CLASS OUTLINE FOR MATH 108

Instructors: Nick Marsden, Ewing 258
             Bogdan Verjinschi

Text: Calculus with Applications
      Seventh Edition
      Author - Lial, Greenwell and Ritchey

CHAPTER 1: LINEAR FUNCTIONS

    #   Text   Time
    1   1.1   1   Slopes and Equations of Lines
    2   1.2   2   Linear Functions and Applications

CHAPTER 2: NONLINEAR FUNCTIONS

    #   Text   Time
    3   2.1   1   Properties of Functions
    4   2.2   2   Quadratic Functions; Translation and Reflection
    5   2.3   2   Polynomial and Rational Functions
                            TAKE-HOME TEST

CHAPTER 3: THE DERIVATIVE

    #   Text   Time
    6   3.1,3.2   1   Limits and Continuity
    7   3.3   1   Rates of Change
    8   3.4   1   Definition of the Derivative
    9   3.5   1   Graphical Differentiation

CHAPTER 4: CALCULATING THE DERIVATIVE

    #   Text   Time
    10   4.1   2   Techniques for Finding Derivatives
    11   4.2   1   Derivatives of Products and Quotients
    12   4.3   1   The Chain Rule
                  1   TEST 1, Lessons 1 to 12
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CHAPTER 5: GRAPHS AND THE DERIVATIVE

    #   Text   Time
    13   5.1   1   Increasing and Decreasing Functions
    14   5.2   1   Relative Extrema
    15   5.3   2   Higher Derivatives; Concavity; The Second Derivative
Test
    16   5.4   2   Curve Sketching

CHAPTER 6: APPLICATIONS OF THE DERIVATIVE

    #   Text   Time
    17   6.1   1   Absolute Extrema
                          TAKE-HOME TEST

#	Text	Time	
18	6.2	2	Applications of Extrema
19	6.3	1	A Further Applications from Business: Economic Lot Size
20	6.4	1	Implicit Differentiation
21	6.5	2	Related Rates
22	6.6	1	Differentials: Linear Approximation
		1	TEST 2, Lessons 13 to 22

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EXPONENTIAL AND LOGARITHMIC FUNCTIONS

#	Text	Time	
23	2.4	1	Exponential Functions
24	2.5	2	Logarithmic Functions
25	2.6	2	Applications: Growth and Decay; Finance
26	4.4	.5	Derivatives of Exponential Functions
27	4.5	.5	Derivatives of Logarithmic Functions
			TAKE-HOME TEST

CHAPTER 7: INTEGRATION

#	Text	Time	
28	7.1	1	Antiderivatives
29	7.2	1	Substitution
30	Notes	1	Area
31	7.4	1.5	The Fundamental Theorem of Calculus
32	7.5	1.5	The Area Between Two Curves
		1	TEST 3, Lessons 23 to 32

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MORE INTEGRATION

#	Text	Time	
33	8.1	2	Integration by Parts; Tables of Integrals
34	10.1	1	Solutions of Elementary and Separable Differential Equations

CHAPTER 13: THE TRIGONOMETRIC FUNCTIONS

#	Text	Time	
35	13.1	2	Definitions of the Trigonometric Functions
36	13.2-13.3	2	Calculus with Trigonometric Functions
		1	TEST 4, Lessons 33 to 36

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Review: 3 hours

Final exam, Lessons 1 to 36

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                          FIRST DAY HANDOUT


Welcome to my class.  I hope that the term goes well for you.  Please take
some time to read the following.  I think you will find it helpful and
informative.


A.   SOME GENERAL COMMENTS

     1.   HOW IMPORTANT IS REGULAR ATTENDANCE?  It is essential that you attend
          every class.  If for some reason you miss a class, you will need to
          act quickly to get caught up.  Get a copy of the notes from one of
          your classmates.  Work through the notes very carefully.

