STUDENT INFORMATION PLAN (SIP)
DEVELOPMENTAL MATHEMATICS
MATH 0310 – BEGINNING ALGEBRA - TDCJ

INSTRUCTOR: 
DAY(S): 
TIME: 
ROOM NUMBER: 

TEXT:  Introductory Algebra, 10th Edition; Bittinger

The Mathematics Department requires that a grade of “C” or better be earned before taking MATH 0312.

ADA Compliance: This college will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the policy of ACC to provide reasonable accommodations for qualified individuals who are students with disabilities. It is the student’s responsibility to contact the Counseling Center in a timely manner to arrange for appropriate accommodations.

Course Description
This course includes a study of signed numbers, solving linear equations and inequalities, applications, polynomial operations, factoring polynomials, rational expression operations and equations, and graphing.
Calculators are permitted in this course.

Objectives
This course is designed to develop the basic skills of algebra on an individual basis. There are two types of students who shall benefit from the course: Those who need an original presentation of the material and those who need a review of the aforementioned math skills. The student who successfully completes the course should be ready for the material which is presented in Math 0312. During the semester the student must demonstrate an understanding of the material presented through testing.

Course Outline: Approximate number of hours of class needed to complete the work is indicated.

A. Introduction to Real Numbers and Algebraic Expressions – 6 hours
   1. Introduction to Algebra
   2. The Real Numbers
   3. Addition of Real Numbers
   4. Subtraction of Real Numbers
   5. Multiplication of Real Numbers
   6. Division of Real Numbers
   7. Properties of Real Numbers
   8. Simplifying Expressions; Order of Operations

B. Solving Equations and Inequalities – 6 hours
   1. Solving Equations: The Addition Principle
   2. Solving Equations: The Multiplication Principle
   3. Using the Principles Together
   4. Formulas
   5. Applications of Percent
   6. Applications and Problem Solving
   7. Solving Inequalities
   8. Applications and Problem Solving with Inequalities

C. Graphs of Linear Equations – 6 hours
   1. Graphs and Applications of Linear Equations
   2. More with Graphing and Intercepts
3. Slope and Applications
4. Equation of Lines
5. Graphing Using the Slope and the y-Intercept
6. Parallel and Perpendicular Lines
7. Graphing Inequalities in Two Variables

D. Polynomials: Operations – 6 hours
1. Integers as Exponents
2. Exponents and Scientific Notation
3. Introduction to Polynomials
4. Addition and Subtraction of Polynomials
5. Multiplication of Polynomials
6. Special Products
7. Operations with Polynomials in Several Variables
8. Division of Polynomials

E. Polynomials: Factoring – 6 hours
1. Introduction to Factoring
2. Factoring Trinomials of the Type $x^2 + bx + c$
3. Factoring $ax^2 + bx + c$, $a \neq 1$: The FOIL Method
4. Factoring $ax^2 + bx + c$, $a \neq 1$: The ac- Method
5. Factoring Trinomial Squares and Differences of Squares
6. Factoring: A General Strategy
7. Solving Quadratic Equations by Factoring
8. Applications of Quadratic Equations

F. Rational Expressions and Equations – 8 hours
1. Multiplying and Simplifying Rational Expressions
2. Division and Reciprocals
3. Least Common Multiples and Denominators
4. Adding Rational Expressions
5. Subtracting Rational Expressions
6. Solving Rational Equations
7. Applications Using Rational Equations and Proportions
8. Complex Rational Expressions
9. Direct and Inverse Variation

Review for the Final Exam
A final review will be available.

Grading
A. Methods of Evaluation
1. Homework
2. Quizzes
3. Hour Exams
4. Lab worksheets/out of class homework/projects (Mandatory – must count the equivalent of an hour exam)
5. Comprehensive Final Exam: Mandatory – must count at least 25% of the semester grade

B. Grading System:

<table>
<thead>
<tr>
<th>Course Average</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>80-89</td>
<td>B</td>
</tr>
<tr>
<td>70-79</td>
<td>C</td>
</tr>
<tr>
<td>Below 70</td>
<td>W, I, F, or R</td>
</tr>
</tbody>
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I  Incomplete
An incomplete may be awarded when the instructor determines that minimal work on the part of the student and the
instructor will complete the course requirements. An incomplete grade not changed by the instructor to a grade of
completion (A, B, C, or F) by the end of the following semester will automatically be changed to an F.

R  Re-enroll
The re-enroll grade is used when the student is making satisfactory progress toward course objectives and needs
additional time and instruction to master the material. The grade of re-enroll may be earned a maximum of two times
in this course.

