COURSE SYLLABUS

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YEAR COURSE OFFERED: 2017 – 2018

SEMESTER COURSE OFFERED: Session 2

DEPARTMENT: MATH

COURSE NUMBER: 16761
NAME OF COURSE: Elementary Mathematical Modeling

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The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

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Learning Objectives

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.

Major Assignments/Exams

ASSESSMENTS
Tests 1, 2, 3 - 20% each
Final exam - 25%
Online Quizzes - 15%

Note: The percentage grade on the final exam can be used to replace your lowest test score

GRADING SCALE

A	$x > 93$	B-	$80 \le x < 83$	D+	$67 \le x < 70$
A-	$90 \le x < 93$	C+	$77 \le x < 80$	D	$63 \le x < 67$
B+	$87 \le x < 90$	C	$73 \le x < 77$	D-	$60 \le x < 63$
B	$83 \le x < 87$	C-	$70 \le x < 73$	F	Below 60

INSTRUCTIONS FOR QUIZZES

- The quizzes are located in the CASA CourseWare course website under the "Online Assignments" tab.
- The quizzes will close on the due dates given on CourseWare at 11:59 pm and will not re-open.

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- One of the quizzes will be dropped.
- You have 20 times to take each quiz.
- There is a 90 minute time limit for each quiz.
- The following table shows what sections each quiz covers.

Quiz	Sections Covered	Quiz	Sections Covered
Quiz 1	Calculator	Quiz 7	Chapter 3(2nd half)
Quiz 2	Chapter 1	Quiz 8	Chapter 4
Quiz 3	Chapter 1(2nd half)	Quiz 9	Chapter 4(2nd half)
Quiz 4	Chapter 2	Quiz 10	Chapter 5
Quiz 5	Chapter 2(2nd half)	Quiz 11	Chapter 5(2nd half)
Quiz 6	Chapter 3	Quiz 12	Chapter 6

LATE ASSIGNMENT, MAKE-UP AND INCOMPLETE POLICIES

- This course is a cumulative course. You as a student need to keep up with the reading, quiz assignments and exams. Thus late work or make-ups will not be accepted.
- The following is calculated for the final grade:
  - One of the lowest quiz assignments is dropped.
  - The final exam score can replace the lowest exam score.
- Incomplete policy: A notation of "incomplete" may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantiated cause beyond the student's control, has been unable to take or complete the final examination or to complete some limited amount of term work.

EXAM INFORMATION

Test 1: Covers pre-requisite materials and Chapter 1 and will be in the CASA Testing Center, **June 12 -13**.
Test 2: Covers chapters 2 and 3 and will be in the CASA testing center, **June 18 – June 19**.
Test 3: Covers chapter 4 and 5 and will be in the CASA testing center**, June 26 – 27**.

- The tests will be given in CASA located on the second floor of Garrison or in CBB, see the exam scheduler for details.
- You can access the scheduler for these exams by logging into Courseware.
- The exams given in CASA will consist of both multiple choice and written questions.
- The multiple choice questions will be machine graded.
- The written questions (free response) will be graded by the CASA personnel.
- There will be a practice test on Courseware for each exam. 10% of your practice test score will be added to your exam score as bonus.
- The scheduler will be available approximately 1 week prior to the start of the exam cycle. Exam dates will be posted on CASA.

FINAL EXAM

- A **comprehensive final exam** will be given in CASA.
- The final will include chapters 1 through 6.
- You can access the scheduler for this exam by logging into Courseware.
- Date: **July 3**

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REQUIRED READING And MATERIAL

- Course webpage: http://www.casa.uh.edu
- The online quizzes, and additional help materials will be made available by logging into Courseware at http://www.casa.uh.edu .
- Textbook: <u>Functions and Change: A Modeling Approach to College Algebra</u> by Crauder, Evans and Noell, 5th edition, ISBN-13: 978-1133365556 ISBN- 10: 1133365558
- **Graphing calculator**: TI83- Plus (Recommended) or TI 84(any version)

EXEMPTION FROM FINAL EXAM

- If your letter grade calculated by the Letter Grade Calculator in your CASA account is a B- or better on the Opt out dates and you have completed the teacher evaluation, you will be able to opt out of the Final Exam. Otherwise you will be required to take the Final Exam, which also requires a CASA reservation. If you choose to exempt, you may not change your mind after the deadline has passed.
- Opt out dates: **Refer to CASA calendar**.
- Instructions on how to opt out will be provided to you in class and via email from your instructor towards the end of the semester.

LIST OF DISCUSSION/TOPICS

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

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Chapter 5   A Common Survey of Other Functions
Power Functions
Modeling Data with Power Functions
Combining and Decomposing Functions
Quadratic Functions and Parabolas
Higher-degree Polynomials and Rational Functions

STUDENT DISABILITY ACCOMMODATIONS AND SERVICES

The University of Houston System complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for students who have a disability. In accordance with Section 504 and ADA guidelines, University of Houston strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. If you believe that you have a disability requiring an academic adjustments/auxiliary aid, please visit The Center for Students with DisABILITIES (CSD) website at http://www.uh.edu/csd/ for more information.

Academic Adjustments/Auxiliary Aids: The University of Houston System complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for students who have a disability. In accordance with Section 504 and ADA guidelines, University of Houston strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. If you believe that you have a disability requiring an academic adjustments/auxiliary aid, please visit The Center for Students with DisABILITIES (CSD) website at http://www.uh.edu/csd/ for more information.

Accommodation Forms: Students seeking academic adjustments/auxiliary aids must, in a timely manner (usually at the beginning of the semester), provide their instructor with an approved current Student Accommodation Form (paper copy or online version, as appropriate) before an approved accommodation can be implemented.

Details of this policy, and the corresponding responsibilities of the student are outlined in The Student Academic Adjustments/Auxiliary Aids Policy (01.D.09) document under *[STEP 4: Student Submission (5.4.1 & 5.4.2), Page 6]*. For more information please visit the Center for Students with Disabilities FAQs page.

Additionally, if a student is requesting a (CSD approved) testing accommodation, then the student will also complete a Request for Individualized Testing Accommodations (RITA) paper form to arrange for tests to be administered at the CSD office. CSD suggests that the student meet with their instructor during office hours and/or make an appointment to complete the RITA form to ensure confidentiality.

*Note: RITA forms must be completed at least 48 hours in advance of the original test date. Please consult your counselor ahead of time to ensure that your tests are scheduled in a timely manner. Please keep in mind that if you run over the agreed upon time limit for your exam, you will be penalized in proportion to the amount of extra time taken.

UH CAPS Statement

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