

Central Texas College Algebra Syllabus

Instructor: Mary Reynolds

Office Hours: No official hours will be held for this course. I will arrive 15 minutes prior to class and will remain after class to assist students. Students may contact me at (580) 365-4992 or 483-2869.

Text: Robert Blitzer, College Algebra, 5th edition.

Attendance:

CTC Policy: Prompt and regular attendance is required in the classroom. Students may be dropped from class for excessive absences. Further information regarding the attendance policy is available in the current college catalog.

Tardiness : Students who enter the classroom after class begins or leaves before class ends disrupts the educational process. For this reason, the instructor may choose to lower a student's grade for being tardy and/or leaving early an excessive number of times.

The above policy will be enforced unless prior arrangements have been made.

Grades: Grades will be determined by the following:

Homework: Homework will be assigned daily. It will not be graded but it is highly advised to complete the work in order to understand the concepts being presented. Questions on the homework will be discussed the first 10 minutes of the following class.

Exams: Four exams will be given along with a comprehensive final exam. Grades will be assigned according to the following scale: Your final exam can replace any of the chapter test. If you must miss an exam, please call prior to the exam to inform me and provide an acceptable reason. If you do so then you will be allowed to make up the exam. If you do not call then you may not be given a make-up exam.

360-400 = A

320-359 = B

280- 319 = C

240-279 = D

below 240 = F

You must have a graphing calculator in this course a TI-83 or TI-84 plus is recommended.

II. LEARNING OUTCOMES

Upon successful completion of this course, College Algebra, the student will be able to:

- A. Define relations and function. (F1, F2, F5, F6)
 - B. Identify relations that are functions graphically and analytically. (F1, F8, F9)
 - C. Evaluate functions. (F3, F8, F9)
 - D. Construct graphs of functions by plotting points. (F2, F10)
 - E. Construct graphs of functions using transformations. (F9, F8)
 - F. Analyze graphs of functions. (F8, F10)
 - G. Define one-to-one and inverse functions. (F1, F2, F5, F6)
 - H. Identify functions that are one-to-one. (F1, F8)
 - I. Calculate the inverse of a given function. (F3, F4, F9)
 - J. Verify that two functions are inverses. (F3, F4, F9)
 - K. Define the basic functions, polynomial functions, rational functions, exponential functions, and logarithmic functions. (F1, F2, F5, F6)
 - L. Express function rules using sum, difference, product, quotient, and compositions of functions. (F8, F7, F4)
 - M. Use properties and theorems involving all types of functions. (F7, F8)
 - N. Solve equations involving different types of functions. (F3, F4)
 - O. Solve application problems. (F1, F3, F4, F9)
 - P. Solve systems of equations using matrices and determinants. (F3, F4, F8, F9)
- MATH 1414 08/05/2010
- Q. Use matrix operations. (F3, F4)
 - R. Evaluate determinants. (F3, F4, F9)
 - S. Identify types of sequences and series. (F1, F8)
 - T. Use sequences and series to solve problems. (F3, F4, F9)
 - U. Apply the principle of mathematical induction. (F7, F8, F9)
 - V. Apply the Binomial Theorem. (F3, F4)
 - W. Use electronic and other media, such as the computer and DVD, to reinforce and supplement the learning process. (F1, F2, F3, F4, F6)

Course Content: A detailed list of required content follows:

<u>Chapter/Section</u>	<u>Topics</u>
2.1	Basics of Functions and their Graphs
2.2	More on Functions and Their Graphs
2.5	Transformations of Functions
2.6	Combinations of Functions; Composite Functions
2.7	Inverse Functions Review/Test1
3.2	Polynomial Functions and Their Graphs
3.3	Dividing Polynomials; Remainder and Factor Thm
3.4	Zeros of Polynomial Functions
3.5	Rational Functions and Their Graphs
3.6	Polynomial and Rational Inequalities Review Test 2
4.1	Exponential Functions
4.2	Logarithmic Functions
4.3	Properties of Logarithms
4.4	Exponential and Logarithmic Equations
4.5	Exponential Growth and Decay ; Modeling Data Review/Test3
6.1	Matrix Solutions to Linear Systems
6.2	Inconsistent and Dependent Systems and Their Applications
6.3	Matrix Operation and Their Applications
6.4	Multiplicative Inverses of Matrices/Matrix Equations
6.5	Determinants and Cramer's Rule Review/Test 4
8.1	Sequences and Summation Notation
8.2	Arithmetic Sequences
8.3	Geometric Sequences
8.4	Mathematical Induction
8.5	Binomial Theorem Review/Final Exam