a **weekly 20-minute quiz in class** in which the problems are from the assigned problem set. You will find the problem sets on D2L. You are expected to spend at least **6 hours** of concentrated study outside of class each week for this course. This does not include the time you spend on watching others (your classmates, friends, tutors, or graduate students from the Math Help Center, etc) to do your homework for you.

Mathematical Writing: Write all your "=", parentheses, and brackets wherever they should appear. For example $\sin(2x) \neq (\sin 2)x$ and $\sin 2 \, x$ can mean either expression. For angles, we will be using radians instead of degrees. $\pi = 180°$.

Exam Preparation Suggestions: Problem distribution can be found on D2L 7 - 10 days before the exam. Points might be deducted if handwriting is not legible or causes misunderstanding. No calculation mistake will be treated as "trivial" and thus will result in point reduction. Before each exam, you should go over all the homework assignments and also go over several exercises in the "Review" section at the end of the chapter.

Some important dates:

- Tuesday, January 15, 2013 – First day of class.

- Thursday, February 14, 2013 – First Midterm Exam.

- Spring break (no classes): March 18–22, 2013.

- Thursday, March 28, 2013 – Second Midterm Exam.

- Last day to withdraw with an automatic W: Friday, March 29, 2013 for undergraduate students and Friday, February 22, 2013 for graduate students.

- Last day to withdraw without petition to the Dean: Friday, March 29, 2013 (for graduate students a W/F grade is assigned for withdrawals processed during the period February 25–March 29).

- Last day of class: Thursday, May 2, 2013.

- Monday, May 6, 2013, 8:00-10:00 AM – Final exam.

Policy on W/I grades: You can withdraw with an automatic W up to Friday, March 29, 2013 without petition to the Dean. After that, you will need to file

your petition and I will select either W or F on the petition form according to your progress (mainly the combination of the results of the two midterm exams and quizzes.)

Academic misconduct: Do not even think about cheating during the exams and quizzes since the process weighs more than then final answer. Also, there will be several versions of the exams each time. I do make an effort to catch cheaters. So **DON'T DO IT!** All cases of suspected academic misconduct will be referred to the integrity office for prosecution under the University's Academic Misconduct Code. The penalties can be quite severe. For more details on the University's policies concerning academic misconduct see

`http://integrity.ou.edu/students_guide.html`

This link also has information about students' rights to appeal charges of academic misconduct.

Students are also bound by the provisions of the *OU Student Code*, which can be found at

`http://judicial.ou.edu/content/view/27/32/`

Students with disabilities: The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the instructor as early in the semester as possible. Students with disabilities must be registered with the Disability Resource Center prior to receiving accommodations in this course. The Disability Resource Center is located in Goddard Health Center, Suite 166: phone (405) 325–3852 or TDD (only) (405) 325–4173, email: drc@ou.edu.
For students who need to take the exam at the DRC, you should remind me to drop off a copy of the exam one day in advance.

Math 2443: Calculus and Analytic Geometry IV
Section 008, Spring 2013 Syllabus

Week	Dates	Topic	Sections
1	Jan 15, 17	Introduction and Review	
		Functions of Several Variables	14.1
2	Jan 22, 24	Limits and Continuity	14.2
		Partial Derivatives	14.3
		Tangent Planes and Linear Approximations	14.4
3	Jan 29, 31	Tangent Planes and Linear Approximations	14.4
		The Chain Rule	14.5
		Directional Derivatives and the Gradient Vector	14.6
4	Feb 5, 7	Maximum and Minimum Values	14.7
		Lagrange Multipliers	14.8
5	Feb 12	Review	
	Feb 14	First Midterm Exam	
6	Feb 19, 21	Double Integral over Rectangles	15.1
		Iterated Integrals	15.2
		Double Integrals over General Regions	15.3
7	Feb 26, 28	Double Integrals in Polar Coordinates	15.4
		Vector Fields	16.1
		Line Integrals	16.2
8	March 5, 7	The Fundamental Theorem of Line Integrals	16.3
		Green's Theorem	16.4
9	March 12, 14	Curl and Divergence	16.5
		Parametric Surfaces and Their Areas	16.6
		Surface Area	15.6
10	March 19-22	Spring Break	
11	March 26	Review	
	March 28	Second Midterm Exam	
12	April 2, 4	Surface Integrals	16.7
		Stokes' Theorem	16.8
13	April 9, 11	Stokes' Theorem	16.8
		Triple Integrals	15.7
14	April 16, 18	Triple Integrals in Cylindrical Coordinates	15.8
		Triple Integrals in Spherical Coordinates	15.9
		Change of Variables in Multiple Integrals	15.10
15	April 23, 25	Divergence Theorem	16.9
		Summary	16.10
16	April 30	Review	
	May 2	Fun math day	
17	May 6	Final Exam	