

**King Fahd University of Petroleum and Minerals**  
 University Diploma Programs  
 Syllabus of MATH 011 (042)  
 (Mr. Bassam Al-Absi)

Course : Math 011

Title : Applied Calculus

Textbook : *Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences*, by Ernest F. Haeussler, Jr. & Richard S. Paul, 9<sup>th</sup> ed. (1999).

Week	Date	Section	Topics	Homework( The minimum effort)
1	Feb. 12-16	11.1 11.2	Limits Limits(continued)	18,30,33,40,43 27,29,30,32,41,52,58,61
2	Feb. 19-23	11.4 12.1	Continuity The Derivative	5,15,24,36,37 14,17,26,27
3	Feb. 26-Mar. 02	12.2 12.3 12.4	Rules for Differentiation The Derivative as a Rate of Change Differentiability and Continuity	24,34,40,68,74,82,87,89 8,9,12,19,24,27,40 No
4	Mar 05-09	12.5 12.6	Product and Quotient Rules The Chain Rule and Power Rule	10,16,20,28,43,52,71 2,8,18,31,46,56,61,69,73
5	Mar 12-16		<b>First Major Exam, March 12 (15 %)</b>	
		13.1 13.2 13.3	Derivatives of Logarithmic Functions Derivatives of Exponential Functions Implicit Differentiation	10,18,20,26,30,32,37,50 5,16,26,30,36,38 5,8,18,24,26
6	Mar 19-23	13.4 13.5 14.1	Logarithmic Differentiation Higher Order Derivatives Relative Extrema	1,8,12,19,26 2,9,14,20,30,34,37 2,18,30,46,48,60
7	Mar 26-30	14.2 14.3	Absolute Extrema on a Closed Interval Concavity	2,10,12 14,24,30,33,40,46,64
8	April 02-06	14.4 14.5 15.1	The Second-Derivative Test Asymptotes Applied Maxima and Minima	4,8,12 14,22,23,31,38,46,48 2,4,5,14,22,26
			<b>Second Major Exam, April 05 (15 %)</b>	
<b>Midterm Break ( April 07-15 )</b>				
9	April 16-20	15.2 16.1	Differentials The Indefinite Integral	12,18,22,28,38 10,20,30,39,42,45,48,50,52
10	April 23-27	16.2 16.3	Integration with Initial Conditions More Integration Formulas	2,4,5,12,14 2,10,13,16,26,37,42,58,64,68,84
11	April 30-May 04	16.4 16.7 16.8	Techniques of Integration The Fundamental Theorem of Integral Calculus Area	4,10,20,24,30,33,42,48,52,56,60,64 8,16,25,29,32,36,39,44,48,49,60 10,14,16,22,27,32,35
12	May 07-11	16.9 17.1	Area between Curves Integration by Parts	1,4,5,15,20,26,30,32 4,8,12,18,24,28,32
13	May 14-18	17.3 <b>Hand-out</b> 19.1	<b>Third Major Exam, May 14 (15 %)</b> Integration by Tables Derivatives and Integrals of Trig. Functions Functions of Several Variables	17,23,32,35,43,51,54 4,6,12
14	May 21-25	19.2 19.5	Partial Derivatives Higher Order Partial Derivatives	2,6,14,15,18,20,28,29,34 4,7,10,14,20,21
15	May 28-Jun 01	19.7	Maxima and Minima for Functions of Two variables <b>*Final Exam ( MCQ, COMPREHENSIVE &amp; 40 % )</b>	2,4,8,15,19,20,22,29

**\* date and location are to be arranged by the registrar's office.**

**Course Regulations:**

1. KFUPM Policy with respect to attendance will be enforced (6 %)
 

**Warning I:** 4 absences/lates (3 %), **Warning II:(0 %):** 8 absences/lates, **DN:** 12 absences)
2. Each H.W. is due every Monday in class (9 %). **20 % will be deducted from the grade of each one day late**
3. Students are expected to be responsible about all the problems that are given by the assigned textbook and the instructor.