

## **MATH 082**

### **Introductory Algebra**

0 credits; 3 billable hours

Community College of Baltimore County  
Common Course Outline

#### **Description**

**MATH 082 – Introductory Algebra:** is a course that covers topics including linear equations and inequalities in one variable, literal equations and formulas, proportions, percents, exponent rules and scientific notation, polynomial operations, linear graphs and equations in two variables, and solutions for systems of equations in two variables. Applications are incorporated into each topic.

**Pre-requisites:** ASE MATH or a satisfactory score on the math placement test

#### **Overall Course Objectives**

Upon completion of this course, students will be able to:

1. solve linear equations in one variable;
2. solve linear inequalities in one variable;
3. evaluate literal equations including formulas;
4. solve literal equations including formulas;
5. solve proportion application problems;
6. solve percent application problems;
7. apply rules of integer exponents;
8. perform operations on polynomials;
9. graph linear equations in two variables;
10. interpret the slope of a line;
11. calculate the slope of a line;
12. determine the equation of a line;
13. solve systems of linear equations in two variables;
14. solve application problems using linear systems of equations in two variables; and
15. model application problems using algebraic methods.

#### **Major Topics**

- I. Linear Equations in One Variable
  - a. Solve linear equations using algebraic properties
  - b. Solve application problems
- II. Linear Inequalities in One Variable
  - a. Solve linear inequalities using algebraic properties
  - b. Graph linear inequalities
  - c. Express solutions in interval notation
- III. Applications of Linear Equations
  - a. Evaluate literal equations and formulas using given values

The Common Course Outline (CCO) determines the essential nature of each course.  
For more information, see your professor's syllabus.

- b. Solve literal equations and formulas for a specific variable
  - c. Solve proportion problems
  - d. Solve percent problems
- IV. Exponents
  - a. Apply the product, quotient, and power rules
  - b. Apply negative exponent rules
  - c. Use scientific notation
- V. Polynomials
  - a. Add and subtract polynomials
  - b. Multiply polynomials
  - c. Divide polynomials using monomials
- VI. Graphs of Linear Equations in Two Variables
  - a. Graph linear equations
  - b. Determine the slope of a line
  - c. Determine the equation of a line
- VII. Systems of Linear Equations in Two Variables
  - a. Solve systems of equations in two variables by the graphing method
  - b. Solve systems of equations in two variables by the substitution method
  - c. Solve systems of equations in two variables by the addition method
  - d. Solve application problems using systems of equations in two variables

### **Course Requirements**

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- a cumulative final exam
- two other assessments which may include but are not limited to quizzes, homework or classwork

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