PRE-INTERMEDIATE ALGEBRA

MATH 1000

Course Description:

An introductory level algebra course designed to prepare students to be successful in MATH 1310 (Intermediate Algebra). Topics include whole numbers, integers, fractions and mixed numbers, decimals, simplifying mathematical expressions, the properties of equality, solving linear equations in one variable, using linear equations to solve problems, ratios and proportions, graphing and the rectangular coordinate system. This course is worth two credit hours and will not satisfy the Math General Education requirement. **2 credits**

Prerequisites:

ACT Math sub score of 11-18, Math SAT at least 220 or Math SAT2016 at least 230 within the last 2 years; or Accuplacer score of 1 or COMPASS score of 1 or 2 within the last two years; or an F or better in MATH 1000 within the last 2 years

Overview of Content and Purpose of the Course:

Pre-Intermediate Algebra will cover the basic algebra concepts needed to successfully complete MATH 1310, Intermediate Algebra. MATH 1000 will focus attention to these beginning algebra concepts in a computer-assisted course that is similar to the course delivery of both MATH 1310 and MATH 1320. This course design will enable students to experience learning basic algebra in the same format in which they will receive future instruction in the subsequent MATH 1310 or Math 1320 courses. This experience will be a new way for our students to discover and appreciate mathematics!

Major Topics:

1) Exponents and Order of Operations

2) Introduction to Variables, Algebraic Expressions, and Equations

3) Solving Equations: The Addition and Multiplication Properties

4) Simplifying Algebraic Expressions

5) Solving Linear Equations in One Variable
   a. Using Linear Equations to Solve Problems

6) Fractions and Mixed Numbers
   a. Introduction
   b. Factors and Simplest Form
   c. Multiply, Divide, Add, and Subtract Fractions
   d. Operations on Mixed Numbers
   e. Solving Equations Containing Fractions

7) Decimals
    a. Introduction
    b. Adding, Subtracting, Multiplying, and Dividing Decimals
    c. Order of Operations and Solving Equations

8) Ratios and Proportions
    a. Ratios, Rates, Proportions, and Unit Prices
    b. Proportions and Problem Solving
    c. Square Roots and the Pythagorean Theorem

9) Percent
    a. Percent, Decimals, and Fractions
    b. Solving Percent Problems with Equations and Applications

10) Graphing Linear Equations in Two Variables and the Rectangular Coordinate System

11) Perimeter, Circumference, Area, Volume, and Surface Area

12) Negative Exponents

13) Sets of Numbers
    a. Plotting on a Number Line; Ordering Real Numbers
    b. Inequalities
    c. Absolute Value

Methods:

Class meets once a week for two hours and 15 minutes. In class, the teacher will cover important concepts, work especially difficult problems, and guide students through the work that will be done each week. The teacher will discuss study strategies and help students to avoid common errors. Typically, this class time will be separated into lecture time and time for taking computer assisted quizzes and tests. All homework, quizzes, tests and a cumulative final exam will be done on the UNO Math Lab software.

Student Role:

Students will be expected to attend weekly classes, and to do all homework, quizzes and tests. Throughout the semester there will be four unit tests and a final exam. After completing all homework and quizzes, students should prepare for tests and the final exam by repeatedly practicing until they can get all exercises correct without any assistance from learning aids, notes, or books. Practice Tests and a Practice Final Exam are available through the Math Lab software for each test and will be open throughout the semester.

Textbook:

Prealgebra UNO Class Notes + MYMATHLAB Access Code Packaging, Math Department Packaging

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