

**Math 1314 STEM  
College Algebra**

**Western Texas College**

- I. Basic Course Information
  - A. Math 1314 Course Description: In depth study and applications of polynomial, rational, radical, exponential, and logarithmic functions, and system of equations using Matrices.
  - B. Any required prerequisites: A grade of C or higher in Math 0303 or placement by college entrance exam scores.
  - C. Required Grade for Enrolling in the Next Course in this Sequence: A grade of C in this course is required to advance to MATH 1316.
  - D. Advancement Via Individual Determination (AVID) learning strategies will be implemented periodically throughout the course.
  - E. This course has been designed to prepare students whose chosen field of study requires a STEM mathematical pathway.
  - F. Project Base Learning (PBL) is an active learning method in which students gain knowledge and skill by investigating and responding to a tangible, engaging and complex question, problem or challenge.
  - G. Online course content is administered through the college's learning management system (LMS), Moodle, also called eCampus. A link to Moodle can be found on mywtc.edu or the college's home page, [www.wtc.edu](http://www.wtc.edu) (the big M with a graduation cap).
- II. Student Learning Outcomes
  - A. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
  - B. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.
  - C. Apply graphing techniques.
  - D. Evaluate all roots of higher degree polynomial and rational functions.
  - E. Recognize, solve and apply systems of linear equations using matrices.
- III. Course Requirements
  - A. Major Requirements—All major requirements must be proctored.
    - 1. In-Class Participation
    - 2. Unit Exams
    - 3. Midterm Exam
    - 4. Final Exam
  - B. Minor Requirements
    - 1. Binder Checks
    - 2. Homework
    - 3. Quizzes
    - 4. Projects
- IV. Testing Requirements
  - A. Students are NOT allowed to use their book or notes of any kind while completing major requirements.

- V. Information on Books and Other Course Materials
  - A. Required Book: Essentials of College Algebra, 11th edition by Lial, Hornsby, Schneider, and Daniels. Book ISBN: 978-0-321-91225-1
  - B. Required Access Code: **Online Students** must purchase a MyMathLab Access Code. This code can be purchased stand alone or bundled with the textbook.
    - 1. Book bundled with MyMathLab ISBN: 978-0-321-91684-6
  - C. Calculators: Students must have a calculator that provides them with the In (natural log) function key. A TI-84 or higher is strongly recommended. The TI-89, TI-Inspire with CAS or any other calculator with CAS capability are not permitted.
- VI. Other Policies, Procedures and important dates: Please refer to the [Western Texas College Catalog](#) for the following:
  - A. Campus Calendar
  - B. Final exam schedule
  - C. How to drop a class
  - D. Withdrawal information
  - E. Student Conduct
  - F. Academic Integrity
  - G. Class Attendance
  - H. Students with disabilities
- VII. Planned Course of Study

Chapters and Sections to be covered throughout the semester	
Ch. 1— Equations and Inequalities	1.1 Linear Equations 1.2 Applications and Modeling with Linear Equations 1.3 Complex Numbers 1.4 Quadratic Equations 1.5 Applications and Modeling with Quadratic Equations 1.6 Other Types of Equations and Applications
Ch. 2—Graphs and Functions	2.3 Functions 2.4 Linear Functions 2.5 Equations of Lines and Linear Models 2.6 Graphs of Basic Functions 2.7 Graphing Techniques 2.8 Function Operations and Composition
Ch. 3— Polynomial and Rational Functions	3.1 Quadratic Functions and Models 3.2 Synthetic Division 3.3 Zeros of Polynomial Functions 3.4 Polynomial Functions: Graphs, Applications, and Models 3.5 Rational Functions: Graphs, Applications, and Models
Ch. 4—Inverse, Exponential, and Logarithmic Functions	4.1 Inverse Functions 4.2 Exponential Functions 4.3 Logarithmic Functions 4.5 Exponential and Logarithmic Equations

Ch. 5— Systems and Matrices	5.1 System of Linear Equations 5.7 Properties of Matrices 5.8 Matrix Inverses
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Disclaimer: Schedule and content is subject to change at the instructor's discretion.

Last Modified: August 23, 2019