

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
Department of Mathematical
SYLLABUS (101) (Semester II, 2004-2005)

Instructor: Dr. Suliman Al-Homidan **Office:** 5-427
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Course homepage: http://faculty.kfupm.edu.sa/MATH/homidan/Cos_101_042.htm
Title: Calculus I **Course #:** Math 101
Prerequisite: Math 002
Textbook: Calculus, Early Transcendentals by Anton, Bivens and Davis seventh edition (2002).

Weeks	Dates	Secs.	Topics
1	Feb 12-16	2.1 2.2	Limits (An Intuitive Approach) Computing Limits
2	Feb 19-23	2.3 2.4	Computing Limits (End Behavior) Limits (Discussed More Rigorously)
3	Feb 26-Mar 02	2.5 2.6	Continuity Limits and Continuity of Trigonometric Functions
4	Mar 05-09	3.1 3.2	Slopes and Rates of Change The Derivative
5	Mar 12-16	3.3 3.4	Techniques of Differentiation Derivatives of Trigonometric Functions
Major Exam I: Monday, March 14, 2005. 6-8 p.m. Room 5-203			
6	Mar 19-23	3.5 3.6	The Chain Rule Implicit Differentiation
7	Mar 26-30	3.7 3.8	Related Rates Local Linear Approximation; Differentials
8	Apr 02-06	4.1 4.2	Inverse Functions Exponential and Logarithmic Functions
Midterm Break			
9	Apr 16-20	4.3 4.4	Derivatives of Logarithmic and Exponential Functions Inverse Trigonometric Functions and Their Derivatives
10	Apr 23-27	4.5	L'Hopital's Rule; Indeterminate Forms
Major Exam II: Monday, April 25, 2005. 6-8 p.m. Room 5-203			
11	Apr 30-May 04	5.1 5.2	Analysis of Functions I: Increase, Decrease and Concavity Analysis of Functions II: Relative Extrema; First and Second Derivative Tests
12	May 07-11	5.3	Analysis of Functions III: Applying Technology and the Tools of Calculus
13	May 14-18	5.4 5.5	Rectilinear Motion (Motion Along a Line) Absolute Maxima and Minima
14	May 21-25	5.6	Applied Maximum and Minimum Problems
15	May 28-June 01	5.7 5.8	Newton's Method Rolle's Theorem; Mean-Value Theorem

Grading Policy: First Major 20 points, Second Major 20 points, Homework 5 points, Quizzes and Matlab quiz 20 points, Final 35 points.

King Fahd University of Petroleum and Minerals
 Department of Mathematical Sciences
 Math 101 – Semester II, 2004-2005 (042)
 (Dr. A. Lyaghfour)

Homework and Recitation Problems and CAS Assignments

Secs.	Homework Problems	Recitation Problems
2.1	2, 8, 14, 16, 28	5, 10, 13, 18, 31
2.2	4, 14, 34, 36, 40	2, 8, 10, 18, 33
2.3	8, 16, 24, 30, 34	4, 14, 18, 32, 38
2.4	16, 26, 30, 36, 50	14, 29, 32, 52, 70
2.5	20, 22, 24, 30, 44	24, 25, 29, 34, 42
2.6	20, 28, 40, 42, 46	14, 18, 31, 41, 44
3.1	2, 10, 14, 16, 20	8, 13, 17, 18, 21
3.2	4, 14, 26, 42, 48	3, 13, 41, 43, 49
3.3	14, 28, 40, 60, 76	25, 43, 59, 66, 79
3.4	10, 18, 22, 28, 38	6, 17, 25, 29, 37
3.5	24, 46, 56, 68, 74	10, 26, 50, 54, 67
3.6	18, 28, 36, 40, 50	22, 27, 41, 48, 49
3.7	14, 24, 26, 34, 42	7, 10, 25, 37, 40
3.8	18, 28, 32, 48, 54	18, 24, 42, 46, 50
4.1	24, 34, 38, 48, 50	12, 18, 35, 39, 46
4.2	12, 24, 32, 36, 58	11, 21, 22, 34, 57
4.3	16, 38, 46, 50, 58	18, 34, 45, 49, 57
4.4	18, 24, 30, 40, 44	16, 26, 32, 41, 43
4.5	16, 38, 40, 50, 54	18, 28, 36, 52, 59
5.1	16, 18, 22, 24, 36	17, 21, 23, 26, 35
5.2	12, 20, 24, 32, 38	11, 19, 23, 37, 53
5.3	34, 48, 56, 62, 70	26, 31, 45, 57, 71
5.4	12, 18, 24, 30, 38	11, 20, 23, 27, 37
5.5	14, 34, 40, 44, 50	13, 22, 37, 38, 41
5.6	20, 28, 38, 50, 56	17, 27, 35, 49, 55
5.7	2, 8, 12, 22, 28	3, 8, 11, 21, 27
5.8	16, 28, 36, 40, 44	14, 20, 26, 39, 45

- Homework and recitation problems may be extended or adjusted by the instructor as appropriate. CAS assignments are at the discretion of the instructor. In any case, the students are strongly urged to solve much more problems than indicated here.