

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
CREDIT COURSE NOT APPLICABLE TO THE A.A. DEGREE

COURSE NUMBER AND TITLE: Math 10 - Basic Arithmetic

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 48

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: None

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE: Basic arithmetic computational skills, with an emphasis on the whole numbers, fractions, decimals, and an introduction to the concepts of area and perimeter. Designed for students who are lacking fundamental arithmetic skills.

SPECIFIC COURSE OBJECTIVES: The successful student will be able to:

1. Apply and interpret the basic arithmetic operations of addition, subtraction, multiplication and division with whole numbers, fractions, and decimals.
2. Analyze and evaluate basic application problems involving whole numbers, fractions, decimals, and percents.
3. Use problem-solving techniques to analyze and estimate the answers to arithmetic problems.
4. Explain the meaning of and the relationship between fractions and decimals.
5. Plot whole numbers, fractions, and decimals on a number line.
6. Measure in the English System and be able to find the perimeter and area of a given square or rectangle.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE: At least the following topics will be covered:

1. Whole Numbers: The course will include the following:
 - a. The number line and graphing whole numbers
 - b. Order relations
 - c. Place value
 - d. Writing whole numbers
 - e. The operations of addition, subtraction, multiplication, and division.

- f. The relationships between subtraction and addition, and multiplication and division
 - g. Application problems, with an emphasis on rounding, estimation and problem solving skills.
 - h. Selecting and using an appropriate method of computation from estimation, paper and pencil, or a calculator.
2. Fractions: The course will include the following:
- a. A conceptual understanding of fractions
 - b. The number line, and graphing fractions and whole numbers
 - c. Equivalent fractions
 - d. Simplifying fractions
 - e. Finding the LCM and GCD
 - f. Proper and improper fractions, and mixed numbers
 - g. Adding and subtracting fractions with like and unlike denominators
 - h. Multiplying two fractions, a fraction and a whole number, a fraction and a mixed number, or two mixed numbers
 - i. Dividing a fraction by a fraction, a whole number, or a mixed number
 - j. Ruler measurement in the English System (up to 1/16 of an inch)
 - k. Application problems, with an emphasis on estimation and problem solving.
3. Decimals: The course will include the following:
- a. A conceptual understanding of decimals
 - b. The number line, and graphing "benchmark" decimals and whole numbers on the number line
 - c. The relationship between decimals and fractions
 - d. Place values to include at least tenths and hundredths.
 - e. Addition, subtraction, multiplication, and division of decimals, mainly as applies to money.
 - f. Rounding, estimation, and application problems, with an emphasis on problem solving. Applications to include checkbooks and budgeting.
4. Percents: The course will include the following:
- a. The meaning of percent
 - b. Writing the "benchmark" percents as decimals or fractions
 - c. Using "benchmark" percents on estimation and application problems.
5. Geometry: The course will include the following:
- a. A conceptual understanding of perimeter and area
 - b. Finding the perimeter and area of squares and rectangles in the English System.
 - c. Use of a protractor to measure and draw angles, and use of a compass to draw circles.
6. Additional topics may be included at instructor's discretion.

REQUIRED READING:

Bittinger, Marvin. Basic Mathematics. 8th ED. Redding: Addison Wesley Longman, Inc., 1999.

SUGGESTED READING: None

REQUIRED WRITING: Arithmetic problem-solving exercises and calculator skills demonstration in homework assignments and tests are more appropriate.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

Outside assignments include completing homework assignments, projects, reading the text, studying lecture notes and studying for tests.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

Lectures may include using the following manipulatives and/or activities: rulers, calculators, protractors, compasses, fraction bars or strips, decimal grids, and base-10 blocks.

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply. (See guidelines for preparation for definitions.)

- telecourse
- mediated instruction
- computer assisted instruction

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students): The course is Credit/No Credit only.

Classwork and participation	0	-	20%
Homework	0	-	20%
Exams	40	-	60%
Final exam	10	-	20%

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for credit: 1

If yes, identify specific provision of Title 5 Division 2 section(s) 55761-55763 and 58161 which qualifies course as repeatable:

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EXTENSION:
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SIGNATURES ON FILE