Math 2417-521 SUMMER 2005

CALCULUS I

GR 3.420 6:00 -7:50 M.W.

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 2417-821 or 823.

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 10 problem sessions this semester. At 8 of these meetings, a quiz will be given, lasting about 20 minutes. Only 6 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 attached to this syllabus and is also available on my home page. Use these questions to review your precalculus material.
The best 6 out of the 8 quizzes (expressed as a percentage)will be used for your quiz grade.
The mid term exam will be worth 200 points and the comprehensive final will be worth 200 points.
The average of your quiz grades , midterm examination grade 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, 0,15, 25, 5, 19, 25,19

Quiz grade (123/150)100 = 82 (drop 0,5)
Examination 1 150
Comprehensive final 171

Average = (82+150+171) / 5 = 80.6 ...(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

MAY 16	First class day
MAY 30	University Holiday
JUNE 27	Examination I (subject to change)
JULY 11	**See instructions in Summer 2005 Schedule regarding drop procedures after this date**
JULY 25	Last day of classes
JULY 27 (WEDNESDAY)	Comprehensive Final Exam at 6.00 PM

Note: **The comprehensive final examination will be given at 6.00pm WEDNESDAY JULY 27. 2005**

Note: Due to the holiday on May 30th, Quiz 2, for both sections, will be given on Wednesday JUNE 01

Note: Due to the holiday on July 04th, Quiz 6, for both sections, will be given on Wednesday JULY 06

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	16 May	NO QUIZ THIS WEEK
2	23 May	QUIZ 1
3	30 May	Quiz 2 WEDNESDAY ,01 JUNE
4	06 June	Quiz 3
5	13June	Quiz 4
6	20 June	Quiz 5
7	27 June	NO QUIZ THIS WEEK
8	04 July	Quiz 6;WEDNESDAY,06 JULY
9	11 July	Quiz 7
10	18 July	Quiz 8

Note: The mid-term examination will be given in GR 3.420 at regular class time, 0600 pm JUNE 27,2005

The FINAL EXAM will be given in GR 3.420 at 06:00 PM JULY 27 , 2005

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
(8)http:mathmit.edu/18.01/
(9)http://www.math.umn.edu/~rogness/quadrics/

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

Note: Turn off cell phones and pagers during lectures 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
7.7 Indeterminate Forms and L'Hôspital's Rule

Appendix B Proofs of Selected Theorems

Appendix C Integration Tables

ASSIGNMENTS MATH 2417 SUMMER 2005

LARSON, HOSTETLER EDWARDS. 7th Edition

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