APPM 2350   Calculus III   Fall 2014

Lecture 110, ECCR 265
MWF 8:00–8:50 AM
Instr: Sergey Voronin
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Lecture 130, ECCR 265
MWF 10:00–10:50 AM
Instr: Christian Ketelsen
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Lecture 140, ECCR 200
MWF 11:00–11:50 AM
Instr: Christian Ketelsen
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Lecture 150, ECCR 265
MWF 12:00–12:50 AM
Instr: Adam Norris
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Lecture 549R, ANDS E100
MWF 2:00–2:50 PM
Instr: Adam Norris
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Course Objective: This course extends the ideas of single–variable calculus (eg. differentiation, integration, optimization) to functions of several variables. Topics include vectors and vector operations, curves in space, multi–variable functions, partial differentiation, multiple integrals, line integrals, Stokes's Theorem and Gauss's Theorem. These concepts form the mathematical basis for many areas in the Sciences and Engineering.

Text: Chapters 10–13 of *Essential Calculus* 2nd edition, by James Stewart.

Recitations: Recitations meet for 1 hour on Thursdays. The purpose of the recitation is partly to help you with the homework. More importantly, the recitation is intended to further clarify the Calculus III concepts.

Homework: There are two types of homework problems in this course. On-line problems associated with each lecture will be due prior to the next lecture. Hand written problems will be due, each Friday at 4 PM, under your TA's office door. Late homework will **not** be accepted or graded. Graded work will be returned during the next recitation, and the solutions will be posted on the course web page.

Exams: There are three midterm exams and a comprehensive final. The midterms are on Wednesdays (Sep 24, Oct 22, and Nov 19) from 7:00–8:30 PM. The final exam is Wed, Dec 17, from 7:30 AM – 10:00 AM. There will be **no** make–up exams or early exams. If you are sick during a midterm, please bring a note from your doctor verifying your illness. Your course grade will then be determined by the rest of your course work. Please bring your CU ID to each exam. Electronic devices are not allowed during the exams. If you have questions about exam grading, within one week of the exam submit to your instructor a detailed written explanation addressing the specific grading errors. A penalty will be assessed for frivolous or nebulous exam re-grade requests.

Computer projects: To give you experience solving larger, more difficult problems involving multiple concepts, there will be three computer-based projects assigned during the semester. Suggested software is Mathematica, although MatLab and Maple may be used. Further details about the projects will be posted on the course web page. These projects are required of all students registered in APPM 2350.

APPM 2450: This is an optional, 1 credit Pass/Fail lab–based course in which one can learn more about Mathematica. This software is useful for visualizing functions and solving multi–variable problems. Students wanting additional help on their 2350 projects are also encouraged to sign up for this lab.

Grade determination: There is a total of 800 points for the course. The points are distributed over homework (100 points), recitation assignments (50 points), three projects (50 points each), three midterm exams (100 points each), and a cumulative final exam (200 points). You must earn a C- or better on your exams to earn a grade of C- or better in the course. After the final exam, if your exam scores average to something less than a C-, it is not possible to earn a C- or better in the class.

Dropping the course: Advice from the Dean's office and your department advisor is recommended before dropping any course. After Oct 31, dropping the course is possible only with a petition approved by the Dean's office.

Course web page and D2L: (*http://amath.colorado.edu/course-pages*) It is your responsibility to check the course web page and D2L, on a regular basis, where you will find detailed information about homework assignments and solutions, past exams, tutoring options, pre–exam review sessions, exam rooms and times, and office hours. In addition, these sites contain policies on illness, academic honesty, and special accommodations for religious holidays and documented special needs.

Blue books: Each student is required to purchase **five** 8.5×11 blue books and give them to the TA by the second recitation (Sep 4). These will be used for the exams, so please do not write anything on the front of the books.

Academic Honesty: Students are encouraged to work in groups, however **all work turned in must be your own, and you are responsible and accountable for all group work associated with your name.** Violation of the CU Student Honor Code (*http://honorcode.colorado.edu*) or the College of Engineering's Academic Honesty Advising Guidelines (*http://www.colorado.edu/engineering/academics/policies/honesty*) will result in a final grade of F in this course.

APPM 2350			Semester Schedule	Fall 2014
Week	Date	Sections	Homework problems & solutions	Projects
1	Aug 25	10.1 & 10.2	TBA	
	Aug 27	Cont.		
	Aug 29	10.3		
2	Sep 1	No Class	Labor Day	
	Sep 3	10.4		
	Sep 5	10.5		
3	Sep 8	10.6		
	Sep 10	10.7		
	Sep 12	10.8		
4	Sep 15	10.9		
	Sep 17	11.1		Proj 1 due $\approx$ Sep 18
	Sep 19	11.2		
5	Sep 22	11.3		
	Sep 24	Review	**Exam 1** (Sec 10.1–10.9)	
	Sep 26	Cont.		
6	Sep 29	11.4		
	Oct 1	11.5		
	Oct 3	11.6		
7	Oct 6	Cont.		
	Oct 8	11.7		
	Oct 10	11.8		
8	Oct 13	Taylor Series*		
	Oct 15	12.1 & 12.2		Proj 2 due $\approx$ Oct 16
	Oct 17	12.3		
9	Oct 20	12.4		
	Oct 22	Review	**Exam 2** (Sec 11.1–Taylor)	
	Oct 24	12.5		
10	Oct 27	Cont.		
	Oct 29	Cyl. & Sph.*		
	Oct 31	12.6		
11	Nov 3	12.7		
	Nov 5	12.8		
	Nov 7	13.1 & 13.2		
12	Nov 10	Cont.		
	Nov 12	13.3		Proj 3 due $\approx$ Nov 13
	Nov 14	13.4 & 13.5		
13	Nov 17	Cont.		
	Nov 19	Review	**Exam 3** (Sec 12.1–13.2)	
	Nov 21	13.7*		
14	Nov 24–28	No class	Fall Break and Thanksgiving	
15	Dec 1	Cont.		
	Dec 3	13.8		
	Dec 5	Cont.		
16	Dec 8	13.9		
	Dec 10	Cont.		
	Dec 12	Review		
17	Dec 17	Wednesday	**Final**, 7:30–10:00 AM	

* Supplemental material. This material is either not covered in the textbook, or is not covered all in one place in the textbook.

Unless otherwise stated on the assignment or the web page, all written homework from week n is due at 4 PM under your TA's office door on the Friday of week $(n + 1)$.