Math 1311: Elementary Mathematical Modeling
Course Syllabus

Section number: This information applies to ALL sections
Delivery format: face-to-face lecture or online
Prerequisites: none
NO access code required
Textbook: <u>Functions and Change, 6th Edition</u>, Crauder, Evans and Noell, Houghton-Mifflin 2010
Graphic calculator is required, TI84 is recommended
Face to Face class need to buy Popper form with your section from the book store online classes
Poppers are done on courseware EMCF.

The information contained in this class outline is an abbreviated description of the course. Additional important information is contained in the departmental policies statement at and on your instructor's personal webpage. You are responsible for knowing all of this information.
http://www.uh.edu/nsm/math/undergraduate/course_policies/math13xx_policies/

Upon successful completion of this course, students will understand and be able to apply properties of polynomial, rational, exponential, logarithmic, and power functions in modeling simple real-life scenarios from business, social sciences, the natural sciences, and personal finance. Appropriate choices for modeling come primarily from consideration of rates of growth or decay over discrete increments or from graphical representations of data, possibly data with noise. Students will utilize graphing calculators or spreadsheet programs in simulating and analyzing models. They will translate ordinary language descriptions of a problem into mathematical expression, employ valid, logical approaches to solving the problem, and be able to communicate the results again in ordinary language.
All online assignments are in courseware www.casa.uh.edu not Blackboard

A student in this class is expected to complete the following assignments:
  3 Regular Semester Exams
  1 Final Exam
  Online Quizzes – about a dozen of these
  Home works – one on each section of the textbook covered in class
  20+ Poppers – in-class quizzes given daily starting the 3rd week of classes.

Grading Regular Exams: 57% (19% each)
Final Exam: 19%
Online Quizzes: 11%
Poppers: 5%
Homework: 8%
Total: 100%

Poppers and Free response: Students are responsible to bubble forms correctly in Free response and poppers forms otherwise there will be no grade.

Final exam will replace one missed exam.
There are no make ups in quizzes, homework and poppers.

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (**www.uh.edu/caps**) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. No appointment is necessary for the "Let's Talk" program, a drop-in consultation service at convenient
Locations and hours around campus.
http://www.uh.edu/caps/outreach/lets_talk.html

Math 1311: Elementary Mathematical Modeling – Outline

Chapter 1: Functions

Functions given by Formulas

Functions given by Tables

Functions given by Graphs

Functions given by Words

Chapter 2: Graphical and Tabular Analysis

Tables and Trends

Graphs

Solving Linear Equations

Solving Nonlinear Equations

Chapter 3: Straight Lines and Linear Functions

The Geometry of Lines

Linear Functions

Modeling Data with Linear Functions

Linear Regression

Systems of Equations

Chapter 4: Exponential Functions

Exponential Growth and Decay

Modeling Exponential Data

Modeling Nearly Exponential Data

Logarithmic Functions

Connecting Exponential and Linear Data

Chapter 5: A Survey of Other Common Functions

Power Functions

Modeling Data with Power Functions

Combining and Decomposing Functions

Quadratic Functions and Parabolas

Higher-degree Polynomials and Rational Functions

Whenever possible, and in accordance with 504/ADA guidelines, the University of Houston will attempt to provide reasonable academic accommodations to students who request and require them. Please call 713-743-5400 for more assistance.

CAPS   Counseling and Psychological Services can help if you are feeling distressed. Their phone number is 713-743-5454. They also have a drop in service called "Let's talk" at various locations and times around campus.
http://www.uh.edu/caps/outreach/lets_talk.html