

**King Fahd University of Petroleum and Minerals**  
**Department of Mathematics and Statistics**  
**Dr. Mohammad Z. Abu-Sbeih**  
**Semester II, 2007/2008 ( 071 )**  
**Math 132: Applied Calculus (3 – 0 – 3)**

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**Course Title:** Applied Calculus  
**Course Number:** Math 132  
**Textbooks:** Introductory Mathematical Analysis for Business, Economics, and the Life and Social Services by Ernest F. Haeussler, Jr. & Richard S. Paul, 11<sup>th</sup> ed. (2005).  
**Prerequisite:** Prep-Year Mathematics or Equivalent.  
**Objectives:** This course is intended to introduce students to the basic concepts of calculus and their applications, especially problems related to differentiation and integration.  
**Instructor:** Dr. Mohammad Z. Abu-Sbeih.  
**Office Location:** Building 5 - Room 309.  
**Phone Number:** 2697.  
**e-mail:** [abusbeih@kfupm.edu.sa](mailto:abusbeih@kfupm.edu.sa)  
**Web Home page:** <http://www.kfupm.edu.sa/math/People/abusbeih.htm>  
**Office Hours:** 12:15 -- 1:00 p.m. [Saturday, Monday, Wednesday]  
Or by appointment.

<b>Grades:</b>	(1) 2 Major Exams (20 points each)	40%
	(2) 4 Quizzes & Homework	20%
	(3) <u>Comprehensive Final (<b>MULTIPLE CHOICE</b>)</u>	40%
	Total:	100%

**Attendance:** The university regulations on attendance say: students are expected to attend all classes. However, valid excuses are accepted for eligible reasons.

1. The only acceptable excuse for absence is the one authorized by the Deanship of Student Affairs on their prescribed form.
2. The excuse should be presented to the instructor no later than one week following the resumption of class attendance.
3. **If the unexcused absences reach 7 classes, the student will get a “WF” grade.**
4. Coming late to the class is not acceptable. However it will be counted as  $\frac{1}{2}$  absence.

**Academic Honesty:** The principles of truth and honesty are fundamental in the academic work. Any type of academic dishonesty will not be forgiven.

1. If a student copy the homework from a friend, he will get ZERO on all homework's of the course.
2. A cheating in a quiz will result in a ZERO grade on all quizzes.
3. If a student cheats in a major Exam or a final, he may get an “F” in the course and he will be reported to the Dean of the College for further disciplinary action.
4. Any attempt of cheating is considered as an act of academic dishonesty.

**Homework:** The students are expected to do the assigned homework problems by themselves because it is an integral part of the teaching process. It teaches the students on how to write and communicate thoughts and ideas. That is why the homework should be written in a clear and detailed manner as if you are writing to explain the problem to a friend not to the instructor. **LATE HOMEWORK WILL NOT BE ACCEPTED.**

**IMPORTANT NOTE:** It is the student's responsibility to keep informed of any announcements, syllabus adjustments or policy changes made during scheduled classes.

# King Fahd University of Petroleum and Minerals

Department of Mathematics and Statistics

Syllabus of **Math 132 (071)**

By Esam Alsawi

Week	Date	Section	Material	Homework	Notes
1	8/09 – 12/09	10.1	Limits	17,18,33,40,43	Deadline for late registration and addin courses (11/09)
		10.2	Limits (cont'd)	2,15,36,42,52,57	
		10.4	Continuity	5,11,24,32,37	
2	15/09 – 19/09	11.1	The Derivative	13, 14,17,26,27	Deadline for dropping courses without permanen record (18/09)
		11.2	Rules for Differentiation	22,34,61,73,78,85	
		11.3	The Derivative as a Rate of Change	8,12,16,20,27,39,41	
3	22/09 – 26/09	11.4	Differentiability and Continuity		
		11.5	Product and Quotient Rules	10,16,37,50,61,66	
4	29/09 – 3/10	11.6	The Chain Rule and the Power Rule	8,18,44,46,62,69,72	
		12.1	Derivatives of Logarithmic Functions	18,20,26,32,50	
		12.2	Derivatives of Exponential Functions	16,26,30,38,39	
<b>Id al-Fitr Vacation</b>					
5	20/10 – 25/10	12.4	Implicit Differentiation	10,18,24,26,34	25/10 Normal Classes
		12.5	Logarithmic Differentiation	8,12,19,21,26	
		12.7	Higher Order Derivatives	2,14,30,34,37	
<b>Major Exam I: 30.10.2007, 7:00 PM – 9:00 PM</b>				Exam Material : Ch10, Ch11, & Ch12.	
6	27/10 – 31/10	13.1	Relative Extrema	18,30,46,48,60	Midterm grade report (30/10)
		13.2	Absolute Extrema on a Closed Interval	2,10,12	
		13.3	Concavity	14,30,40,46,68	
7	3/11 – 7/11	13.4	The Second-Derivative Test	6,8,12	Deadline for dropping courses with “W”(6/11)
		13.5	Asymptotes	14,22,38,46	
		13.6	Applied Maxima and Minima	2,14,18,22,26	
8	10/11 – 14/11	14.1	Differentials	12,18,22,28	
		14.2	The Indefinite Integral	10,20,30,42,50	
9	17/11 – 21/11	14.3	Integration with Initial Conditions	6,8,10,12,14	
		14.4	More Integration Formulas	9,15,35,53,70,75	
		14.5	Techniques of Integration	6,18,30,44,48,55	
10	24/11 – 28/11	14.8	The Fundamental Theorem of Int. Calculus	16,32,36,44,48	
		14.10	Area	9,15,20,24,34	
		14.11	Area between Curves	1,5,12,30,30,32	
<b>Major Exam II: 4.12.2007, 7:00 PM – 9:00 PM</b>				Exam Material : Ch13& Ch14.	
11	1/12 – 5/12	15.1	Integration by parts	8,12,18,20,24,28,32	Deadline for withdrawal from all courses with “W” (27/11)
		15.3	Integration by Tables	8,12,30,36,49,54	
12	8/12 – 12/12	**	Derivatives and Integrals of Trig. Function	<b>Handout</b>	Last day of classes before Id al-Adha Vacation (12/12)
<b>Id al-Adha Vacation</b>					
13	29/12 – 2/01/2008	17.1	Functions of Several Variables	2,5,12,16,23,28	
14	5/01 – 9/01	17.2	Partial Derivatives	6,18,20,28,34	Deadline for Majors and withdrawal from all courses with “WP/WF” (8/01)
		17.5	Higher Order Partial Derivatives	6,9,12,20,21	
15	12/01-16/01	17.7	Maxima and Minima for funs. of Two Vars.	4,8,15,19,22,26,29	