

MATH 0302 STEM
Beginning Algebra
Western Texas College

- I. Basic Course Information
 - A. MATH 0302 Course Description: The course supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; algebraic concepts, notation, and reasoning; quantitative relationships; mathematical models; and problem-solving.
 - B. Any required prerequisites: Students must have the appropriate placement test score.
 - 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 0303 or MATH 1332.
 - 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 (the big M with a graduation cap).
- II. Student Learning Outcomes
 - A. Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
 - B. Define, represent, and perform operations on real number, applying numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts.
 - C. Apply algebraic reasoning to manipulate expressions and equations to real world problems.
 - D. Use algebraic reasoning to solve problems that require ration, rates, percentages, and proportions in a variety of contexts using multiple representations.
 - E. Use graphs, tables, and technology to analyze, interpret, and compare data sets.
 - F. Construct and use mathematical models in verbal, algebraic, graphical and tabular form to solve problems from a variety of contexts and to make predictions and decisions.
- 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: MyLab Access Code: ISBN-13: 9780134708805 This access code comes with an ebook. If you prefer a regular book purchase Prealgebra, 8th edition, by Martin Gay ISBN: 9780134708799. There are also bundles available.
 - B. Calculators: Students must have a simple four function calculator. 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—Whole Numbers	1.2 Addition and Subtraction with Whole Numbers 1.3 Multiplication and Division with Whole Numbers 1.5 Solving Equations with Whole Numbers: ($X + b = c$ and $aX = c$) 1.6 Exponents and Order of Operations 1.7 Introduction to Polynomials
Ch. 2—Integers	2.1 Introduction to Integers 2.2 Addition with Integers 2.3 Subtraction with Integers 2.4 Multiplication, Division, and Order of Operations with Integers 2.5 Applications: Change in Value and Average 2.6 Introduction to Like Terms and Polynomials 2.7 Solving Equations with Integers: ($X + b = c$ and $aX = c$)

Ch. 3—Prime Numbers and Fractions	3.1 Tests for Divisibility 3.2 Prime Numbers 3.3 Prime Factorization 3.4 Least Common Multiple (LCM) 3.5 Reducing and Multiplication with Fractions 3.6 Division with Fractions 3.7 Addition and Subtraction with Fractions
Ch. 4—Mixed Numbers, Ratios, and Proportions	4.5 Solving Equations with Fractions: $(aX + b = c)$ 4.6 Solving Equations: Ratios and Proportions
Ch. 5—Decimal Numbers and Square Roots	5.2 Addition and Subtraction with Decimal Numbers 5.3 Multiplication and Division with Decimal Numbers 5.5 Decimals, Fractions and Scientific Notation 5.6 Solving Equations with Decimal Numbers and Circumference and Area of Circles 5.7 Square Roots and the Pythagorean Theorem 5.8 Simplifying Square Roots
Ch. 6—Percent	6.1 Understanding Percent 6.2 Solving Percent Problems 6.4 Applications: Discount, Sales Tax Commission, Profit, and Tipping 6.5 Applications: Buying a Car and Buying a Home 6.6 Simple Interest and Compound Interest
Ch. 7—Algebraic Topics I	7.1 Translating English Phrases 7.2 Solving Equations I 7.3 Solving Equations II 7.4 Applications: Numbers and Consecutive Integers
Ch. 8—Algebraic Topics II	8.1 Integer Exponents 8.2 Addition and Subtraction with Polynomials 8.3 Multiplication and Polynomials I 8.4 Multiplication and Polynomials II
Ch. 9—Graphing in Two Dimensions	9.1 Graphing Ordered Pairs of Real Numbers 9.2 Graphing Linear Equations I: $Ax + By = C$ 9.3 Graphing Linear Equations II: Horizontal and Vertical Lines, Calculators

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