

**SOUTHEAST COMMUNITY COLLEGE  
DIVISION OF ARTS AND SCIENCES**

**Mathematics**

**Revision Date: 7-01-19**

[Syllabus Statements](#)

**I. CATALOG DESCRIPTION**

Course Number: MATH0900  
Course Title: Math Fundamentals  
Prerequisite(s): Appropriate score on math placement test  
Catalog Description: Review of operations with whole numbers, study of order of operations, exponents, factors and prime factorization, GCF, LCM/LCD, operations with fractions, decimals, operations with mixed numbers, order of operations with fractions and decimals, converting fractions to decimals and decimals to fractions, rates, ratios, proportions, percents, perimeter, area, volume, simplifying algebraic expressions, exponent rules, solving algebraic equations, and applications of algebraic equations.

Credit Hours: 3  
Class Hours: 45  
Lab Hours: 0  
Total Contact Hours: 45

**II. COURSE OBJECTIVES. *Course will:***

- A. Develop computational skills for whole numbers, integers, fractions, and decimals.
- B. Develop techniques for simplifying mathematical expressions containing whole numbers, integers, fractions, decimals and exponents using the order of operations.
- C. Develop techniques for converting fractions to decimals and decimals to fractions.
- D. Develop techniques for solving application/word problems involving whole numbers, integers, fractions, and decimals.
- E. Develop techniques for converting fractions to decimals and decimals to fractions.
- F. Develop a basic familiarity with variables and algebraic expressions.
- G. Develop a conceptual understanding of ratios, rates, proportions, and percents.
- H. Develop techniques for converting fractions and decimals to percents and vice versa.
- I. Develop techniques for solving application/word problems involving ratios, rates, proportions, and percents using the percent equation and the percent proportion.
- J. Develop techniques for solving one step and multiple step equations.
- K. Develop techniques for simplifying algebraic expressions.
- L. Develop techniques for solving linear equations.
- M. Find perimeter, area, and volume.

**III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES**

- A. Student Learning Outcomes: *Student will be able to:*
- 1. Add, subtract, multiply, and divide whole numbers, integers, fractions, decimals and mixed numbers.
  - 2. Apply the order of operations to simplify expressions involving whole numbers, integers, and fractions.
  - 3. Simplify mathematical expressions containing whole numbers, integers, exponents, decimals, and fractions.
  - 4. Do word problems involving whole numbers, integers, and fractions.
  - 5. Convert fractions to decimals and decimals to fractions.
  - 6. Convert percents to decimals or fractions.
  - 7. Convert decimals and fractions to percents.

8. Solve application/word problems involving ratios, rates, proportions, and percents.
  9. Recognize variables and like terms.
  10. Solve basic one-step linear equations.
  11. Solve multiple step linear equations.
- B.** General Education Learning Outcomes
1. GELO #5: Analytical, Quantitative, and Scientific Reasoning  
 Outcome: Effectively develop strategies, algorithms, or experiments (or performing experiments) to better describe the systems or to solve the problems.  
 Outcome: Manipulate formulas, data sets, graphs, tables, etc. in a way to produce a meaningful outcome.

**IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)**

- A.** The following topics will be covered in the course:
1. Operations with whole numbers.
  2. Order of operations with exponents and whole numbers.
  3. Application/word problems using whole numbers.
  4. Operations with integers.
  5. Factors, prime factors, GCF.
  6. Multiplication and division of fractions.
  7. LCM/LCD.
  8. Addition and subtraction of fractions.
  9. Application problems using fractions.
  10. Operations with mixed numbers/improper fractions.
  11. Operations with decimals.
  12. Order of operations with mixed numbers, fractions, and decimals.
  13. Converting decimals to fractions and fractions to decimals.
  14. Ratios.
  15. Rates.
  16. Proportions.
  17. Percent notation.
  18. Percent/decimal/fraction conversion.
  19. Percent equation.
  20. Percent proportion.
  21. Application of percents.
  22. Perimeter, Area and Volume.
  23. Algebraic Expressions and Equations and Applications.

**V. INSTRUCTIONAL MATERIALS**

- A.** Required Text(s):
1. OpenStax Prealgebra by Marecek and Smith. ISBN-10 1-938168-99-2.  
AND / OR
  2. MyMathLabPlus Student Access Code Card for Integrated Courses, Pearson.  
 ISBN-10: 0-558-92718-1.
- B.** Other Resources:
1. Supplies: Paper and writing instrument.

**VI. METHODS OF PRESENTATION/INSTRUCTION**

- A.** Methods of presentation typically include a combination of following:
1. Lecture/Demonstration.
  2. Guided in class activities, sometimes with manipulatives.
  3. Guided Practice.

**VII. METHODS OF EVALUATION**

A. Methods of evaluation typically include a combination of the following:

1. Attendance/Participation
2. Quizzes and/or homework
3. Exams
4. Comprehensive Final Exam

B. SCC GRADING SCALE

A+	95-100	C+	75-79	F	59 or less
A	90-94	C	70-74		
B+	85-89	D+	65-69		
B	80-84	D	60-64		

### VIII. SPECIFIC COURSE REQUIREMENTS

A. None.