Math 2417-002 Fall 2005

CALCULUS I GREEN 3.420 11:00 - 11:50 M.W.F.

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

Text: CALCULUS by LARSON, HOSTETLER & EDWARDS, 8TH EDITION
STUDENT SOLUTION MANUAL AVAILABLE IN BOOKSTORE

You must be enrolled in problem section Math 2017-302, 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 (MC2.412; (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 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 20 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 attached to this syllabus and is also available on my home page. Quiz 1 will contain several questions from this list or questions similar to those on the list. 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

September 05.	University Holiday
September 23	Examination I (subject to change)
October 13	Mid-Term Grade Reports Due
October 20	Last day to withdraw with a WP/WF
October 21....	Examination II (Subject to change)
November 18.	Examination III (subject to change)
November 28	Last day of classes
December 02 (Friday).	Comprehensive Final Exam at 7 P.M.

Note : Beginning October 21, undergraduates may drop a class for non-academic reasons only.

Note: The comprehensive final examination will be given in another location.(HH2.402)

Note: The mid-term examinations will be given in HH2.402.
The time of the exam is the same as your class time, 11 am

Note: Mid term grade reports will be based on Exam 1 and the first 5 quizzes.

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).

INTERESTING INTERNET ADDRESSES

(1) http://www-groups.dcs.st-and.ac.uk/~history/Curves/Curves.html
(2) http://www.math2.org
(3) http://www.ecalculus.org/
(4)http://www.math.temple.edu/~cow/
(5) http:mathmit.edu/18.01/
(6)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.

Problem Solving Classes (subject to change)

CLASS #	DATE: WEEK BEGINNING	DESCRIPTION
1	22 August	Quiz 1(Precalculus)
2	29 August	Quiz 2
3	05 September	Quiz 3
4	12 September	Quiz 4
5	19 September	NO QUIZ THIS WEEK
6	26 September	Quiz 5
7	03 October	Quiz 6
8	10 October	Quiz 7
9	17 October	NO QUIZ THIS WEEK
10	24 October	Quiz 8
11	31 October	Quiz 9
12	07 November	Quiz 10
13	14 November	NO QUIZ THIS WEEK
14	21 November	NO QUIZ THIS WEEK

MID-TERM EXAMS AT REGULAR CLASS TIME, 11.00 am in HH2.402

FINAL EXAM 7:00 P M DECEMBER 02, 2005

LOCATION OF FINAL EXAM - HH2.402

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)

MATH 2417-002 MID TERM EXAMS

MATH 2417-002 mid-term exams will be held in HH2.402.
Same time as regular class time, namely at 11 am on the following days;
September 23, 2005, October 21, 2005 , November 18, 2005

MATH 2417-002 FINAL EXAM

On Friday, December 02, 2005, at 7.00 pm, students in Math 2417-002 will meet for an exam in Hoblitzelle Hall, room HH 2.402

MATH 2417 CALCULUS SYLLABUS
(Larson/Hostetler/Edwards) 8th 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

7. Applications of Integration

7.1 Area of a Region Between Two Curves
7.2 Volume: The Disc Method
7.3 Volume: The Shell Method
7.4 Arc Length and Surfaces of Revolution

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

8.1 Basic Integration Rules
8.2 Integration by Parts
8.3 Trigonometric Integrals
8.4 Trigonometric Substitution
8.5 Partial Fractions
8.7 Indeterminate Forms and L'Hôspital's Rule

Appendix B Proofs of Selected Theorems

Appendix C Integration Tables

ASSIGNMENTS MATH 2417 FALL 2005

LARSON, HOSTETLER & EDWARDS. 8th Edition

SECTION 1.2 page 54: 1-25 odd ,29,31,33,35,37,39,41,43,45,47,59,63,65,67

SECTION 1.3 page 67: 5-61 odd,67,69,71,73,75,77,78,83,84,85,86,87,101,103,113,115,117,120

SECTION 1.4 page 78: 1,3,5,7,9,11,13,15,17,19,25,29,31,33,35,37,39,41,43,45,47,49,51,57,59, 61,63,69,71,75,77,83,85,87,91,93,105

SECTION 1.5 page 88: 1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47, 53,55,57,59,61,63,69

