Math 2417-002 SPRING 2005

CALCULUS I GREEN 3.428 1:00 -1:50
M.W.F.

INSTRUCTOR: F.R. ALLUM (972)883-6342
(fallum@utdallas.edu)

Text: CALCULUS by LARSON, HOSTETLER & EDWARDS, 7TH EDITION
STUDENT SOLUTION MANUAL AVAILABLE IN BOOKSTORE

You must be enrolled in problem section Math 2417-302,304, or 306.

Help is available. If difficulties arise, the following suggestions may help you:
(I) Ask questions in your problem section
(ii) Contact the problem section instructor during office hours
(iii)Visit the MATH LAB (MC2.408; (972)883-6707)
(iv) You may be eligible for assistance through Special Services
(v) Contact the lecturer during office hours

Calculators. It is assumed that you will use a scientific calculator in this class. Calculators with either graphing or non-numeric displays are forbidden for all quizzes and exams.

Assignment Problems Assignments will be selected odd numbered problems and possibly problems from the Chapter Review. Answers to these problems are given at the back of your text book. Complete solutions to many of these problems may be found in the Solutions Manual which is available in the book store. You should work several problems of each type. Don't slavishly copy the solutions from the manual. Try to work them without reference to the solutions manual. When you have finished the problem or when you have exhausted all possibilities, then you should refer to the solutions manual to verify your answer or to obtain a hint in order to complete the solution. These problems will be discussed in the problem sections.

Problem Sections There are 14 problem sessions this semester. At 10 of these meetings, a quiz will be given, lasting about 15 minutes. Only 8 of these quiz grades will be used in the calculation of your final grade. The T.A. conducting each section will answer questions on the assignments, supply additional background material, discuss the previous quiz, comment on your examinations and may ask you to work problems. Occasionally, the problem section may be used to remind you of material covered in previous courses and deemed essential to the present course. At all times feel free to ask questions during these problem sections.

Note: Quizzes will be given in the problem solving sections; examinations in the class meetings.

Examinations All students are expected to take the examinations at the announced time. Cheating will NOT be tolerated. Students are required to inform the lecturer of suspected honor code violations. On all problems, you must show your work. No work, no credit. In general, there will be no make up exams or quizzes (see below).

Grade: Each quiz will be worth 25 points. A list of precalculus questions is available on my home page and is also attached to this syllabus.
The best 8 out of the 10 quizzes (expressed as a percentage)will be used for your quiz grade. Each of the three examinations will be worth 100 points and the comprehensive final will be worth 200 points. The best 3 out of the four quiz and examination grades plus the comprehensive
final will be used to calculate your final grade. The final exam must be taken.

Example: Student J.T.M. has the following results:
Quiz grades 20, 15, 25, 18, 25, 19, 0, 10, 25, 21

Quiz grade (168/200)100 = 84 (drop 0,10)	
Examination 1	75
Examination 2	60
Examination 3	72
Comprehensive final	171 (count as two exams)

Average = (84+75+72+171) / 5 = 80.4...(a grade of B-)

Grade Scale

96.7 - 100	A+	76.7 - 79.9	C+
93.4 - 96.6	A	73.4 - 76.6	C
90.0 - 93.3	A-	70.0 - 73.3	C-
86.7 - 89.9	B+	66.7 - 69.9	D+
83.4 - 86.6	B	63.4 - 66.6	D
80.0 - 83.3	B-	60.0 - 63.3	D-
0.0 - 59.9	F		

Important Dates

January 10.	**First class day**
January 17	**University Holiday**
February 11	**Examination I (subject to change)**
March 07-12	**Spring Break**
March 14	**See Instructions in Spring 2005 schedule regarding drop procedures after March 14, 2005**
March 21(Monday)	**Examination II (Subject to change)**
April 15	**Examination III(subject to change)**
April 25	**Last day of classes**
April 29 (FRIDAY)	**Comprehensive Final Exam at 11.00 AM**

April 29 (FRIDAY). Comprehensive Final Exam at 11.00 AM.

Note: The comprehensive final examination will be given in another location, CN1.112, CN on map .

Note: The mid-term examinations will be given in CN1.112, CN on map .

Grade of Incomplete "A grade of incomplete (X) may be assigned when a student's work has been satisfactory, but due to circumstances beyond the student's control, some part of the required work has not been completed. An X may not be assigned in lieu of an F or W. Allowing a student to "retake" an entire course during a subsequent semester, disregarding previous course performance, does not constitute an appropriate use of the grade of incomplete." In this course, an incomplete will only be considered if the student has a serious documentable, non-academic reason for missing more than one exam and not taking a make-up (e.g. illness in finals week).

