

SAN DIEGO COMMUNITY COLLEGE DISTRICT
CONTINUING EDUCATION
COURSE OUTLINE

SECTION I

SUBJECT AREA AND COURSE NUMBER

ABED 414

COURSE TITLE

ARITHMETIC REVIEW

ALTERNATE TITLE(S)

CONSUMER COMPUTATION SKILLS

TYPE COURSE

NON-FEE

CATALOG COURSE DESCRIPTION

Review of basic arithmetic skills, stressing mastery of the four fundamental operations with whole numbers, introduction to fractions, decimals, and common measures, and solving everyday arithmetic problems. (FT)

LECTURE HOURS

3-5 hours per week
(Minimum of 60- hours of instruction required)

LABORATORY HOURS

1-3 hours per week

ADVISORIES

NONE

RECOMMENDED SKILL LEVEL

NONE

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

1. Develop basic skills in arithmetic for everyday use.

COURSE OBJECTIVES

Student will show orally, in writing, or through demonstration that they are able to:

1. Understand the nature and purpose of the arithmetic of whole numbers, decimals and fractions.
2. Demonstrate the ability to read and write any whole number less than one million.
3. Demonstrate knowledge and ability to solve problems in the addition, subtraction, multiplication, and division of whole numbers.
4. Demonstrate the ability to apply whole number-related skills to practical problem solving in simple everyday situations.
5. Demonstrate the ability to solve problems involving decimals with the four fundamental operations.
6. Demonstrate the ability to solve problems involving like fractions using addition or subtraction.
7. Demonstrate the ability to solve problems involving simple fractions using multiplication or division.
8. Recognize and use the basic units of common measure.
9. Recognize and use the common instruments for measuring.

SECTION II

COURSE CONTENT AND SCOPE

1. Introduction
 - 1.1. Analysis of the nature and purpose of whole numbers
 - 1.2. Administration of a diagnostic test
 - 1.3. Student self-assessment
 - 1.4. Organization of class
2. Read and Write Whole Numbers
 - 2.1. Whole numbers as numerals
 - 2.2. Whole numbers in written form as words

COURSE CONTENT AND SCOPE (CONTINUED)

- 2.3. Spelling of the whole numbers up to on thousand
- 2.4. Place value of whole numbers
- 2.5. Recognition of basic Arabic numerals
- 2.6. Conversion between Arabic numerals and written word form
- 2.7. Applications to everyday situations
 - 2.7.1. Money
 - 2.7.2. Writing checks
 - 2.7.3. Weight gain/loss and counting calories
 - 2.7.4. Reading meters
3. Addition of Whole Numbers
 - 3.1. Addition of two numbers without carrying
 - 3.2. Addition of three or more numbers without carrying
 - 3.3. Addition of two numbers carrying only once
 - 3.4. Addition of two numbers with carrying
 - 3.5. Addition of three or more numbers with carrying
 - 3.6. Horizontal addition
 - 3.7. Application to everyday life
 - 3.7.1. Bank deposit slips (dollars only)
 - 3.7.2. Ordering from a menu
 - 3.7.3. Total weekly or monthly expenses
 - 3.7.4. Total cost of purchases
4. Subtraction of Whole Numbers
 - 4.1. Subtraction without borrowing
 - 4.2. Subtraction borrowing once
 - 4.3. Subtraction borrowing twice or more – consecutive places
 - 4.4. Subtraction borrowing twice or more – nonconsecutive places
 - 4.5. Subtraction borrowing over zeros
 - 4.6. Horizontal subtraction
 - 4.7. Application to everyday situations
 - 4.7.1. Making change
 - 4.7.2. Checkbook balancing (dollars only)
 - 4.7.3. Checking utility bills
 - 4.7.4. Savings passbooks and withdrawals
5. Multiplication of Whole Numbers
 - 5.1. The multiplication tables
 - 5.2. Multiplication of two one-digit numbers
 - 5.3. Multiplication by a one-digit numbers
 - 5.4. Multiplying with two or more digit numbers
 - 5.5. Application to everyday life
 - 5.5.1. Cost of one or several items
 - 5.5.2. Weekly and monthly wages
 - 5.5.3. Simple rate, time, distance problems
 - 5.5.4. Finding total cost knowing monthly payments
6. Division of Whole Numbers
 - 6.1. “Into” and “divided by” and the two forms of representing a division problem
 - 6.2. Dividing by a one-digit number; no regrouping

