Non-Degree Applicable

Glendale Community College
October, 1999
Revised, May, 2011

COURSE OUTLINE

Mathematics 255B
Arithmetic and PreAlgebra

I. Catalog Statement

Mathematics 255B is the second part of a self-paced multimedia basic skills course. Math 255ABCD collectively is designed to prepare students for their first course in algebra. It includes the fundamental processes of arithmetic and prealgebra. It is designed to develop skill in computation using whole numbers, fractions, decimals, percents, and properties of the decimal number system with an emphasis on the arithmetic of signed numbers. Rules of exponents, first degree equations, and fundamental facts about geometry with regard to area and perimeter are also included. Study and test-taking techniques related to mathematics are also covered. Math 255ABCD collectively is equivalent to Math 155.

Units – 1.0
Lab hours – 6.0
(Faculty Laboratory Hours 3.0 + Student Laboratory Hours 3.0 = 6.0 Total Hours)

Prerequisite: Mathematics 255A or 1 unit of Mathematics 255.

Note: This course may not be taken for credit by students who have completed Mathematics 155. A maximum of 4 units of credit will be granted for Mathematics 155 and 255. This course is Pass/No Pass only.

II. Course Entry Expectations

Skills Level Ranges: Reading 4; Writing 3; Listening-Speaking 3; Math 1

III. Course Exit Standards

Upon successful completion of the required course work, the student will be able to:
1. add, subtract, multiply, and divide whole numbers;
2. add, subtract, multiply ,and divide fractions;
3. convert fractions to decimals;
4. add, subtract, multiply, and divide decimals;
5. convert decimals to percents;
6. convert fractions to percents;
7. find a percent of a number and what percent one number is of another;
8. add, subtract, multiply, and divide signed numbers;

9. use of the correct order of operation;
10. use a calculator to perform arithmetic operations;
11. evaluate expressions;
12. add and subtract expressions;
13. find area and perimeter of squares, rectangles, triangles and circles;
14. solve equations using the addition property of equality;
15. solve equations using the multiplication property of equality;
16. solve first degree applications;
17. apply test-taking strategies;
18. use study skills related to mathematics.

IV. Course Content — Total Contact Hours = 96

A. Decimals
   1. Reading and writing decimals
   2. Rounding decimals
   3. Comparing decimals
   4. Addition and subtraction of decimals
   5. Multiplication of decimals
   6. Division of decimals
   7. Multiplying and dividing by powers of ten
   8. Changing fractions to decimals
   9. Changing decimals to fractions
   10. Operations with both fractions and decimals
   11. Order of operations

B. Ratio and Proportions
   1. Ratio and ratio applications
   2. Solving proportions
   3. Applications of proportions

C. Percent
   1. Meaning of percent
   2. Changing percent to decimals
   3. Changing decimals to percents
   4. Changing percents to fractions
   5. Changing fractions to percents
   6. Solving percent problems
   7. Applications of percents

V. Methods of Presentation

The following instructional methodologies may be used in the course:
1. weekly meetings with instructor;
2. video instruction;
3. computer tutorials;
4. personalized tutoring;
5. small group work/discussion.

VI. Assignments and Methods of Evaluation

1. A cumulative final exam at the end of each course/unit.
2. Two to three chapter tests will be given per course/unit.
3. Short mastery quizzes may be given online.
4. Homework may be collected.
5. Exercise on the computer may be assigned.

VII. Textbook

Martin-Gay, E., Basic College Mathematics, 2nd Custom Edition for GCC, 3rd Edition.
Upper Saddle River: Pearson Prentice Hall, 2006.
10th Grade Textbook Reading Level. ISBN 0-536-20103-X.

Bass, A., Math Study Skills
Boston: Pearson Education, 2008.
10th Grade Textbook Reading Level. ISBN 0-321-51307-X.

V. Student Learning Outcomes

1. Students will perform arithmetic operations (whole numbers, fractions, decimals, signed numbers).
2. Students will convert between percents, decimals and fractions.
3. Students will solve application problems (arithmetic, algebraic, geometric).
4. Students will calculate area and perimeter of polygons and circles, volumes of solids and solve similar triangle problems.
5. Students will solve equations (ratio, proportions, linear).
6. Students will demonstrate knowledge of test-taking strategies and study skills.