Fall 2009 Math 1306 (Fundamentals of Calculus with Applications) Syllabus

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Office Hours: MTWT 9:00 - 9:50 a.m. S712

CATALOG DESCRIPTION: Functions, limits, continuity, differentiation, integration and partial derivatives. Applications of all techniques to business, economics and the social sciences are stressed.

PREREQUISITE: Grade of "C" or better in MATH 1301

PURPOSE: The purpose of this course is to equip the student with various mathematical techniques and their applications in business, economics, and social sciences.

AUDIENCE: This course is designed for students with majors in business, social sciences, or quantitative methods.

GOALS/OBJECTIVES: At the completion of the course, the students should be able to:
(1) find limits of polynomial and rational expressions.
(2) check whether a given function is continuous or not.
(3) find derivatives of various elementary functions.
(4) find the maximum and/or minimum values of functions using calculus techniques.
(5) apply differentiation to problems in business, economics and social sciences.
(6) find anti-derivatives, indefinite and definite integrals and apply these concepts to problems in business and economics.
(7) use calculus to analyze functions and sketch their graphs.
(8) find the area under a curve or the areas between curves and apply this technique to selected applications.

TEXTBOOK: College Mathematics, 11th Edition by Barnett, Ziegler, and Byleen, Prentice Hall, 2008, Upper Saddle River, New Jersey.

What you need for the course:

1. You do need *a scientific calculator throughout the course*. A scientific calculator is one that includes "ln" and "log" keys.

2. Access to the textbook listed above **and** an access code for MyMathLab.

3. A notebook or binder for class notes and problem solving.

COURSE CONTENT Topics are covered from chapters 10, 11, 12, 13, 14 and 15.

Chapter 10 Limits and the Derivative

Section 10.1 - Introduction to Limits
Section 10.2 – Continuity
Section 10.3 - Infinite Limits and Limits at Infinity
Section 10.4 - The Derivative
Section 10.5 - Basic Differentiation Properties
Section 10.6 – Differentials
Section 10.7 - Marginal Analysis in Business and Economics

Chapter 12 Graphing and Optimization

Section 12.1 - First Derivative and Graphs
Section 12.2 - Second Derivative and Graphs
Section 12.5 - Absolute Maxima and Minima
Section 12.6 - Optimization

Chapter 11 Additional Derivative Topics

Section 11.2 – Derivatives of Exponential and Logarithmic Functions
Section 11.3 – Derivatives of Products and Quotients
Section 11.4 – The Chain Rule
Section 11.5 – Implicit Differentiation

Chapter 13 Integration

Section 13.1 – Antiderivatives and Indefinite Integrals
Section 13.2 – Integration by substitution
Section 13.4 – The Definite Integral
Section 13.5 – The Fundamental Theorem of Calculus

Chapter 14 Additional Integration Topics

Section 14.1 – Area between Curves
Section 14.2 – Applications in Business and Economics

Chapter 15 Multivariable Calculus

Section 15.1 – Functions of Several Variables
Section 15.2 – Partial Derivatives

Please remember that as a member of the UHD academic community you are bound to observe the academic honesty code in all your school work. A grade of 0 will be given for any course work where cheating is detected.

About the Course Grade:		**Grading Scale:**	
3 Tests (17% each)	51%	A	100-90
homework &quizzes	17%	B	89-80
Cumulative Final Exam	32%	C	79-70
		D	69-60
		F	below 60

Tentative Test dates (any changes will be announce with at least 1 week's notice)

- Test 1, Tuesday Sept 22. Test 2, Tuesday Oct 20 ~~21~~. Test 3 Thursday Nov 19.
- Final Exam: Tuesday December 15th 10:00 a.m. – 12:30 p.m.

MyMathLab online homework & quiz assignments

- **Online** homework & quizzes are for a grade: Access code comes with new textbook or purchased through http://www.pearsoncustom.com/tx/uhd_math/. If you purchased a MyMathLab code for MATH 1305 or 1306 last semester, you DO NOT need to purchase a new code this semester. Your account will still be active, but you will need to enroll in a new section. You can complete assignments at home if you have a computer and Internet access, or use the following computers at UHD: The computers in the Math Lab (N-925) and the Academic Computing Labs (S-800, C-300, B-200) can be used to access MyMathLab.
- ~~**delavina929734**~~ **delavina29734** and UHD's zipcode is **77002**

Class attendance/Make-ups.

- Good attendance is crucial in college, as I'm sure you've discovered by now. I will take attendance beginning the 2nd week of classes.
- *Good Attendance Reward Policy:* If you do not miss more than 6 hours of class (4 class periods) and you have at least 80%, on your homework, then your final exam grade (if better) will replace your lowest test grade.
- Whenever you miss a class, it is your responsibility to check on your MyMathLab account for what material was covered, what assignments were made, if any, and the due dates.
- *Any missed grades will be recorded as zeros*. Make-up tests will not be given in this course. If you miss a test, that grade will be replaced by your final exam grade **only if** you notify me as soon as possible if you miss a test or know in advance that you will miss

a test. If you do not notify me *promptly* with an *appropriate excuse*, you will receive a 0 for the test.

- No late assignments accepted.

Statement on reasonable accommodations: UHD adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. Students with disabilities should register with the office of Disabled Student Services and contact me in a timely manner to arrange for appropriate accommodations.

Where to get help:

- My office hours are for students to ask questions see times above.
- Try study groups with students in our class.
- MathLab N925 has math tutors and computer access. Their hours will be announced the second week of school.
- Online MyMathLab resourses such as videos and hints for some homework problems.