Math 095 – Mathematics Center 2

COURSE LEARNING OUTCOMES

Students will be able to:

1. use appropriate vocabulary and notation.
2. understand and apply algebraic expressions, exponents, linear equations, and graphs.
3. recognize common threads within mathematics, with other disciplines, and in daily life.
4. draw logical conclusions and justify their solution processes by using models, known facts, properties, patterns, and/or relationships.
5. formulate and analyze problems, select appropriate strategies, carry out a plan, and check reasonableness of results.
6. represent mathematical situations symbolically and utilize the appropriate algebraic methods or technology to solve problems.
7. communicate mathematical ideas in both everyday and mathematical language.

Course Outline

Unit 1: Real Numbers

1. Operations with real numbers
2. Properties of real numbers
3. The rule of order of operations
4. absolute value
5. Prime factorization, GCF, LCM

Unit 2: Algebraic Expressions and Linear Equations

1. Simplifying algebraic expressions
2. Evaluating algebraic expressions
3. Solving linear equations in one variable
4. Solving applications to linear equations
5. Solving linear inequalities in one variable

Unit 3: Linear Equations in Two Variables

1. Understanding the Cartesian Coordinate System and plotting points
2. Graphing linear equations
3. Forms of linear equations
4. Intercepts, horizontal and vertical line
5. The slope of the line
6. Parallel and perpendicular lines
7. Equations of lines

Unit 4: Exponents and polynomials

1. Exponential notation
2. Properties of exponents
3. Evaluating polynomials
4. Adding and subtracting polynomials
5. Multiplying polynomials

MATH 95 – Mathematics Center 2 (1-5 cr)

This course is designed to provide students with instruction in algebra topics needed for success in beginning algebra courses. Topics include: signed numbers, simplifying algebraic expressions, solving linear equations, graphing linear equations, simplifying exponential expressions and operations with polynomials. Prerequisite: Instructor referral.

Rationale:

> This course will serve mostly students enrolled in Math 91 or Math 96 and find it challenging. Some of those students drop the class in the beginning of the quarter where there is no other course to take. When they drop the class, they have to wait until the next quarter to repeat the class with the same modality. Some students complete the course but they don't gain enough skills to help them succeed in future algebra courses.
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> Math 95 is available for this group of students as a variable credit course that provides students with the basic algebra skills they need through an individualized program using computer instruction. No such class exists right now for students who do not complete or succeed in Math 91 or Math 96 before the end of the quarter to enroll in and improve their basic algebra skills.

Course objectives:

1. To provide students preparing to enroll in Elementary Algebra I (Math 091) or Introductory Algebra (Math 096) with instruction in basic algebra skills that will help them succeed in future algebra courses. This instruction includes: signed numbers, simplifying algebraic expressions, solving linear equations, graphing linear equations, simplifying exponential expressions and operations with polynomials.

Math 95 – Course Outline

Each of the following is one credit

Review of fractions, exponents, order of operations, inequality, variables, expressions and equations, real numbers and the number line, adding/subtracting/multiplying/dividing real numbers.

Properties of real numbers, sets, simplifying expressions, solving linear equations.

Applications of linear equations, formulas and applications from geometry, ratios and proportions, solving linear inequalities.

Reading graphs, graphing linear equations in two variables, slope of a line, equations of a line, rules for exponents.

Scientific notation, adding/subtracting/multiplying/dividing polynomials, graphing simple polynomials, mean/median/mode.