King Fahd University of Petroleum and Minerals
Department of Mathematical Sciences
SYLLSBUS
(Semester III 2000-2001) (003)
(A. Al-Shakhs)

Course # :   MATH 101
Course Title :   Calculus I
Textbook :   Calculus , A New Horizon ; by Howard Anton ,sixth edition (1999)
Objectives :   This course is the first course in sequence of three course. The main objective of this
course is to introduce the student to the basic concepts and methods in calculus. Topics
covered include: limits and continuity, differentiability, the mean value theorem and
applications, definite integrals and the fundamental theorem of calculus.

Wk #	Date	Sec. #	Material	Homework
1	Jun 24 - 27	2.1	Limits(An Intuitive Introduction)	2,6,8,10,12,14,16,24,26
		2.2	Limits(Computational Techniques)	2,4,6,12,16,20,24,28,38,40,50,56,60
2	Jun 30 - July 4	2.3	Limits (Discussed Rigorously)	2,4,8,10,16,20
		2.4	Continuity	1,4,6,14,22,23,26,28,32,40
		2.5	Limits and Continuity of Trigonometric Fun.	4,8,9,14,22,26,30,31,36,40,44
		3.1	Tangent Lines and Rates of change	2,4,6,8,10,14,18
July 2 Last day of dropping courses without permanent record .				
3	Jul 7 –11	3.2	The Derivative	4,6,8,12,13,16,26,28,44,46
		3.3	Techniques of Differentiation	12,14,18,22,24,28,36,44,48,59,78
		3.4	Derivative of Trigonometric Functions	4,6,8,10,12,18,22,36
		3.5	The Chine Rule	4,6,14,18,22,30,38,42,66,70
4	Jul 14 – 18	3.6	Local Linear Approximation; Differentials	4,8,12,14,20,26,32,36,44,54
		4.3	Implicit Differentiation	14,16,20,24,30,38,41,46
		4.6	Related Rates	8,10,16,20,22,25,36
		5.1	Increasing, Decreasing, & Concavity	4,6,13,16,20,32,34
July 16 is the Last day of dropping courses with W				
5	July 21 - 25	5.2	Relative Extrema; First & Second Derivative	6,8,10,12,16,18,20,28,34
		5.3	Applying Technology & Tools of Calculus	6,18,20,27,36,58
		6.1	Absolute Maxima & Minima	8,10,12,16,20,22,26,30,35,36,39
		6.2	Applied Maximum & Minimum Problems	6,10,20,26,28,52,56
July 25 Last day of dropping the term with W				
6	July 28 – Aug 1	6.3	Rectilinear Motion	6,10,14,18,27
		6.4	Newton's Method	2,6,22
		6.5	Roll's Theorem; Mean-Value Theorem	4,8,12,15,19,31,36
		7.1	An Overview of the Area Problem	2,4,6
		7.2	The Indefinite Integral; Integral Curves	2,4,8,12,24,29,42,44,50
7	Aug 4 – Aug 8	7.3	Integration by Substitution	4(a,b),14,18,24,26,34
		7.4	Sigma Notion	2(a,b,d),8,10,14(a,d),22,24,28,42,44
		7.5	The Definite Integral	4,18,22,24,26,28,30,32,34,36,42
		7.6	The Fundamental Theorem of Calculus	4,18,22,28(a),36,39,41,44,50,56
Aug 8 is the last day of withdrawal from all courses with WP / WF				
8	Aug 11 - 13	7.7	Rectilinear Motion Revisited; Average Value	8,10,17,18,22,50,52,56
		7.8	Evaluating Definite Integrals by Substitution	4,8,14,22,28,30,32,42,44,50,51,53
		9.7	Numerical Integration; Simpson's Rule	2,8,14,26
			Review	

First Major Test will be on Tuesday July 10 ****   Second Major Test will be on Tuesday 31**
KFUPM Policy with respect to absences will be enforced