

# King Fahd University of Petroleum and Minerals

Department of Mathematical Sciences

## Syllabus of **Math 132**

Second Semester 2003 – 2004 (**032**)

(Course Coordinator: Dr. A. Laradji)

**Course #:** Math 132

**Title :** Applied Calculus

**Textbook:** *Introductory Mathematical Analysis for Business, Economics, and the life and Social Sciences*, by Ernest F. Haeussler, Jr. & Richard S. Paul, 10<sup>th</sup> ed. (2002).

Week	Date	Section	Material	Homework
1	Feb.14-18	11.1	Limits	18,30,33,40,43
		11.2	Limits (cont'd)	15,29,52,58,61
2	Feb. 21-25	11.4	Continuity	5,15,24,35,36
		12.1	The Derivative	13, 14,17,26,27
3	Feb. 28- Mar. 03	12.2	Rules for Differentiation	22,34,73,85
		12.3	The Derivative as a Rate of Change	8,12,27,40
		12.4	Differentiability and Continuity	
4	Mar. 06- 10	12.5	Product and Quotient Rules	10,16,37,50,70
		12.6	The Chain Rule and Power Rule	8,18,46,61,69,72
5	Mar. 13- 17	13.1	Derivatives of Logarithmic Functions	18,20,26,32,50
		13.2	Derivatives of Exponential Functions	16,26,30,38
		13.3	Implicit Differentiation	8,18,24,26
6	Mar. 20- 24	13.4	Logarithmic Differentiation	8,12,19,26
		13.5	Higher Order Derivatives	2,14,30,34,37
		14.1	Relative Extrema	18,30,46,48,60
7	Mar. 27- 31	14.2	Absolute Extrema on a Closed Interval	2,10,12
		14.3	Concavity	14,30,40,46,64
8	Apr. 03-07	14.4	The Second-Derivative Test	6,8,12
		14.5	Asymptotes	14,22,38,46
		15.1	Applied Maxima and Minima	4,14,22,26
9	Apr. 10-14	15.2	Differentials	12,18,22,28
		16.1	The Indefinite Integral	10,20,30,42,50
10	Apr. 17-21	16.2	Integration with Initial Conditions	6,8,10,12,14
		16.3	More Integration Formulas	10,26,58,68,84
11	Apr. 24-28	16.4	Techniques of Integration	10,24,42,48,60
		16.7	The Fundamental Theorem of Integral Calculus	16,32,36,44,49
		16.8	Area	14,16,22,27,35
12	May 01-05	16.9	Area between Curves	4,15,22,26,32
		17.1	Integration by Parts	8,18,24,28,32
13	May 08-12	17.3 Hand-out	Integration by Tables Derivatives and Integrals of Trig. Functions	17,23,35,43,54
14	May 15-19	19.1	Functions of Several Variables	4,8,10
		19.2	Partial Derivatives	6,18,20,28,34
15	May 22-26	19.5	Higher Order Partial Derivatives	7,10,14,20,21
		19.7	Maxima and Minima for Functions of Two Variables	8,15,19,22,29

**Major Exams 1: Saturday, 13 March 2004** at 5:30 PM Room 5-203

**Major Exams 2: Tuesday, 20 April 2004** at 5:30 PM Room 5-203.

**REMARKS:**

- Final Exam:** Multiple choice, comprehensive, and will be announced later.
- KFUPM policy with respect to attendance will be enforced.
- Tuesday, 30 March is the last day for dropping with the grade of "W".
- Tuesday, 20 April is the last day for withdrawal from all courses with the grade of "W".
- Wednesday, 19 May, is the last day for withdrawal from all courses with the grade "WP/WF".

**King Fahd University of Petroleum and Minerals**  
**Department of Mathematical Sciences**  
**Dr. Mohammad Z. Abu-Sbeih**  
**Semester II, 2003/2004 ( 032 )**  
**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, 9<sup>th</sup> ed., Prentice Hall International, Inc., 1999.  
**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.  
**Office Hours:** Saturday, Monday, Wednesday:  
From \_\_\_\_\_ or by appointment.

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