Official Course Outline
MAT 0012C
Pre-Algebra

General Course Information

Common Course Number: MAT0012C

Course Title: Pre-Algebra

Contact Hour Breakdown: **CR CLASS LAB**

Discipline: Mathematics

Catalog Description: This is the first course in college-preparatory two-course sequence (MAT 0012C and MAT 0024C) designed to prepare students for MAT 1033C Intermediate Algebra. This course emphasizes the fundamental mathematical operations with application to beginning algebra. Significant time will be devoted to connections between mathematics and other academic disciplines and to applications outside educational settings. Minimum grade of C required for successful completion. This course does not apply toward mathematics requirements in general education or toward any associate degree.

Major Topics/ Concepts/ Skills/ Issues

- Arithmetic Review
- Exponents
- Variables
- Expressions
- Polynomials
- Linear Equations
- Basic Geometry
- Applications of Above Concepts

Major Learning Outcomes with Evidence, Core Competencies and Indicators

Learning Outcome 1:

The students will use rational numbers in real world situations.

Corresponding Evidence of Learning

- Perform basic arithmetic operations (addition, subtraction, multiplication, division) on rational numbers.
- Apply order of operations, including absolute value, when performing arithmetic operations on rational numbers.
- Evaluate expressions by substituting rational numbers for variables.
- Apply rational numbers to real life situations and state the solution

Core Competency: Act

Indicators	Level of Integration	Method of Assessment
• implement effective problem-solving, decision-making, and goal-setting strategies	• Instruct • Practice	

Core Competency: Communicate

Indicators	Level of Integration	Method of Assessment
• employ methods of communication appropriate to your audience and purpose	• Instruct • Practice	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Think		
Indicators	**Level of Integration**	**Method of Assessment**
• employ the facts, formulas, procedures of the discipline	• Instruct • Practice	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
• draw well-supported conclusions	• Instruct • Practice • Assess	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz

Learning Outcome 2:

The student will relate algebraic expressions to real world situations.

Corresponding Evidence of Learning

- Determine terms in an algebraic expression.
- Recognize like terms in an algebraic expression.
- Simplify an algebraic expression using arithmetic operations and the distributive property.
- Translate real life situations into algebraic expressions.

Indicators	Level of Integration	Method of Assessment
Core Competency: Communicate		
• employ methods of communication appropriate to your audience and purpose	• Instruct • Practice	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Think		
Indicators	**Level of Integration**	**Method of Assessment**
• employ the facts, formulas, procedures of the discipline	• Instruct • Practice • Assess	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Act		
Indicators	**Level of Integration**	**Method of Assessment**

• implement effective problem-solving, decision-making, and goal-setting strategies	• Instruct • Practice	

Learning Outcome 3:

The student will be able to use rational numbers in linear equations with one variable and apply to real-world situations.

Corresponding Evidence of Learning

- Solve linear equations with one variable with one step and multiple steps using addition, subtraction, multiplication and division appropriately.
- Use the distributive property to simplify and solve algebraic equations.
- Translate written words into algebraic and percent equations.
- Apply linear equations to real life situations and state the solutions.

Core Competency: Act

Indicators	Level of Integration	Method of Assessment
• implement effective problem-solving, decision-making, and goal-setting strategies	• Instruct • Practice	

Core Competency: Communicate

Indicators	Level of Integration	Method of Assessment
• employ methods of communication appropriate to your audience and purpose	• Instruct • Practice	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz

Core Competency: Think

Indicators	Level of Integration	Method of Assessment
• employ the facts, formulas, procedures of the discipline	• Instruct • Practice • Assess	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz

Learning Outcome 4:

The student will be able to recognize polynomials in the real world.

Corresponding Evidence of Learning

- Recognize polynomials as a monomial, binomial, or trinomial.
- Perform the arithmetic operations of addition and subtraction of polynomials.
- Perform multiplication of a monomial and a polynomial.
- Perform multiplication of two binomials.
- Translate real life situations into a polynomial.

Core Competency: Act

Indicators	Level of Integration	Method of Assessment
• implement effective problem-solving, decision-making, and goal-setting strategies	• Instruct • Practice	

Core Competency: Communicate

Indicators	Level of Integration	Method of Assessment
• employ methods of communication appropriate to your audience and purpose	• Instruct • Practice	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz

Core Competency: Think

Indicators	Level of Integration	Method of Assessment
• employ the facts, formulas, procedures of the discipline	• Instruct • Practice • Assess	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz

Learning Outcome 5:

The student will be able to recognize and analyze geometric shapes.

Corresponding Evidence of Learning

- Determine the perimeter of squares, rectangles and triangles.
- Determine the area of squares, rectangles and triangles.
- Determine the volume of a rectangular solid.
- Apply the perimeter, area, and volume concepts to real world situations.

Core Competency: Act

Indicators	Level of Integration	Method of Assessment
• implement effective problem-solving, decision-making, and goal-setting strategies	• Instruct • Practice	

Core Competency: Think

Indicators	Level of Integration	Method of Assessment
• employ the facts, formulas, procedures of the discipline	• Instruct • Practice • Assess	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz

Core Competency: Communicate

Indicators	Level of Integration	Method of Assessment

• employ methods of communication appropriate to your audience and purpose	• Instruct • Practice	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Think		
Indicators	**Level of Integration**	**Method of Assessment**
• draw well-supported conclusions	• Instruct • Practice • Assess	• Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz

Shared Assessment(s) in this Course

- College-wide exit exam