Univerisity of Hail
Department of Mathematics & Statistics

Math 101 – Syllabus

2007-2008 (071)
Coordinator:

Title: Calculus I
Credit: 4-0-4
Textbook: Calculus (Early Transcendentals), by J. Stewart, 5th edition, Thomson, 2003

Objectives: To introduce the student to basic concepts and methods of Calculus. Topics include: Limits and continuity of functions of a single variable. Differentiability. Exponential, Logarithmic, Hyperbolic, trigonometric and inverse trigonometric functions. Applications: Related rates, Local linear approximation, Differentials, Curve sketching and Applied optimization problems.

Grading Policy

1. Exam I: 25% (100 points), a **common written exam**. It will be on **Tuesday, Nov. 6, 2007.**
2. Exam II: 25% (100 points), a **common multiple choice exam**.. It will be on **Wednesday, Dec. 5, 2007**.
3. Class Work: 15% (60 points). It is based on quizzes (around 5 quizzes), homework, 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.
4. Final Exam: 35% (140 points), a **comprehensive common multiple choice exam.**

Class Work Average. The section average (X) of the Class Work out of 60 should satisfy

$$X \in [36,45].$$

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

Missing an Exam: 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 his average performance. Further, the student must provide an official excuse within one week of the missed exam.

Attendance: 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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Coordinator: Dr. Mohammad Z. Abu-Sbeih

Week	Date	Sec.	Topics
1	Sep. 8-12, 2007	2.1 2.2	The Tangent Problem: **Example1**. The Limit of a Function
2	Sep. 15-19	2.3 2.4	Calculating Limits Using the Limit Laws The Precise Definition of a Limit: Examples 1,2, and 3
3	Sep. 22-26	2.5 2.6	Continuity Limits at Infinity; Horizontal Asymptotes
Sunday, Sep. 23, 2007: National Holiday			
4	Sep. 29- Oct. 3	2.7 2.8	Tangents, Velocities, and Other Rates of Change Derivatives
Eid Al-Fitr Break: Oct. 4- Oct. 19, 2007			
5	Oct. 20-25*	2.9 3.1	The Derivative as a Function Derivatives of Polynomials and Exponential Functions
6	Oct. 27-31	3.2 3.3	The Product and Quotient Rules Rate of Change in Physics: **Example 1**.
7	Nov. 3-7	3.4 3.5	Derivatives of Trigonometric Functions The Chain Rule
Tuesday, Nov. 6, 2007: Exam I (25%): 2.1-3.2 (A Written Exam)			
8	Nov. 10-14	3.6 3.7	Implicit Differentiation Higher Derivatives
9	Nov. 17-21	3.8 3.9	Derivatives of Logarithmic Functions Hyperbolic Functions
10	Nov. 24-28	3.9 3.10	Hyperbolic Functions Related Rates
11	Dec.1-5	3.10 3.11	Related Rates Linear Approximations and Differentials
Wednesday, Dec. 5, 2007: Exam II (25%): 3.3-3.10 (A Multiple Choice Exam)			
12	Dec. 8-12	4.1 4.2	Maximum and Minimum Values The Mean Value Theorem
Eid Al-Adha Break: Dec. 13-Dec. 28, 2007			
13	Dec. 29- Jan. 2	4.3 4.4	How Derivatives Affect the Shape of a Graph Indeterminate Forms and L'Hospital's Rule
14	Jan 5-9, 2008	4.5 4.7	Summary of Curve Sketching Optimization Problems
15	Jan 12-16	4.9 4.10	Newton's Method Antiderivatives
Final Exam: A Comprehensive Multiple Choice Exam, Date is to be announced			

*: Thursday, October 25, 2007 is a Normal Class.

University of Hail
Department of Mathematical Sciences

Math 101 (071)
Homework and Recitation Problems

Section	Homework	Recitation	CAS*
2.2	6,7,9,14,17,27,30,34,35,38	4,13,28,32	-
2.3	2,7,15,18,19,21,26,29,37,41,42,49,56,58	10,14,22,38,50	-
2.4	3,5,15,20,24	4,6,21	-
2.5	3,7,11,12,15,16,19,29,34,39,42,51,52,59,60	10,18,24,43,46,54	30
2.6	1,3,5,8,12,19,24,26,29,34,37,42,47,49	4,18,,22,46,49,53	-
2.7	2,6,8,15,18,19,20,24	10,12,25	-
2.8	3,4,8,10,15,18,19,22,24,26,30,35	1,6,17,21,28	-
2.9	2,4,8,10,13,16,20,22,27,45	3,11,18,30,33,43	-
3.1	1(b),23,30,36,40,41,46,47,50,56	33,42,45,52,55	-
3.2	5,9,10,15,17,18,21,26,32,36,37	31,35,38	-
3.4	3,10,15,18,24,25,28,30,33,41,45	7,23,26,42	-
3.5	3,9,11,18,27,31,39,40,46,49,52,55(a),58,63(a)	14,42,45,54,63(d)	74
3.6	1,11,14,19,20,22,24,25,42,46,55,56	10,15,21,28,59	-
3.7	2,8,15,26,32,33,36,40,44,54,60	3,31,37,38,47,61	-
3.8	3,4,6,8,17,22,25,30,31,37,41,48,50	12,19,24,28,32,46,49	-
3.9	3,4,14,17,20,23,29(d),34,37,43,51,53	6,19,29(b),46,49,52	-
3.10	4,5,8,9,12,18,21,25,37,38	1,6,11,15,33	-
3.11	6,8,17,26,28,35,38,43,45,49	7,36,42,50	40
4.1	4,8,10,25,30,42,44,50,58,69	14,38,40,70	-
4.2	4,6,12,14,18,24,26,28	2,5,16,20,27,29	-
4.3	1,6,8,16,18,20,44,46,74	36,50,64	58
4.4	2,4,14,22,24,19,48,58,68	13,21,30,42,50	-
4.5	19,26,30,34,37,47,50,52,64,69	22,36,65,68	-
4.7	6,10,12,27,33,35,44,52,55,56	22,46,57,61(a)	-
4.9	5,11,35(a)	7,12,31	-
4.10	14,38,42,46,48	40,45,49,62	-

* CAS problems require the use of a technology tool (e.g., graphing calculators or computers). 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.