

**MTH U130 Syllabus**  
**Math for Business and Economics**  
**Fall 2009**

**Materials:**

- *Calculus Concepts (Brief Edition): An Applied Approach to the Mathematics of Change* by LaTorre, Kenelly, Fetta, Harris Carpenter, Houghton Mifflin, Boston, 2002;
- the TI-83 (TI-83 plus) Which should be brought to each class;
- Supplementary materials (supplementary problems, quiz and test review questions, etc.) that are posted on blackboard.

**Classes:** M,W,Th 1:35PM - 2:40PM, 425 Shillman Hall.

**Instructors:** Limin Wang, 538 Nightingale Hall, wang.lim@neu.edu

**Office hours:** M,W 3:00 PM - 4:30 PM or by appointment

**Course Content:** An introduction to some of the important mathematical concepts and tools (e.g., modeling, exponential and logistic functions) used to solve problems in business and economics. MTH U130 is a prerequisite for MTH U131 (Calculus for Business and Economics). Note that MTH U130 may not be used to satisfy the mathematics proficiency requirement of the College of Arts and Sciences.

**Problem Sets:** The course is organized around a series of problem sets, which are detailed later on in this document. I will keep you informed of when each problem set should be completed. The problem sets include problems from the textbook, from the document "Supplementary Problems" and review quizzes from the document "Review Quizzes". After the discussion of a review quiz is completed in class, a corresponding quiz will be given in the following class. A midterm review (the document "Midterm Review") will also be assigned as a problem set. After it is discussed, a midterm will follow.

**Examinations:** There will be a quiz (approximately 35 minutes) every week or two and a full period midterm. The final exam is a two hour examination. All students (without legitimate conflicts) will take the final exam at the scheduled time. The final exam is cumulative and is common for all sections of MTH U130. *Do not make travel plans which conflict with the final exam*

**Project:** A project involving mathematical modeling is required. Instructions for this project can be found on the class website.

**Grading:** Your final course average is computed by adding the following quantities: 15% of the project grade, 30% of weekly quiz average, 15% of the hour exam grade; and 40% of the final exam grade. It is the Mathematics Department policy that an I (Incomplete) grade is rarely given. It is intended to cover real emergency situations in which a student is doing satisfactory work (at least C minus) but is unable due to circumstances beyond the student's control, to complete all course

requirements (e.g., is unable to take the final exam due to hospitalization). An I grade may not be used to rescue a failing grade, or to postpone the final. It is University policy that no grade, including an incomplete, can be changed after one year. Exceptions must be authorized by the Academic Standing Committee.

**Attendance:** you are expected to attend each class. If, for any reason, you are unable to come to a class, then notify your instructors via e-mail. It is your responsibility to be aware of any changes the instructor may make to the syllabus as they are announced in class. Students are responsible for all information given when they are absent. As a courtesy to your classmates, keep your cell phones turned off during class.

**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:** tutoring is available free of charge in the Mathematics Tutoring Center in 540B Nightingale Hall starting September 21, 2009. Hours of operation 2009 Fall are: Mon - Wed 10:00 AM - 9:00 PM, Thurs 10:00 AM - 6:00 PM and Fri 10:00 AM - 1:00 PM. All tutoring is done on a first come first served basis. Students must come in person to schedule appointments. No appointments can be made by phone.

**Problems with your instructor:** From time to time, students feel like they are not being treated fairly. Please do not hesitate to let your instructor know about your problems and concerns. If you have a concern about the course or the instructor that is not or cannot be resolved by speaking with the instructor, the next step is to speak with the course coordinator, Professor John Frampton (j.frampton@neu.edu) . If the course coordinator does not settle the matter, contact Professor S. Jekel (Undergraduate Advisor), 525LA, x5639, jekel@neu.edu.

**Homework and Test Schedule:** all information contained in this list is provisional and might change during the course of the semester. All changes will be announced in class.

Section	Topics	Homework problems
Quiz 1	models, functions, and graphs; straight lines; linear functions	1. Sec 1.1: 13, 19, 21-26 2. Supplementary 1-12; Quiz 1 Review
Quiz 2	graphing*; 2nd-Calc/Intersect*; Stat plot*; linear models; linear regression*; exponential models; exponential functions; exponential*; regression*.	1. Sec. 1.1: 27-34, 43-45 Sec. 1.2: 17, 18, 20 2. Sec. 1.2: 21, 22, 25, 27-29 3. Supplementary 13-17; Quiz 2 Reivew
Quiz 3	percentage growth rate; compound interest; logarithmic functions; solving exponential equations	1. Sec. 1.3: 13, 16, 19-21, 29 2. Supplementary 18-20 3. Supplementary 21-30; Quiz 3 Review
Quiz 4	polynomial equations; factoring quadratic equations; logistic functions; selecting a model	1. Sec. 1.5: 13, 14, 16, 18, 22, 23, 26; Supplementary 36-40 2. Supplementary 31-35; Chapter 1 Review (pp. 87-89) 1-6, 13, 14 3. Quiz 4 Review
Midterm		1. Midterm Review
Quiz 5	supply and demand; logistic regression*; equilibrium prices	1. Sec. 6.3: 9, 10; Supplementary 52, 55, 56 2. Sec. 6.3: 18, 20, 22, 3; Quiz 5 Review
Quiz 6	cost, revenue, and profit	1. Supplementary 41, 42, 44 2. Supplementary 45-51, Quiz 6 Review
Quiz 7	the algebra of exponentials, logarithms, and radicals	problems to be determined
Quiz 8	average rates of change; instantaneous rates of change; derivatives	problems to be determined
Quiz 9	some algebra skills needed in MTHU131	problems to be determined

Topics marked \* are calculator skills.

**Note:** The problems relating to each quiz are divided into 2 or 3 problem sets. If, for example, your instructor says to do the second quiz 2 problem set, you should do problems 21, 22, 25, 27, 28, and 29 at the end of Section 2 in Chapter 1.

**Project** due dates: Part J on Oct. 6; Part K on Oct. 27; and Part L on Nov. 17