SAN DIEGO COMMUNITY COLLEGE DISTRICT
CONTINUING EDUCATION
COURSE OUTLINE

SECTION I

SUBJECT AREA AND COURSE NUMBER

HSDP 506

COURSE TITLE

ALGEBRA 1-2, SEMESTER 1

TYPE COURSE

NON-FEE   HSDP

CATALOG COURSE DESCRIPTION

This is the first semester of a two semester course covering the fundamental concepts of
Algebra. Through the study of Algebra a student develops an understanding of the symbolic
language of mathematics and the sciences. Algebraic skills and concepts are developed and
used in a wide variety of problem solving situations. (FT)

LECTURE HOURS   LABORATORY HOURS

   90

ADVISORY

Pre Algebra, Semester 1 and 2, or equivalent.

RECOMMENDED SKILL LEVEL

Math scores indicating proficiency in the skills associated with Pre Algebra.

INSTITUTIONAL STUDENT LEARNING OUTCOMES

1. Social Responsibility
   SDCE students demonstrate interpersonal skills by learning and working cooperatively in a
   diverse environment.
2. Effective Communication
   SDCE students demonstrate effective communication skills.

INSTITUTIONAL STUDENT LEARNING OUTCOMES (CONTINUED)

3. Critical Thinking
    SDCE students critically process information, make decisions, and solve problems independently or cooperatively.
4. Personal and Professional Development
    SDCE students pursue short term and life-long learning goals, mastering necessary skills and using resource management and self advocacy skills to cope with changing situations in their lives.

COURSE GOALS

Upon completing the first semester of Algebra 1-2 students will attain the necessary skills to begin to satisfy the State of California's Mathematics Content Standards for Algebra 1. Among these skills will be writing and evaluating variable expressions, using verbal and algebraic models, knowing the difference between substitution and evaluation, organizing data and representing functions, solving distributive property problems, solving linear equations, using formulas ratios rates and percents to solve real-life problems, solving and graphing inequalities, graphing linear equations, writing linear equations in standard form, evaluating expressions involving rational exponents, using exponents, adding, subtracting, multiplying, factoring polynomials, and simplifying rational expressions.

COURSE OBJECTIVES

Upon successfully completing this course, the student will be able to:

1. Use properties of numbers to demonstrate whether assertions are true or false.
2. Understand and use such operations as taking the opposite, finding the reciprocal, taking a root and raising to a fractional power based upon the rules of exponents.
3. Solve equations and inequalities involving absolute values.
4. Simplify expressions before solving linear equations and inequalities in one variable.
5. Solve multi-step problems, including word problems involving linear equations and linear inequalities in one variable and provide justification for each step.
6. Graph a linear equation and linear inequality.
7. Derive linear equations by using point-slope formula.
8. Understand parallel, perpendicular lines and relationship to slopes
9. Solve system of two linear equations.
10. Use operations involving monomials and polynomials.
11. Solve multi-step problems by using operations involving monomials and polynomials.
12. Factor second- and simple third-degree polynomials.

SECTION II

COURSE CONTENT AND SCOPE

1. Review Variables, Expressions, Exponents, Verbal Model
2. Review Integers
3. Review Distributive Property, Like Terms, Square Roots

COURSE CONTENT AND SCOPE (CONTINUED)

4. Linear Equations in One Variable
5. Linear Equations in One Variable
6. Apply Linear Equations in One Variable
7. Systems of Inequalities
8. Linear Equations in Two Variables
9. Linear Forms
10. Fractional Powers
11. Graphing Linear Systems and Quadratics
12. Polynomials and Their Properties
13. Factoring
14. Factoring Polynomials
15. Simplifying Rational Expressions

APPROPRIATE READINGS

Text reading and supplemental workbooks.

WRITING ASSIGNMENTS

Teachers may require students to maintain journals and/or portfolios.

OUTSIDE ASSIGNMENTS

Students will be expected to spend an average of 30 minutes of outside study for each class period. Assignments may include, but not necessarily be limited to:

1. Completion of assigned problem sets.
2. Studying textbook material.
3. Collecting information and data to be used in exploring mathematical concepts (may include use of internet research).
4. Preparing for unit examinations.

APPROPRIATE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING

Students will be required to select and apply appropriate problem solving strategies to solve verbal problems.

EVALUATION

Student performance assessment will be based upon, but not necessarily be limited to periodic quizzes, unit examinations, completion of written assignments, and attendance and participation in class.

Upon successful completion of each individual course a Certificate of Course Completion will be issued. Upon successful completion of all courses included in the program a Certificate of Program Completion will be issued.

METHOD OF INSTRUCTION

Lectures, instructor guided discussions, individual tutoring, and cooperative learning in peer groups will be used to assist the students in successfully completing their work. The use of technology will be encouraged and fostered. This course, or sections of this course, may be offered through distance education.

TEXTS AND SUPPLIES

Algebra 1 Concepts and Skills, McDougal Littell, current edition
Algebra 1 Concepts and Skills, McDougal LIttell, supplemental materials
Secondary Math: Focus on Algebra, Addison-Wesley, current edition

PREPARED BY: JERRY SULLIVAN   DATE: FEBRUARY 14, 1996

DATA REVISED BY: GARY GLECKMAN   DATE: FEBRUARY 11, 2007

DATA REVISED BY Instructional Services/SLO's Added   DATE December 20, 2013

Instructors must meet all requirements stated in Policy 3100 (Student Rights, Responsibilities and Administrative Due Process), and the Attendance Policy set forth in the Continuing Education Catalog.

REFERENCES:

San Diego Community College District Policy 3100
California Community Colleges, Title 5, Section 55002
Continuing Education Catalog