

MTH U131 (Calculus for Business and Economics)

Fall 2005

Instructor: Mila Cenk1 (Professor, Department of Mathematics)

Room: 435 LA

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Office Hours: Mo:12 – 1:30 PM, Wed: 12 – 1:30 PM, and by appointment.

Lectures: Mo, Wed, Th: 10:30 – 11:35, 15 SL.

Materials: *Calculus Concepts (Brief Third Edition): An informal Approach to the Mathematics of Change* by LaTorre, Kenelly, Fetta, Harris, Carpenter, Houghton Mifflin, Boston, 2005;

The TI-83 (or TI-83 Plus) or TI-84 calculator is required.

No other calculator may be used on tests or the project without the explicit permission of your instructor.

A class packet (for Fall 2005) must also be purchased from NU Reprographics (x2766).

Please bring your textbook, packet and **calculator** to each class.

Course Content

This course introduces students to the use of derivatives and integrals in solving problems in business and economics, maximizing profit, calculating average investment income and consumers' surplus. (A more detailed syllabus is given below.)

A project involving optimization is also required. This project is described in class packet. The graphing calculator is used extensively and prior familiarity with graphing calculator is helpful.

Prerequisites: MTH U130 or equivalent.

Note that MTH 131 may be used to satisfy the mathematics proficiency requirement of the College of Arts and Sciences.

Assignments

A list of homework exercises from the textbook and class packet is attached. (This list

subject to a revision.). Homework exercises should be done by the next class after they are assigned. Homework exercises may occasionally be collected and graded. Even if they are not collected, you are responsible for knowing the solutions of all homework exercises. The questions on exams and quizzes will be based on homework exercises, quiz and test review exercises in the packet and the material in lectures.

Attendance

You are expected in class each day. If for some reason, you are unable to come to a class, then (if possible) please call or send an e-mail to let me know. Three or more unexplained absences will lower your grade.

Exams

There will be 7 quizzes (20-30 minutes each), 1 hour test (the midterm), and a final exam. (The lowest quiz grade will be dropped.) The final exam will count 40% of your course grade. All students without legitimate conflict approved by the instructor will take the final exam at the scheduled time: TBA. The final exam is cumulative and is common for all sections of MTH U131. **Do not make travel plans that conflict with the final exam.**

Grading

Your final grade will be determined by the following quantities: quiz grades (30%); midterm grade (15%); project grade (15%); and final exam (40%).

The last day to drop a course without receiving a 'W' grade is Sept. 23. The last date to drop a course with a 'W' is Nov. 18. As a matter of Math. Department policy: The 'I' grade (incomplete) will be given only rarely. It is intended to cover real emergency situations in which a student who is doing reasonably well (C- or better) is unable, due circumstances beyond the student control, to complete all course requirements (e.g., is unable to take the final exam due to hospitalization). An 'I' may not be used to rescue a final grade, or to postpone the final exam.

If you want to see me, but cannot do so during my office hours, then please see me before or after a class to set up a convenient time. Also, please take advantage of the office hours of the other instructors in the course when they are more convenient.

Academic Honesty

Cheating will not be tolerated. All incidents of cheating will be reported to the Office of Judicial Affairs. The University's cheating policy and related disciplinary actions are detailed in the Student Handbook.

Tutoring

There is a free math tutoring center at 102 Cahners Hall, 110 The Fenway, x 2328. All tutoring is done on the first come first served basis. Students must come in person to schedule appointments. No appointments can be made by telephone. Tutoring will start the third week into the semester. Tutoring hours are Monday – Wednesday: 9:15 AM – 8 PM, Thursday 9:15 AM – 4 PM and Friday 9:15 AM – 1 PM. Students go to Cohners for help in a dozen different courses and tutors are not meant to be experts in all of them. The better prepared you are with a specific question, the better the tutor will be able to help you.

Resolving disputes and complaints

If you are not satisfied with my responses to your serious concerns (including your final course grade), please contact the chairman of the math department, Professor Robert McOwen, 505 LA, x5635, e-mail: r.mcowen@neu.edu.

Note that the syllabus that follows is tentative. The instructor reserves the right to make changes to this syllabus if necessary. It is a responsibility of each student to stay abreast of what happens in the classroom, changes in the assignment exercises and changes in the dates of quizzes or exams. All students should consult the Blackboard site for this course regularly.

MTH U 131	SCHEDULE	FALL 2005
9/7:	3.1:average rate of change	HW: 11,13a-c, 17, 18, 26a
9/8	3.1 Using the TI-83	Read project description in packet HW: 12, 13d, 14; packet Model Review problems 1,2
9/12	3.2, 3.3: derivatives	HW: 3.2: 7a,8,9b,10,17,21,22, 3.3: 2,4,5,13,15; 3.4:1a
9/14	4.1: slope graphs; 4.2: deriv. rules	HW: 3.4: 1-10,21 packet Alg. Review Probs. 1-5
9/15	QUIZ 1; 4.3: more deriv. rules	HV:4.2:1-6 (slope eqs only),7-14 4.3:1-6 (slope eqs only),7-14
9/19	4.2, 4.3	
9/21	PROJECT PART A DUE 4.4:chain rule	

11/3 6.4 Antiderivatives HW: 6.4:9-14

PROJECT PART D DUE

11/7: 6.4: The general antiderivative HW:packet Antiderivative ps 6-10;
Finding specific antiderivative 6.4:15-17

11/9: **QUIZ 5** HW:6.4: 19-21

11/10: 6.4: Word problems HW: 26,27,33
6.1: Accumulated change HW: 8a,c, 13a, 18a,b
Area approximation

PROJECT PART E DUE

11/14: **PROJECT PRESENTATION**

11/16 **PROJECT PRESENTATION**

11/17: 6.2: The definite integral HW: 1,4
6.3: Accumulation function HW:5abcd, 19,22

11/18: [Last day to drop a course with a "W" grade.]

11/21: 6.4: Fundamental Theorem of Calculus HW: 1-4

11/23: 6.5: Evaluating def, int. using FTC HW: 8c,9c,10,11c
6.5: Setting up, interpreting
definite integrals

(using fnInt on the TI-83) HW: 13, 15, 21, 23

QUIZ 6

11/24: **THANKSGIVING DAY, UNIVERSITY CLOSED**

11/28: 6.6: Average value of a function HW: 2,5,10

11/30: Consumer's Surplus HW: 7.3:8cd(use p1=\$555)
(see packet notes) 9cd(use p1=\$4000)
(For meaning of p1 see packet notes on Consumer's Surplus)

12/1: **QUIZ 7**

12/5: Review for Final Exam

12/7 **LAST DAY OF CLASSES**