

**MATH 0303/1314 STEM Corequisite  
Intermediate Algebra / College Algebra  
Western Texas College**

- I. Basic Course Information
  - A. MATH 0303 Course Description: A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, and rational), with a special emphasis on linear and quadratic expressions and equations.
    1. This is a mainstreamed intensifier providing contact hours for additional, just-in-time instructional support for the student's success in MATH 1314.
  - B. MATH 1314 Course Description: In depth study and applications of polynomial, rational, radical, exponential, and logarithmic functions, and system of equations using Matrices.
    1. The final overall grade the student earns in Math 1314 will also be the final overall grade the student earns in Math 0303.
  - C. Any required prerequisites: Students must have the appropriate placement test score.
  - D. 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.
  - E. Advancement Via Individual Determination (AVID) learning strategies will be implemented periodically throughout the course.
  - F. This course has been designed to prepare students whose chosen field of study requires a STEM mathematical pathway.
  - G. 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.
  - H. 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. Define, represent, and perform operations on real and complex numbers.
  - B. Recognize, understand, analyze features of a function.
  - C. Recognize and use algebraic (field) properties, concepts, procedures (including factoring), and algorithms to combine, transform, and evaluate absolute value, polynomial, radical and rational expressions.
  - D. Identify and solve absolute value, polynomial, radical, and rational equations.
  - E. Identify and solve absolute value and linear inequalities.
  - F. Model, interpret and justify mathematical ideas and concepts using multiple representation.
  - G. Connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines.

- H. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
  - I. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.
  - J. Apply graphing techniques.
  - K. Evaluate all roots of higher degree polynomial and rational functions.
  - L. 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, with the exception of In-Class Participation.
- 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. Calculators: Students must have a calculator that provides them with the ln (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 [WTC Course 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

Disclaimer: Schedule and content is subject to change at the instructor's discretion.

Last Modified: August 22, 2019