Problem Solving Classes (subject to change)

CLASS #	DATE: WEEK BEGINNING	DESCRIPTION
1	10 January	NO QUIZ THIS WEEK
2	17 January	Quiz 1
3	24 January	Quiz 2
4	31 January	Quiz 3
5	07 February	NO QUIZ THIS WEEK
6	14 February	Quiz 4
7	21 February	Quiz 5
8	28 February	Quiz 6
9	14 March	NO QUIZ THIS WEEK
10	21 March	Quiz 7
11	28 March	Quiz 8
12	04 April	Quiz 9
13	11 April	NO QUIZ THIS WEEK
14	18 April	Quiz 10

MID-TERM EXAMS AT REGULAR CLASS TIME, 1.00 pm CN 1.112.

February 11, March 21, and April 15

FINAL EXAM 11:00 AM APRIL 29, 2005. CN1.112.

MATH LAB HOURS

Monday-Thursday.....10:00 a.m. - 8:00 p.m.
Friday/Saturday.....10:00 a.m. - 2:00 p.m. Or by appointment (Ext. - 6707)

INTERESTING INTERNET ADDRESSES

(1) http://www-groups.dcs.st-and.ac.uk/~history/Curves/Curves.html
(2) http://www.sisweb.com/math/tables.htm
(3) http://www.geocities.com/CapCanaveral/Launchpad/2426
(4) http://www.Ecalculus.org/
(5) http://www.math.temple.edu/~cow/
(6) http://archives.math.utk.edu/utk.calculus/141toc.html
(7) http://archives.math.utk.edu/visual.calculus/index.html

HOME PAGE ADDRESS http://www.utdallas.edu/~fallum/

NOTE: TURN OFF CELL PHONES AND PAGERS DURING LECTURE AND EXAMS

MATH 2417 CALCULUS SYLLABUS

(Larson/Hostetler/Edwards) 7th Edition

Preparation for Calculus (Self-review for students)

P.1 Graphs and Models
P.2 Linear Models and Rates of Change
P.3 Functions and their Graphs
P.4 Fitting Models to Data

1. Limits and their Properties

1.1 A Preview of Calculus
1.2 Finding Limits Graphically and Numerically
1.3 Evaluating Limits Analytically
1.4 Continuity and One-Sided Limits
1.5 Infinite Limits

2. Differentiation

2.1 The Derivative and the Tangent Line problem
2.2 Basic Differentiation, Rules and Rates of Change
2.3 The product and Quotient Rules and Higher- Order Derivatives
2.4 The Chain Rule
2.5 Implicit Differentiation
2.6 Relates Rates

3. Applications of Differentiation

3.1 Extrema on an Interval
3.2 Rolle's Theorem and the Mean Value Theorem
3.3 Increasing and Decreasing Functions and the First Derivative Test
3.4 Concavity and the second Derivative Test
3.5 Limits at Infinity
3.6 A summary of Curve Sketching
3.7 Optimization Problems
3.9 Differentials

4. Integration

4.1 Antiderivatives and Indefinite Integration
4.2 Area
4.3 Riemann Sums and the Definite Integral
4.4 The Fundamental Theorem of Calculus
4.5 Integration by Substitution

5. Logarithmic, Exponential, and Other Transcendental Functions

5.1 The Natural Logarithmic Function and Differentiation
5.2 The Natural Logarithmic Function and Integration
5.3 Inverse Functions
5.4 Exponential Functions: Differentiation and integration
5.5 Bases other than e and Applications
5.8 Inverse Trigonometric Functions and Differentiation
5.9 Inverse Trigonometric Functions: Integration and Completing the Square

6. Applications of Integration

6.1 Area of a Region Between Two Curves
6.2 Volume: The Disc Method
6.3 Volume: The Shell Method
6.4 Arc Length and Surfaces of Revolution

7. Integration Techniques, L'Hôpital's Rule, and Improper Integrals

7.1 Basic Integration Rules
7.2 Integration by Parts
7.3 Trigonometric Integrals
7.4 Trigonometric Substitution
7.5 Partial Fractions

Appendix B Proofs of Selected Theorems

Appendix C Integration Tables

ASSIGNMENTS MATH 2417 SPRING 2005

LARSON, HOSTETLER EDWARDS. 7th Edition

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SECTION 1.3 page 65: 5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51
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SECTION 7.2 page 494:
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SECTION 7.4 page 512: 3,5,7,9,11,13,15,19,23,25,27,29,31,33,35,37,39,41,43,45,47,49,77,79
(NOTE: 11,13,31,33,47 Algebraic substitution will work)

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