W  Withdrawal
Students who file withdrawal requests by the published deadline will receive a grade of W.

Attendance
Students who are enrolled in this class due to a TSI requirement must remember that both enrollment and participation
are required. Participation, at a minimum, means regular attendance. Missing more than 8 hours of this class could
result in your being dropped from this course, being withdrawn from college, or receiving a grade of F in the course.

Classroom Behavior
It is expected that students will behave in a mature and courteous manner. Disruptive behavior during class will not be
tolerated. Students are expected to be attentive, take notes, ask pertinent questions, arrive on time and not leave until the
class is dismissed. Conflicts which arise between the scheduled class time and the student's personal schedule must be
resolved by the student.

ACADEMIC HONESTY IS ASSUMED. A student found guilty of scholastic dishonesty is subject to disciplinary
action. Violations such as plagiarism, cheating on tests and collusion are described in the ACC Student Handbook.
Consequences are at the discretion of the instructor and range from receiving a 0 on the assignment/test to failing the
course to expulsion from the College.

Camcorders and any other video recording devices are prohibited in the classroom. Audio recording may be allowed
ONLY WITH THE PERMISSION OF THE INSTRUCTOR.

CELL PHONES are not to be used and are not to ring during class. Cell phones are not to be out during tests. IF there
are special circumstances, arrangements must be made with the instructor.
TEXAS HIGHER EDUCATION ASSESSMENT
MATHEMATICS

The mathematics section of the THEA test includes skills related to fundamental mathematics, algebra, and geometry. All the skills eligible for testing are described below.

THEA MATHEMATICS SKILLS
FUNDAMENTAL MATHEMATICS

1. Solve word problems involving integers, fractions, decimals, and units of measurement.
   1.1 Solve word problems involving integers.
   1.2 Solve word problems involving fractions.
   1.3 Solve word problems involving decimals (including percents).
   1.4 Solve word problems involving ratio and proportions.
   1.5 Solve word problems involving units of measurement and conversions (including scientific notation).

2. Solve problems involving data interpretation and analysis.
   2.1 Interpret information from line graphs, bar graphs, pictographs, and pie charts.
   2.2 Interpret data from tables.
   2.3 Recognize appropriate graphic representations of various data.
   2.4 Analyze and interpret data using measures of central tendency (mean, median, and mode.).
   2.5 Analyze and interpret data using the concept of variability.

ALGEBRA

3. Graph numbers or number relationships.
   3.1 Identify the graph of a given equation.
   3.2 Identify the graph of a given inequality.
   3.3 Find the slope and/or intercepts of a given line.
   3.4 Find the equation of a line.
   3.5 Recognize and interpret information from the graph of a function (including direct and inverse variation).

   4.1 Find the value of the unknown in a given one-variable equation.
   4.2 Express one variable in terms of a second variable in two-variable equations.
   4.3 Solve systems of two equations in two variables (including graphical solutions).

5. Solve word problems involving one and two variables.
   5.1 Identify the algebraic equivalent of a stated relationship.
   5.2 Solve word problems involving one and two unknowns.

6. Understand operations with algebraic expressions and functional notation.
   6.1 Factor quadratics and polynomials.
   6.2 Perform operations on and simplify polynomial expressions.
   6.3 Perform operations on and simplify rational expressions.
   6.4 Perform operations on and simplify radical expressions.
   6.5 Apply principles of functions and functional notation.

7. Solve problems involving quadratic equations.
   7.1 Graph quadratic functions.
   7.2 Graph quadratic inequalities.
   7.3 Solve quadratic equations using factoring, completing the square, or the quadratic formula.
   7.4 Solve problems involving quadratic models.

GEOMETRY

8. Solve problems involving geometric figures.
8.1 Solve problems involving two-dimensional geometric figures (e.g., perimeter and area problems).
8.2 Solve problems involving three-dimensional geometric figures (e.g., volume and surface area problems).
8.3 Solve problems using the Pythagorean Theorem.

9. Solve problems involving geometric concepts.
9.1 Solve problems using principles of similarity and congruence.
9.2 Solve problems using principles of parallelism and perpendicularity.

PROBLEM SOLVING

10. Apply reasoning skills.
10.1 Draw conclusions using inductive reasoning.
10.2 Draw conclusions using deductive reasoning.

11. Solve applied problems involving a combination of mathematical skills.
11.1 Apply combinations of mathematical skills to solve problems.
11.2 Apply combinations of mathematical skills to solve a series of related problems.