SECTION 2.1 page 103: 1,2,3,4,5,7,9,11,13,15,17,19,21,23,25a,27a,29a,31a,33,35,37,38,39,40,41,43,45, 47,57, 71,73,75,77,79,81,83,85,91,93,95,99,101

SECTION 2.2 page 115: 1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,39,41,43,45,47,49, 51,53a,55a,57,59,61,63,65,67,69,71,75,83,85,87,89,91,93,95,97,99,103,113

SECTION 2.3 page 124: 1-53 odd ,59,61,63a,65a,67a,69,71,75,79-89odd,93-103odd,109

SECTION 2.4 page 137: 1-31 odd,41-65odd,67a,69a,71a,73a,81-91odd101,103,111,113

SECTION 2.5 page 146: 1-49 odd,53,55,57,65,67,77

SECTION 2.6 page 154: 1,3,5,7,9,13-35odd,39,41,43,45,47

SECTION 3.1 page 169: 1-43odd,53,55,57

SECTION 3.2 page 176: 1-23odd,29,31,33,35,37a,b,c,39,41,43,45,51,53,55

SECTION 3.3 page 186: 1-15odd,17-37odd,a,b,c,39-45odd,a,b,53-71odd,85,87

SECTION 3.4 page 195: 1-39 odd,49,51,61,67

SECTION 3.5 page 199 : 1,3,5,7,15-33odd,39,41,43,45,51,85,87

SECTION 3.6 page 215: 1,3,5,6,7,9,11,13,15,17,19,21,23,25,27,29,31,33,47,49,51,53

SECTION 3.7 page 223: 3,5,7,9,11,13,15,19,20,21,23,25ac,27,29,30,,33,34,39,41,45,49

SECTION 3.9 page 240: 1,3,5,7,9,11,13,15,17,19,27,29,31,33,35,37,39,41,43,45,47

SECTION 4.1 page 255: 1-41odd,47,55-85odd

SECTION 4.2 page 267: 31,33 SECTION 4.3 page 278: 13-43odd,47

SECTION 4.4 page 291: 5-59odd,63,67,69,71,75-91odd,97,99

SECTION 4.5 page 304: 1-37odd,43-91odd

SECTION 5.1 page 329: 7-33odd,37,41-69odd,71a,73a,75a,77-87odd,93,95,97,103

SECTION 5.2 page 338; 1-41odd,,47,49,51,53,61,63,67,69,71,73,79,83,85,87,89,91

SECTION 5.3 page 347: 1,3,5,7,9,11,13,15,23,25,27,29,31,33,35,43,47,49,51,59,61,63,65

SECTION 5.4 page 356 : 1-17odd,21,23,25,27,31-73odd,85-109odd,113,115

SECTION 5.5 page 366:1-29odd,37-47odd,53,55,61-71odd

SECTION 5.6 page 377: 3,4,5-27odd,31,33,35,41-59odd,61,63,71,73,75,77,89,91,99,

SECTION 5.7 page 385: 1-49odd,53,63,65,67,69,75,77,79,81

SECTION 7.1 page 418: 1-13odd,17-31odd,43-51odd,61,63

SECTION 7.2 page 463: 1,3,5,7,9,11ab,13a,23,25,27,29,31

SECTION 7.3 page 472: 1,3,5,7,9,11,13,15,17,19,21ab,25, SECTION 7.4 page 483: 1,3,5,7,9,11,13

