

King Fahd University of Petroleum and Minerals
Department of Mathematical Sciences
Dr. Mohammad Z. Abu-Sbeih
Semester II, 2004/2005 (042)
Math 132: Applied Calculus (3 – 0 – 3)

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, 10th ed. (2002).
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
Web Home page: <http://www.kfupm.edu.sa/math/People/abusbeih.htm>
Office Hours: Saturday, Monday, Wednesday:
From 10:00 am. - to -11:30 a.m. or by appointment.

Grades:	(1)	2 Major Exams (20 points each)	40%
	(2)	4 Quizzes & Homework	20%
	(3)	Comprehensive Final (<u>MULTIPLE CHOICE</u>)	40%
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	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 ½ 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 Mathematical Sciences
Syllabus of MATH 132 (042)
(Dr. Mohammad Zuhair Abu-Sbeih)

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, 10th ed. (2002).

Week	Date	Section	Material	Homework
1	Feb. 12-16	11.1 11.2	Limits Limits(continued)	17,18,32,34,38 2,15,23,36,41,52
2	Feb. 19-23	11.4 12.1	Continuity The Derivative	2,6,11,15,23,32 4,12,16,20,28
3	Feb. 26-Mar.-02	12.2 12.3 12.4	Rules for Differentiation The Derivative as a Rate of Change Differentiability and Continuity	23,38,43,44,73, 5,12,18,22,28,40
4	Mar 05-09	12.5 12.6	Product and Quotient Rules The Chain Rule and Power Rule	9,27,40,46,54,71 5,21,44,56,62,71
5	Mar 12-16	13.1 13.2 13.3	Derivatives of Logarithmic Functions Derivatives of Exponential Functions Implicit Differentiation	8,12,29,44,48,50 6,18,27,32,37,39 9,18,28,32,34
6	Mar 19-23	13.4 13.5 14.1	Logarithmic Differentiation Higher Order Derivatives Relative Extrema	2,8,13,17,22,25 2,7,13,24,35,38 3,6,29,39,58,65
7	Mar 26-30	14.2 14.3	Absolute Extrema on a Closed Interval Concavity	3,8,12 3,19,34,59,63,68
8	Apr 02-06	14.4 14.5 15.1	The Second-Derivative Test Asymptotes Applied Maxima and Minima Apr. 7th – Apr. 15th : Inter semester break	2,8,13,14 11,14,30,39,46 2,3,5,8,21,25
9	Apr 16-20	15.2 16.1	Differentials The Indefinite Integral	7,13,20,26,35,38 9,20,22,40,47,51
10	Apr 23-27	16.2 16.3	Integration with Initial Conditions More Integration Formulas	4,8,11,14,21,22 9,15,35,53,60,82
11	Apr 30-may 04	16.4 16.7 16.8	Techniques of Integration The Fundamental Theorem of Integral Calculus Area	6,18,30,44,48,55 14,31,40,47,49 9,15,20,24,31,34
12	May 07-11	16.9 17.1	Area between Curves Integration by Parts	1,5,30,31,32 8,18,24,28,32
13	May 14-18	17.3 Hand-out 19.1	Integration by Tables Derivatives and Integrals of Trig. Functions Functions of Several Variables	12,30,40,47,54 6,12,15,18
14	May 21-25	19.2 19.5	Partial Derivatives Higher Order Partial Derivatives	6,18,20,28,34 6,9,13,16,20,21
15	May 28-jun 01	19.7	Maxima and Minima for Functions of Two Variables	8,15,19,22,29

* KFUPM attendance policy will be enforced.

* **Major exams :** First Major : **Saturday March 19th 2005 (6:15- 7:30 pm)**

Second Major : **Wednesday May 4th 2005 (6:15- 7:30 pm)**

* **Final Exam is comprehensive and MULTIPLE CHOICE.**