South Central College

EAP 0075 English for Intermediate Algebra

Common Course Outline

Course Information

Description This course provides specialized language and cultural support for multilingual students concurrently enrolled in any section of Math 0085. Students whose first language is not English are explicitly instructed in American English mathematical terms related to Intermediate Algebra, including the cultural context and language used in equations and inequalities, linear functions, polynomial and rational functions, quadratic functions, equations involving radicals, and absolute values. Students are encouraged to activate and build on previous learning by comparing the way they were taught math in their other languages with the way they are taught in the U.S. (Co-requisites: Concurrent enrollment in Math 0085 and EAP 0080 or 0090, and/or a score of 109 or less on the Accuplacer ESL Reading Test.)

Total Credits 2

Total Hours 32

Types of Instruction

Instruction Type	Credits/Hours
Lecture	2/32

Pre/Corequisites

Corequisite Concurrent enrollment in Math 0085 and EAP 0080 or 0090, and/or a score of 109 or less on the Accuplacer ESL Reading Test.

Institutional Core Competencies

Civic Engagement and Social Responsibility - Students will be able to demonstrate the ability to engage in the social responsibilities expected of a community member.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Use problem-solving strategies to develop, monitor, and synthesize conceptual understanding and English fluency.

Learning Objectives

Explain the meaning of a system of equations, and how to find the solution to a system by graphing, by using

substitution, and by using elimination.
Explain what a linear equality is and how it is graphed; describe how to find its solution on a coordinate plane.
Explain the meaning of a system of inequalities and describe how to find the range of solutions to the system by graphing.

2. Use English to extend problem solving-skills and mathematical reasoning to broader math applications in life and work.

Learning Objectives

Apply knowledge of systems of equations to solve real-life math problems.
Simplify polynomial expressions by using the distributive property and combining like terms.
Multiply polynomials together or with an expression.
Multiply binomials using First Outstanding Illuminate Language (FOIL).
Factor out a monomial and rewrite the expression as a product.
Factor trinomials using information from FOIL.

3. Overcome barriers to problem solving in English through linguistic and visual scaffolding using math models, language and structural analysis, and resources.

Learning Objectives

Follow directions in English for adding and subtracting rational expressions.
Demonstrate a comprehension in English of how to solve quadratic expressions by factoring.
Demonstrate in English a knowledge of how to solve quadratic equations by factoring and by completing the square in equations that use trinomial squares.
Interpret and solve word problems with quadratic equations in English.

4. Use English to demonstrate and defend problem solving and mathematical reasoning through reverse problem solving, mental mathematics, visual representations, and peer discussions.

Learning Objectives

Defend math applications and reasoning to others.
Explain the meaning of domain and range; describe how to evaluate a function.

5. Build a deeper knowledge of words through math application tasks and collaborative discussions in English.

Learning Objectives

Apply new vocabulary to mathematical tasks and discussions.
Determine the meaning of unknown vocabulary using context clues, word forms, and parts of speech.
Describe how to write a function for a sequence and how to find the values of terms later in the sequence.
Explain the meaning of polynomial, monomial, and binomial, and describe how to simplify polynomial expressions as well as multiply binomials and factor out monomials.

6. Memorize words through repetitive study such as using flashcards (digital or print) and notes.

Learning Objectives

Define key mathematical terms.
Analyze mathematical terms using Greek and Latin roots, prefixes, and affixes.
Correlate mathematical terms to their symbolic representation.
Translate mathematical terms in English to their equivalencies in other languages of previous mathematical learning.

7. Prepare for math applications by identifying the problem type and the problem-solving strategies and tools in English.

Learning Objectives

Find and describe patterns; figure out rules behind sequences.
Write functions for sequences and determine nth terms using these functions.
Determine nth terms in geometric functions.
Evaluate functions with a given value or expression.

8. Organize the problem in English using visual, symbolic, and written representations common to American mathematics.

Learning Objectives

Identify and use symbols for multiplying and factoring polynomials, monomials, and trinomials.
Identify and use symbols for rational equations.
Identify and use symbols for quadratic equations.
Identify and use symbols and graphs for systems of equations and linear inequalities.

9. Develop and connect background knowledge skills and conceptual understanding from previous learning in other languages to new knowledge.

Learning Objectives

Evaluate functions using graphs; determine whether or not a graph shows a function.
Find the domain and range of functions.