



Course Outline
MAT 0022C
Developmental Mathematics Combined

General Course Information

Common Course Number: MAT0022C

Course Title: Developmental Mathematics Combined

Prerequisite(s): Appropriate score on an approved assessment.

Co-requisite(s): none

Contact Hour Breakdown: CR 4 CLASS 4 LAB 1

Discipline: Mathematics

Catalog Description: This college-preparatory course is designed to prepare students for MAT 1033C Intermediate Algebra. Topics include sets, computations with decimals, percents, integers, operations with rational and polynomial expressions, solving linear equations and simplifying expressions, plane geometric figures and applications, graphing ordered pairs and lines and determining the intercepts of lines. A passing score on the Basic Skills Exit Test is required for a minimum final course grade of C, which is required for successful completion of this course. This course does not apply toward mathematics requirements in general education or toward any associate degree. (Special Fee: \$34.00)

Major Topics/ Concepts/ Skills/ Issues

- Operations with Rational and Polynomial Expressions
- Linear Equations with Applications
- Introduction to Graphing Linear Equations
- Geometry
- Sets

Major Learning Outcomes with Evidence, Core Competencies and Indicators

The student will be able to perform basic algebraic operations (addition, subtraction, multiplication, division) and the order of operations to all real numbers.	
Corresponding Evidence of Learning	
<ul style="list-style-type: none"> • Student will be able to Apply order of operations when performing numerical operations. • Student will be able to Simplify problems containing real numbers involving absolute value • Student will be able to Substitute real numbers to evaluate algebraic expressions. • Student will be able to Simplify radical expressions with various radicands. • Student will be able to Perform various arithmetic operation involving radicals. 	
Core Competency: Think	
Indicators	Assessments
<ul style="list-style-type: none"> • employ the facts, formulas, procedures of the discipline • draw well-supported conclusions 	<ul style="list-style-type: none"> • Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Communicate	
Indicators	Assessments
<ul style="list-style-type: none"> • employ methods of communication appropriate to your audience and purpose 	
Core Competency: Act	
Indicators	Assessments

<ul style="list-style-type: none"> • implement effective problem-solving, decision-making, and goal-setting strategies 	
The student will be able to recognize and perform operations with polynomials.	
Corresponding Evidence of Learning	
<ul style="list-style-type: none"> • Student will be able to Evaluate polynomials. • Student will be able to Identify the various features of a polynomial such as the type and degree. • Student will be able to Perform various arithmetic operations with polynomials • Student will be able to Apply the rules of exponents (integers) to simplify an exponential expression. • Student will be able to Apply exponents to real life situations such as scientific notation. • Student will be able to Factor polynomials in various methods and types such as through greatest common factor and factoring by grouping. • Student will be able to Factor quadratic trinomials and solve quadratic equations by factoring. 	
Core Competency: Think	
Indicators	Assessments
<ul style="list-style-type: none"> • employ the facts, formulas, procedures of the discipline 	<ul style="list-style-type: none"> • Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Communicate	
Indicators	Assessments
<ul style="list-style-type: none"> • employ methods of communication appropriate to your audience and purpose 	
Core Competency: Act	
Indicators	Assessments
<ul style="list-style-type: none"> • implement effective problem-solving, decision-making, and goal-setting strategies 	
The student will be able to recognize and simplify rational expressions.	
Corresponding Evidence of Learning	
<ul style="list-style-type: none"> • Student will be able to Identify rational expressions • Student will be able to Perform arithmetic operations with rational expressions. • Student will be able to Simplify rational expressions by factoring. 	
Core Competency: Think	
Indicators	Assessments
<ul style="list-style-type: none"> • employ the facts, formulas, procedures of the discipline 	<ul style="list-style-type: none"> • Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Communicate	
Indicators	Assessments
<ul style="list-style-type: none"> • employ methods of communication appropriate to your audience and purpose 	
The student will be able to recognize and analyze linear equations in two variables.	
Corresponding Evidence of Learning	
<ul style="list-style-type: none"> • Student will be able to Graph coordinates using the rectangular system. • Student will be able to Graph linear equations in standard and/or slope-intercept form. • Student will be able to Given a linear equation, determine the slope-intercept form and interpret the slope and y-intercept in graphing the equation. • Student will be able to Find the slope of a line given two points. • Student will be able to Recognize and interpret the x and y intercepts of a linear equation. • Student will be able to Construct and apply linear equations to real life situations and develop solutions in the context of the problem. 	
Core Competency: Think	
Indicators	Assessments

<ul style="list-style-type: none"> • employ the facts, formulas, procedures of the discipline • draw well-supported conclusions 	<ul style="list-style-type: none"> • Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Communicate	
Indicators	Assessments
<ul style="list-style-type: none"> • employ methods of communication appropriate to your audience and purpose 	<ul style="list-style-type: none"> • Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Act	
Indicators	Assessments
<ul style="list-style-type: none"> • implement effective problem-solving, decision-making, and goal-setting strategies 	
The student will be able to recognize and analyze geometric shapes.	
Corresponding Evidence of Learning	
<ul style="list-style-type: none"> • Student will be able to Determine the perimeter of squares, rectangles and triangles. • Student will be able to Determine the area of squares, rectangles and triangles. • Student will be able to Determine the volume of a rectangular solid. • Student will be able to Apply the perimeter, area and volume concepts to real world situations. 	
Core Competency: Think	
Indicators	Assessments
<ul style="list-style-type: none"> • employ the facts, formulas, procedures of the discipline • draw well-supported conclusions 	<ul style="list-style-type: none"> • Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Communicate	
Indicators	Assessments
<ul style="list-style-type: none"> • employ methods of communication appropriate to your audience and purpose 	
Core Competency: Act	
Indicators	Assessments
<ul style="list-style-type: none"> • implement effective problem-solving, decision-making, and goal-setting strategies 	
The student will be able to recognize and understand the properties of sets.	
Corresponding Evidence of Learning	
<ul style="list-style-type: none"> • Student will be able to Identify and define sets verbally, by listing and by using set-builder notation. • Student will be able to Perform set operations including union and intersection of sets. 	
Core Competency: Think	
Indicators	Assessments
<ul style="list-style-type: none"> • employ the facts, formulas, procedures of the discipline 	<ul style="list-style-type: none"> • Knowledge recall quiz • Locally developed exam/essay • Locally developed exam/objective • Locally developed multiple choice exam • Problem-solving quiz
Core Competency: Communicate	
Indicators	Assessments
<ul style="list-style-type: none"> • employ methods of communication appropriate to your audience and purpose 	

Shared Assessment(s) in this Course

- State Competency Exam

College Curriculum Committee Website

Office of the Vice President for Academic Affairs & Chief Learning Officer
Valencia College
Orlando, Florida
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