MATH 0302/0303 Fast Track for STEM
Beginning Algebra / Intermediate Algebra
Western Texas College

I. Basic Course Information
   A. Course Description: Designed for students requiring remediation in beginning and intermediate algebra skills.
      1. For Beginning Algebra: This 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.
      2. For Intermediate Algebra: A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations.
      3. These courses will not apply toward graduation requirement and will not transfer as a credit math course.
   B. Any required prerequisites: Students must have appropriate placement test scores.
   C. Online course content is administered through the college's learning management system (LMS), Moodle, also called eCampus. A link to eCampus can be found on mywtc.edu and to Moodle (the big M with a graduation cap) on the college's home page, www.wtc.edu.

II. Student Learning Outcomes
   A. Students will use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
   B. Students will define, represent, and perform operations on real numbers, applying numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts.
   C. Students will use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.
   D. Students will apply algebraic reasoning to manipulate expressions and equations to solve real world problems.
   E. Students will use graphs, tables, and technology to analyze, interpret, and compare data sets.
   F. Students will 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. Grade Weighting and Distribution for Math 0302 Beginning Algebra

   A. Major Requirement: HW (30%) Labs (5%) Final Exam (65%)

B. Grade distribution for the 0302 course: A = 93 – 100, B = 83 – 92, C = 76 – 82, D = 60 – 75, F = 59 and below

IV. Student Learning Outcomes for Math 0303 Intermediate Algebra
- A. Students will be able to define, represent, and perform operations on real and complex numbers.
- B. Students will be able to recognize, understand, and analyze features of a function.
- C. Students will be able to 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. Students will be able to identify and solve absolute value, polynomial, radical, and rational expressions.
- E. The student will be able to identify and solve absolute value and linear inequalities.
- F. The student will be able to model, interpret, and justify mathematical ideas and concepts using multiple representations.
- G. The student will be able to connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines.

V. Grade Weighting and Distribution for Math 0303 Intermediate Algebra

- A. Major Requirements – Tests (40%), Final Exam (25%) Homework/Quizzes (30%), Labs (5%)
- B. Grade distribution for the 0303 course: A = 90 – 100, B = 80 – 89, C = 70 – 79, D = 60 – 69, F = 59 and below

VI. Information on Books and Other Course Materials
- A. Book: Prealgebra and Introductory Algebra by Franklin Wright. (Suggested, but not required)
- B. Calculators: Calculators are allowed in this course.

VII. Other Policies, Procedures and important dates - See the Western Texas College Catalog.
- A. Campus Calendar
- B. Final exam schedule
- C. How to drop a class.
- D. Withdrawal information
- E. Student Conduct/Academic Integrity
- F. Students with disabilities

VIII. Course Topics - Below are the main topics covered in this course. Each topic requires prerequisite knowledge; therefore other topics may also be covered to ensure student success. Topics are subject to change.

Topics
Beginning Algebra Similarity

Simplifying and Evaluating Algebraic Expressions Translating English Phrases and Algebraic Expressions Solving Linear Equations Applications: Number problems and consecutive integers Applications: Percent Working with Formulas Applications: Distance-rate-time, Interest, Mean The Cartesian Coordinate System Graphing Linear Equations in Two Variables The Slope Intercept Form Linear Inequalities in One or Two Variables Exponents Addition, Subtraction, and Multiplication of Polynomials **Intermediate Algebra** Solving Linear Inequalities Functions and Functional Notation Factoring Polynomials Solving Quadratics by Factoring Applications of Quadratics Radical Expressions Simplifying Radical Expressions Rational Exponents Operations with Radicals Solving Radical Equations Complex Numbers Solving Absolute Value Equations Rational Expressions Adding and Subtracting Rational Expressions Solving Rational Equations
Various Lab activities exploring the application of the mathematics learned will included.

Disclaimer: Content is subject to change at the instructor's discretion.

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