COURSE CONTENT AND SCOPE (CONTINUED)

- 6.3. Dividing by a one-digit number; regrouping once
- 6.4. Dividing by a one-digit number; two or more regroupings
- 6.5. Remainders
- 6.6. Dividing by numbers with more than two digits
- 6.7. Application to everyday situations
- 6.8. Application to everyday situations
 - 6.8.1. Unit costs
 - 6.8.2. Miles per gallon
 - 6.8.3. Finding weekly or monthly costs knowing total owed
- 7. Decimals
 - 7.1. Meaning and vocabulary
 - 7.2. Understanding place value
 - 7.3. Addition and subtraction of decimals
 - 7.4. Multiplication
 - 7.5. Division
 - 7.5.1. Dividing decimals by a whole number
 - 7.5.2. Dividing by a decimal
 - 7.6. Application of idea
 - 7.6.1. Money as applied to sales tax
 - 7.6.2. Paycheck; wages, deductions and benefits
 - 7.6.3. Hourly wage; hours worked; weekly, monthly and yearly income
- 8. Common Fractions
 - 8.1. Meaning and vocabulary
 - 8.2. Addition and subtraction of like fractions
 - 8.3. Equivalent of simple fractions
 - 8.3.1. Reduction
 - 8.3.2. Expanding
 - 8.4. Multiplication and division of simple fractions
 - 8.5. Applications to everyday life
 - 8.5.1. Sale items as $\frac{1}{2}$ or $\frac{1}{4}$ off
 - 8.5.2. Increasing or decreasing recipe size
 - 8.5.3. Budgets using fractional parts of income
- 9. Measures
 - 9.1. Basic units of distance, weight and volume
 - 9.2. Equivalent of the common units
 - 9.3. Use of everyday instruments of measure
 - 9.3.1. Ruler, yardstick, tape measure
 - 9.3.2. Scales
 - 9.3.3. Measuring bowls and spoons

APPROPRIATE READINGS

NONE

WRITING ASSIGNMENTS

NONE

OUTSIDE ASSIGNMENTS

NONE

APPROPRIATE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING

NONE

EVALUATION

Students will be evaluated through the use of four or more of the following:

1. Midterm and final exams.
2. Unit tests or quizzes.
3. Pretest – Posttest.
4. Review of work completed.
5. Class participation.
6. Instructor observation in one-to-one tutoring.
7. Self report.
8. Attendance record.

NOTE: In accordance with District Policy, instructors are required to provide the student, in writing, the specific competencies to be demonstrated and the methods and criteria by which they will be evaluated. These methods must be consistent with the course goals/objectives and must be included in a course syllabus and presented to each student.

METHOD OF INSTRUCTION

The primary methods of instruction will include, but not be limited to; lectures and individualized instruction to be supported by audio-visual, demonstrations, guest speakers, group discussions, and/or field trips. (If field trips are to be required, such must be indicated in course syllabus presented to students.)

TEXTS AND SUPPLIES

The following are options from which a textbook can be selected:

Real Life Math Skills, Eleanor Angeles, New York, NY., Scholastic Magazine, Inc. 1978
Reaching Math Competence, Alfred E. Chant, New York, NY., Cambridge, 1978

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Essential Mathematics for Life, Charuhas, McLenigham, McMurtry; Scott, Foresman and Co., 1981

Improving Math Competence, Leni Greenfield, New York, NY., Cambridge, 1978

Number Power Series, Jerry Howett, Chicago, IL., Contemporary Books, 1976

Working With Numbers, James T. Shea, Austin, TX., Steck-Vaughn, 1974

Programmed Math for Adults, Marjorie Sullivan, New York, NY., McGraw-Hill, 1976

Noonan-Spradley Diagnostic Program of Computational Skills, Noonan and Spradley, Gailien, MI., Allied Educational Council

Merrill Mathematics Skill Tapes, Francis T. Sganga, Charles E. Merrill Pub. Co.

The instructor will provide a course syllabus, textbook, necessary worksheets, and scratch paper.

PREPARED BY Heiko Fredricks DATE September, 1985

REVISED BY Instructional Services, SLOs added DATE March 3, 2017

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