SECTION 8.1 page 522: 1,2,3,4,5-49odd,57,,69,71,73,79,81,83,85,97

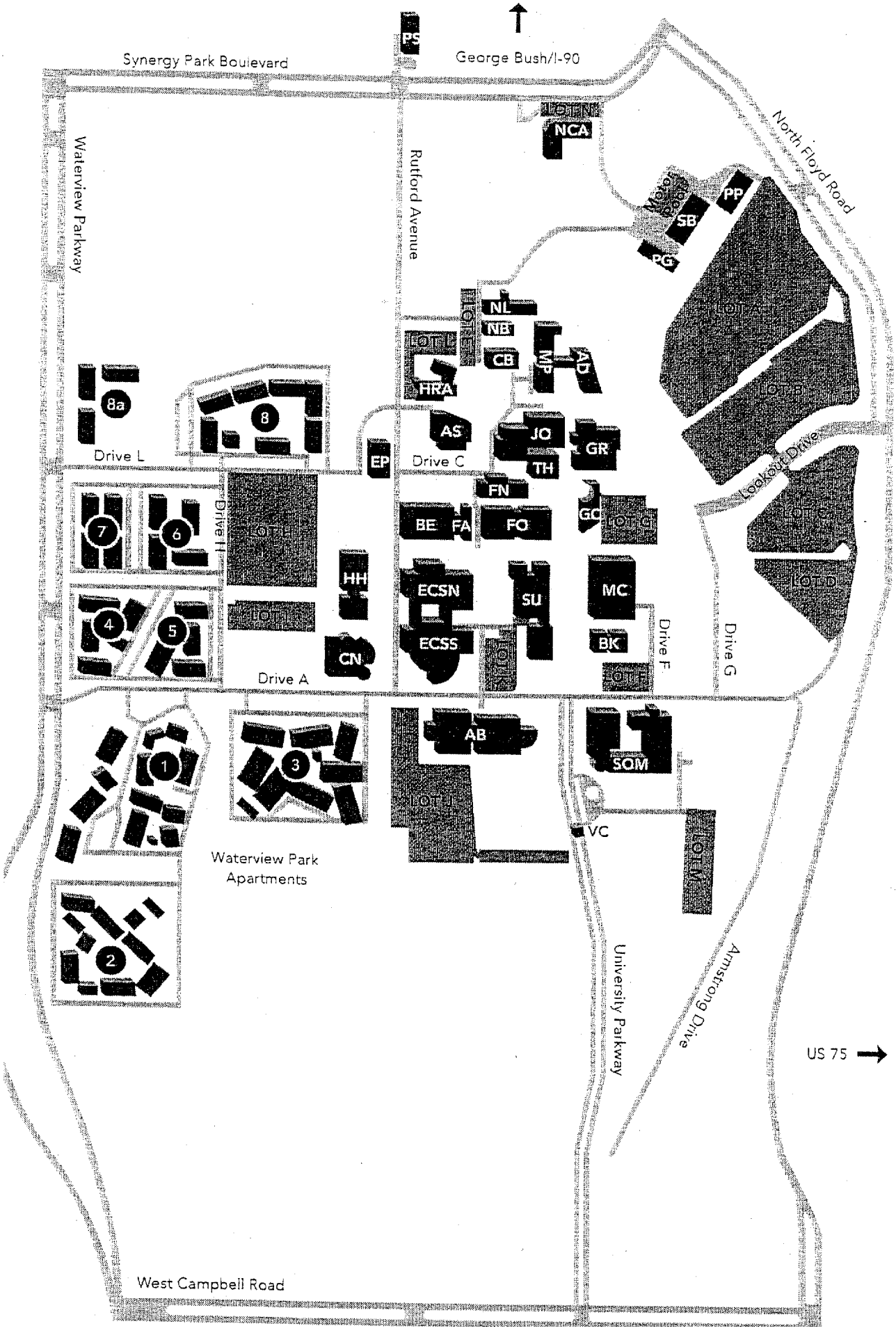
SECTION 8.2 page 531: 1-10,11-41odd,47,69odd,71,73,75,83,85,89-101odd,103a,b,c

SECTION 8.3 page 540: 1-4,5-41odd,55-63(integrate)65,67,69,71,85a,87,89,91,95,97,99,101
61,63,65,67,79,81a

SECTION 8.4 page 549: 1-53odd,59,61,63,65,73,85
(NOTE: 21,33,35,49 Algebraic substitution will work)

SECTION 8.5 page 559; 1-31odd,41-49odd,53,55,57

SECTION 8.7 page 574: 1-35odd,37ab-53ab,odd,59,65,67,71,73,75,77,79ab,83,,91,93,97,99,109


Synergy Park Boulevard
George Bush/I-90
North Floyd Road
Waterview Parkway
Rutford Avenue
PS
NCA
LOT N
PP
SB
PG
Mega Lot
LOT A
LOT F
LOT E
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NB
CB
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Drive C
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Lookout Drive
LOT C
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CN
ECSS
BK
LOT K
LOT F
Drive F
Drive G
Drive A
AB
SOM
1
3
LOT I
VC
LOT M
Waterview Park
Apartments
2
University Parkway
Armstrong Drive
US 75
West Campbell Road