     2.   PLEASE try to arrive a minute or two before class is scheduled to
          begin.  This will give you an opportunity to get your notes out, and
          to prepare mentally for the class.

     3.   HOW MUCH TIME SHOULD I BE SPENDING ON MATH EVERY WEEK?  If up to date,
          a typical student will need to spend a minimum of 60 minutes per day.
          It is highly preferable that this be done before the next class.

     4.   CALCULATORS.  Graphing and programmable calculators may not be used on
          any test or on the final exam.

     5.   At present, the library media centre has a solutions handbook on
          reserve for the sixth edition only (we are currently using the 7th
          edition).  However, if you use the conversion guide outside my office,
          you should have little trouble.


B.   HOW TO GET HELP

     1.   For the first two weeks of the course, I intend to spend up to 20
          minutes each day going over homework problems and any other questions
          you may have.  After that period, we will not be able to afford that
          much time, but I will fit as many of your questions as I can.

     2.   Please come to my office (Ewing 258) for help.  You may make an
          appointment, or just drop in.  I am usually free every day from 9:30
          to 10:20 and 12:30 to 1:20.  When you come, bring your notes from the
          lesson where you are having problems.  If you missed that class, I
          would apreciate your getting a copy from someone.  I like to refer to
          the notes when I am giving help.

     3.   I strongly urge you to find one or more people in this class who you
          can study with.  For many people, learning mathematics in a social
          setting with their peers can be very rewarding and productive.

     4.   Free tutoring is available in The Mathlab, Ewing 224.  The lab is open
          all day and sometimes over the weekend.  Although the lab is a great
          place to go when you are confident of the subject matter in general
          but you just need a little push in the right direction, I would
          strongly suggest that you use me first, especially at the beginning of
          the course.  Between us we can work out a strategy for determining
          what kinds of questions you should always bring to me, and what kinds
          could be safely answered in the lab.
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C. EVALUATION PROCEDURES FOR THE COURSE

1. TERM MARK. You will be doing a number of take-home tests. These can
    be done in consultation with other students in your class, but with
    the help of nobody else. They will be overdue if not handed in at the
    beginning of the class on the due date, but can be handed in up to one
    day late with only a one mark deduction.

    The term mark is the average of the scores on your in-class tests.
    However, if your take-home test scores are satisfactory (overall
    average is at least 70%), you will be allowed to throw out your worst
    test before the average is calculated.

    If you miss an in-class test for ANY reason, you will get a zero.
    There will be no make-ups. But with decent take-home test scores,
    that zero will be tossed out.

2. FINAL EXAM. The final exam for this course is to be written by all
    students on the day and time scheduled. The examinations for this
    term will be held Dec 9-17, 2002 (including Saturday Dec 14). Please
    make sure you are available during this period.

3. MARK FOR THE COURSE. Your course mark is the larger of:

    a) The average of your term mark and your final exam mark (each is
        worth 50%)
    b) Your final exam mark

    The Math Department reserves the right to raise your course mark if it
    is judged that your in-class tests and final exam were more difficult
    than those in other years or other sections.

4. LETTER GRADE. Your course mark is then translated to a letter grade
    using the following table:

A+ 95%	B+ 80%	C+ 65%
A 90%	B 75%	C 60%
A- 85%	B- 70%	D 50%

D. FREE LEARNING SKILLS WORKSHOPS

The College offers workshops in topics such as Time Management, Reading
Textbooks, Note-taking, Assisting Memory, Studying for Exams, and Exam
Writing. These are held in Paul 107. Individual appointments are also
available in Dawson 202. For more information, call 370-3583.

E. TWO MORE THINGS

I strongly encourage you to do all your writing (notes, tests, and final
exam) in pencil. That way, you will be able to make corrections without
leaving a mess.

Also, if you cannot read something that I wrote down on the board, please
ask me right away. Or, ask me at the end of the class. Do not leave the
room until all questions on my writing have been answered.