King Fahd University of Petroleum and Minerals Department of Mathematics & Statistics

Math 102 – Syllabus Revised 2012-2013 (122)

Coordinator: Dr. A. Shawky Ibrahim

Assistant Coordinators: Dr. B. Al-Humaidi and Dr. S. Belhaiza Online Homework Coordinator: Dr. R. Alassar

Title: Calculus II

Credit: 4-0-4

Textbook: Thomas Calculus (Early Transcendentals) by G. Thomas, M. Weir and J. Hass.

12th edition, Pearson (2010).

Description: Definite and indefinite integrals of functions of a single variable. Fundamental

Theorem of Calculus. Techniques of integration. Applications of the definite integral to area, volume, arc length and surface of revolution. Improper integrals. Sequences and series: convergence tests, integral, comparison, ratio and root tests. Alternating series. Absolute and conditional convergence. Power series. Taylor and Maclaurin

series.

Grading Policy:

1. Exam I A common multiple choice exam	Material: [5.3-6.3]	Place:Building 54	25% (100 points)	
	Date: Wednesday, Feb 27, 2013	Time: 06:00-08:00 PM	(100 points)	
2. Exam II A common written exam	Material: [7.1-8.4]	Place:Building 54	25% (100 points)	
	Date: Sunday, April 07, 2013	Time: 06:30-08:30 PM	(100 points)	
3. Final Exam A comprehensive common multiple choice exam	Material: (Comprehensive)	Place:Building 54	35% (140 points)	
	Date: Tuesday, May 21, 2013	Time: 12:30-3:30 PM	(140 points)	
4. Class Work	i) Online Homework: The web address for online homework is kfupm.mylabsplus.com		5% (20 points)	
	ii) Class Activities:It is based on quizzes, class tests, or other class activities determined by the instructor. Any quiz or test under class activity should be of written type and not of multiple choice type. The average x (out of 40) of class activities of the sections taught by the same instructor should bean integer in the interval [24, 30].		10% (40 points)	

Exam Ouestions:

The questions of the common exams are based on the examples, homework problems, recitation problems and the exercises of the textbook.

Missing Exam I or Exam II:

No makeup exam will be given under any circumstance. When a student misses Exam I or Exam II for a legitimate reason (such as medical emergencies), his grade for this exam will be determined based on the existing formula which depends on his performance in the non-missing exam and in the final exam.

Attendance:

Attendance is a University Requirement. A DN grade will be awarded to any student who accumulates 12 unexcused absences (lecture and recitation).

Academic Integrity: All KFUPM policies regarding ethics apply to this course.



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Pacing Schedule

Week	Dates (/2013)	Sec.	Topics		
1	January 26 20	5.3	The Definite Integral		
	January 26-30	5.4	The Fundamental Theorem of Calculus		
2	F.1 02.06	5.5	Indefinite Integrals and the Substitution Method		
	February 02-06	5.6	Substitution and Area Between Curves		
3	February 09-13	5.6	(Continued) Substitution and Area Between Curves		
		6.1	Volumes Using Cross-Sections		
4	February 16-20	6.2	Volumes Using Cylindrical Shells		
	February 16-20	6.3	Arc Length		
5		6.4	Areas of Surfaces of Revolution		
	February 23-27	7.1	The Logarithm Defined as an Integral		
		Exam I	Wednesday, Feb 27, 2013 [06:00-08:00 PM]		
			Building 54; Material [5.3-6.3]		
6	March 02-06	7.3	Hyperbolic Functions		
	Water 02-00	7.5			
7 March (March 00 12	8.1	Integration by Parts		
	Maich 09-13	8.2	Trigonometric Integrals		
8 March 16-20	March 16-20	8.3	Trigonometric Substitutions		
0	March 10-20	8.4	Integration of Rational Functions by Partial Fraction		
March 21-29 (Midterm Vacation)					
		8.4	(Continued) Integration of Rational Functions by		
9 N	Mar 30-Apr 03		Partial Fraction		
		8.7	Improper Integrals		
10		Exam II	Sunday, April 07, 2013 [06:30-08:30 PM]		
10	A 0 C 10		Building 54; Material [6.4-8.4]		
	Apr 06-10	10.1	Sequences		
			•		
1.1	11 12 15	10.2	Infinite Series		
11	Apr 13-17	10.3	The integral Test		
12 Ap	. 20.24	10.4	Comparison Tests		
	Apr 20-24	10.5	The Ratio and Root Tests		
13		10.6	Alternating Series, Absolute and Conditional		
	Apr-27-May 01		Convergence		
		10.7	Power Series		
14	Mar. 04.00	10.8	Taylor and Maclaurin Series		
	May 04-08	10.9*	Convergence of Taylor Series		
15		10.10**	The Binomial Series and Applications of Taylor		
	May 11-15		Series		
		Catch up / Revision			
	Final Exam Tuesday May 21, 2013 [12:30-3:30 PM]				
	Building 54, Material: Comprehensive				

^{*} Theorem 24 and Examples 2 & 3 are not included

^{**}Students are required to know the series listed in Table 10.1, P. 620

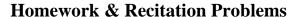
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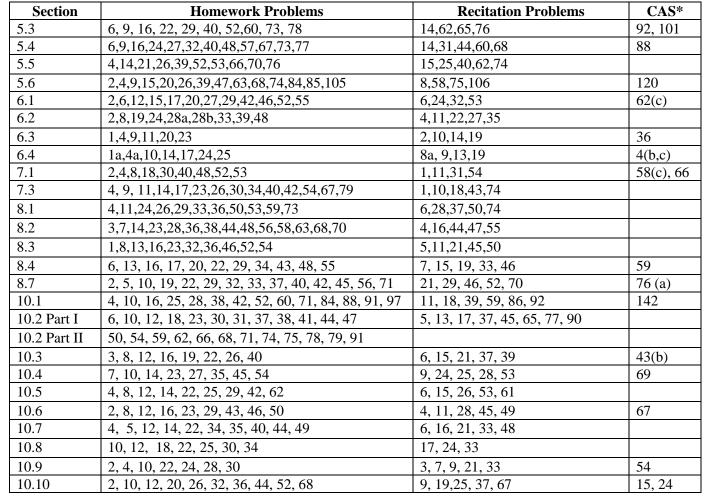
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^{*} CAS problems require the use of a technology tool (e.g., graphing calculators or a computer). You are encouraged to do these problems in order to enhance your understanding of the concepts involved.

Tips on how to enhance your problem-solving abilities:

- 1. Please do all the homework assignments on time.
- 2. You are urged to practice (but not memorize) more problems than the above lists.
- 3. You should always try to solve a problem on your own before reading the solution or asking for help.
- 4. If you find it difficult to handle a certain type of problems, you should try more problems of that type.
- 5. You should try the recitation problems before coming to class.
- 6. You are encouraged to solve some of the review problems at the end of each chapter.
- 7. The practice you get doing homework and reviewing the class lectures and recitations will make exam problems easier to tackle.
- 8. Try to make good use of the office hours of your instructor.

