

THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICS

Math 1320 Syllabus

Course Number: 13024/16589
Course Title: Mathematics for the Social Sciences I
Credit Hours: 3
Term: Fall 2009
Course Time: MWF 8:30-9:20
Location: LART 208
Prerequisites: Math 0311, or Accuplacer Score of 35 or higher
Instructor: Guillermo Heredia Jr.
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Office Hours: MW 9:30-11:20 or by appointment

Drop Deadlines: The last day to drop the course without a “W” is Wednesday, September 9.
The last day to drop the course with a “W” is Friday, October 30.

Course Website: <http://www.math.utep.edu/classes/math1320/index.html>

Required Textbook:

Finite Mathematics & Applied Calculus by Waner and Costenoble, 4th Edition.
The nine-chapter single edition is for Math 1320 only. The fourteen-chapter combined edition is for students that will take both Math 1320 and Math 2301.

Required Technology:

MS Excel, a graphing calculator and a WebAssign account.

WebAssign: <http://www.webassign.net/>

STEP 1: You must get an access code by either
Purchasing a new textbook, or
Purchasing an access code on the WebAssign website.

STEP 2: Sign up with our WebAssign course key.
When first signing onto WebAssign, click on the red “Log In” button on the left hand side of the page. Then click “I have a Class Key.” Enter this key: **utep 5916 5322**

STEP 3: Follow the log-in instructions to create your own user id and password.
For future logins, use your user id and password.
It is important that you remember this information so you can log in for the remainder of the class.

General Information About the Course:

Math 1320 is a precalculus course for liberal arts, business, and other non-science majors.

The topics covered include:

- * Linear, quadratic, exponential and logarithmic functions;
- * Systems of linear equations;
- * Matrix algebra;
- * The mathematics of finance;
- * The algebra of sets; and
- * Probability.

Students will learn mathematical concepts and methods used in management, social science, and business. Students will develop the view that mathematics is an evolving discipline that is interrelated with human culture. Students will also understand the connections of mathematics to other disciplines.

Course Objectives

1. Linear Functions:

- Calculate the slope of a line; graph a line; find the equation of a line.
- Use linear concepts in a business context (e.g.: supply/demand and break-even analysis).
- Understand the concept of linear regression and use MS Excel to apply it to real-world data to make predictions.

2. Nonlinear Functions:

- Calculate the difference quotient using a nonlinear function.
- Read information from graphs and sketch graphs of nonlinear functions.
- Identify the vertex of a parabola as the maximum or minimum of a quadratic formula and apply this concept to real-world problems (e.g.: maximize the profit and minimize the cost).
- Solve exponential and logarithmic equations.
- Construct exponential models in application problems (e.g.: radioactive decay and bacteria population growth).
- Understand the concept of quadratic and exponential regression and use MS Excel to apply it to real-world data to make predictions.

3. Linear Systems of Equations:

- Use substitution and elimination to solve systems with two variables and two equations.
- Use the method of Gaussian elimination to solve systems with three variables and three equations by hand.
- Use technology (MS Excel or graphing calculators) to solve systems.
- Solve real-world problems involving systems of equations.

4. Financial Mathematics

- Solve applications problems using simple interest and compound interest.
- Find the present value of or payments made on an annuity or loan.
- Find the future value of or payments made into a sinking fund.
- Use technology to solve financial math problems.

5. Sets and Operations

- Find the union, intersection, complement, and Cartesian product of sets. Also, find the cardinality of these if they are finite.
- Draw Venn diagrams from real-world data.

- Do application-based problems involving: the addition principle, the multiplication principle, permutations, and combinations.
6. Probability
- Identify the sample space of an experiment.
 - Understand the properties of a probability distribution.
 - Be able to solve probability (including conditional probability) problems.

Grading Policy:

Your grade will be determined by the maximum of these calculations:

Calculation #1:

$$60\% * (\text{Exam Total}) + 12\% * \text{HW} + 8\% * \text{Quizzes} + 20\% * (\text{Final Exam})$$

Calculation #2:

$$80\% * (\text{Final Exam}) + 20\% * (\text{HW and Quiz Total})$$

Make-up Policy:

Homework will be given on WebAssign. Please set up your account as soon as possible.

Late homework will **NOT** be accepted, and extensions will **NOT** be given.

A quiz will be given about once per week. Make-ups will **NOT** be given.

NO make-up exams.

Attendance Policy:

As with every college course, attendance is essential for success. Although there are many online resources used in Math 1320, this is not an online course. Please do not miss class unless absolutely necessary.

Information About Math 0120:

Students who scored 35-50 on the AccuPlacer Math Test, and who have not passed Math 0311 with a C or better, are permitted to enroll in Math 1320, if they are concurrently enrolled in an associated Math 0120 support lab. Attendance in Math 0120 is required. Students who either withdraw from the lab or are withdrawn by a Math 0120 instructor will also be withdrawn from this course.

Civility Statement:

Please do not use cell phones, pagers, iPods, MP3 players, blue tooth devices, etc. during class. Cell phones and pagers should be set to silent or vibrate, and any calls should be taken outside of class. Please do not wear headsets or blue tooth devices during class.

Cell phone calculators may not be used on quizzes or exams.

Academic Integrity Policy:

Any form of scholastic dishonesty is an affront to the pursuit of knowledge and jeopardizes the quality of the degree awarded to all graduates of UTEP. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, collusion, submission for credit of any work or materials that are attributable in whole or in part to another person, taking an

exam for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts. Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures and available in the Office of the Dean of Students, may result in sanctions ranging from disciplinary probation, to failing grades on the work in question, to failing grades in the course, to suspension or dismissal, among others.

Disabled Student Services:

If a student has or suspects he/she has a disability and needs an accommodation, he/she should contact the Disabled Student Services Office (DSSO) at 747-5148 or at <dss@utep.edu> or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any DSS accommodation letters and instructions.

Military Statement:

If you are a military student with the potential of being called to military service and/or training during the semester, please contact me by the end of the first week of class.