



COURSE OUTLINE OF RECORD

Number: MATH A005

TITLE: Practical Math

ORIGINATOR: Tab Livingston

EFF TERM: Fall 2014

FORMERLY KNOWN AS:

DATE OF

OUTLINE/REVIEW: 02-24-2016

CROSS LISTED COURSE:

TOP NO: 1701.00

CID:

SEMESTER UNITS: 3.0

HRS LEC: 54.0

HRS LAB: 0.0

HRS OTHER: 0.0

CONTACT HRS TOTAL: 54.0

STUDY/NON-CONTACT HRS RECOMMENDED: 108.0

CATALOG DESCRIPTION:

Practical math involves the fundamental operations of arithmetic on integers, fractions, decimals and percents (without calculators), and consumer applications. The course includes introductions to ratio and proportion, measurement, geometry, and statistics. Applied problems will be emphasized throughout the course. May be taken for grades or on a pass-no pass basis. (NOT APPLICABLE TO AA OR AS DEGREE). PREREQUISITE: Math placement test required

JUSTIFICATION FOR COURSE:

Student success for progression to college-level mathematics.

PREREQUISITES:

- Appropriate math placement test score required.

COREQUISITES:

ADVISORIES:

ASSIGNED DISCIPLINES:

MATERIAL FEE: Yes [] No [X] Amount: \$0.00

CREDIT STATUS: Noncredit [] Credit - Degree Applicable [] Credit - Not Degree Applicable [X]

GRADING POLICY: Pass/No Pass [X] Standard Letter [X] Not Graded []

OPEN ENTRY/OPEN EXIT: Yes [X] No []

TRANSFER STATUS: CSU Transferable[] UC/CSU Transferable[] Not Transferable[X]

BASIC SKILLS STATUS: Yes [X] No []

LEVELS BELOW TRANSFER: 4 levels below transfer level

CALIFORNIA CLASSIFICATION CODES: Y - Not Applicable

NON CREDIT COURSE CATEGORY: Y - Not applicable, Credit Course

OCCUPATIONAL (SAM) CODE: E

REPEATABLE ACCORDING TO STATE GUIDELINES: No [X] Yes [] NUMBER REPEATS:

REQUIRED FOR DEGREE OR CERTIFICATE: No [X] Yes []

GE AND TRANSFER REQUIREMENTS MET:

COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:

1. Explain the language of mathematics including the terminologies, symbols, and translations.
2. Perform basic arithmetic operations on whole numbers, fractions, decimals, and signed numbers.
3. Translate real life problems into numerical expressions and solve.
4. Simplify and solve mathematical problems involving ratios, rates, proportions, and percents.
5. Use geometric formulas to find the perimeter, area, and volume of some standard polygons and circle.
6. Read and construct data using circle graph, bar graph, histogram and determine the mean, median, mode, and the range of a given set of data.
7. Convert American and metric unit system for length, area, volume, weight, and temperature.

COURSE OBJECTIVES:

1. Perform the four standard arithmetic operations on whole numbers.
2. Perform the four standard arithmetic operations on fractions.
3. Perform the four standard arithmetic operations on decimal numerals and percents.
4. Use whole number exponents on expressions involving whole numbers.
5. Use the order of operations on numerical expressions.
6. Find the prime factorization of whole numbers.
7. Read, analyze, and solve narrative exercises involving ratio and proportion.
8. Read, analyze, and solve narrative exercises involving percent.
9. Read, analyze, and solve narrative exercises involving measurement.
10. Read, analyze, and solve narrative exercises involving formulas from geometry.
11. Read, analyze, and solve narrative exercises involving the Pythagorean theorem.
12. Perform arithmetic operations on signed numbers.

COURSE CONTENT:

LECTURE CONTENT:

It is imperative that instructors cover all topics listed below in order to prepare the students for Math 008 the next course in the sequence. The order in which topics are covered will be determined by the instructor and the text which is used. Calculators may not be used in the course.

A. Whole Numbers

1. discuss whole numbers
2. perform addition of whole numbers
3. perform subtraction of whole numbers
4. perform multiplication of whole numbers
5. perform division of whole numbers
6. use prime factorization
7. apply exponents to whole numbers
8. use order of operations on whole numbers
9. apply rounding and estimation
10. introduce applied problems using whole numbers

B. Fractions

1. discuss fractions
2. simplify fractions
3. discuss improper fractions
4. discuss mixed numbers
5. multiply fractions and mixed numbers
6. divide fractions and mixed numbers
7. find the lowest common denominator
8. build up of fractions
9. add fractions
10. subtract fractions
11. introduce applied problems involving fractions

C. Decimals

1. discuss decimal notation and place value
2. compare, order, and round decimals
3. perform addition and subtraction of decimals
4. perform multiplication of decimals
5. perform division of decimals
6. convert fractions to decimals
7. use order of operations on decimals
8. introduce applied problems using decimals

D. Ratio and Proportion

1. discuss ratios and rates
2. discuss the concept of proportions
3. solve proportions
4. introduce applied problems using proportions

E. Percent

1. discuss percent
2. convert from percents to decimals to fractions
3. solve percent problems using an equation or proportion
4. introduce applied percent problem

F. Measurement

1. discuss American units

G. Geometry

1. find the perimeter and area of rectangles and squares
2. discuss the measure of an angle
3. find the perimeter and area of triangles
4. evaluate the square root of perfect squares
5. use the Pythagorean Theorem to find hypotenuse and legs of a right triangle
6. find the circumference and area of circles
7. introduce applied geometry problems

H. Statistics

1. read circle graphs with numerical and percentage values
2. read and interpret bar graphs
3. read and interpret line graphs
4. find the mean and median value of a set of numbers

I. Signed Numbers

1. understand signed numbers (integers)
2. perform addition of signed numbers
3. perform subtraction of signed numbers
4. perform multiplication of signed numbers
5. perform division of signed numbers
6. perform order of operations with signed numbers
7. change numbers between standard notation and scientific notation

LABORATORY CONTENT:

METHODS OF INSTRUCTION:

A. Lecture:

B. Independent Study:

INSTRUCTIONAL TECHNIQUES:

The primary mode of instruction is the lecture/demonstration method. Certain sections may be taught using cooperative learning strategies. Some sections are laboratory based using a variety of instructional methods including textbooks, video presentations and computer based materials.

COURSE ASSIGNMENTS:

Out-of-class Assignments

Homework assignments, test preparation. 4 hours

Writing Assignments

Writing is encouraged throughout the course but is not necessarily a part of the grading or exams. 1 hour

Reading Assignments

Reading from assigned textbook. 1 hour

METHODS OF STUDENT EVALUATION:

Midterm Exam

Final Exam

Short Quizzes

Written Assignments

Problem Solving Exercises

Skills Demonstration

Demonstration of Critical Thinking:

Grades are determined by performance on quizzes and exams. Some instructors may also include grades on homework, cooperative assignments, or cooperative learning sessions. A comprehensive final exam is part of this course.

Critical thinking will be evaluated through a problem-solving approach. Writing is encouraged throughout the course but is not necessarily a part of the grading or exams.

Required Writing, Problem Solving, Skills Demonstration:

Writing is encouraged throughout the course but is not necessarily a part of the grading or exams.

TEXTS, READINGS, AND RESOURCES:

TextBooks:

1. Slater, Jeffrey and John Tobey. *Basic College Mathematics*, 7TH ed. Upper Saddle River: Pearson Education, 2011

Other:

1. Student solution manuals or study guides

LIBRARY:

Adequate library resources include: Print Materials

Non-Print Materials

Online Materials

Services

Comments:

Attachments:

[Attached Files](#)