Las Positas CurricUNET

LAS POSITAS COLLEGE

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Course Outline for MATH 72C

TECHNICAL ELEMENTARY ALGEBRA C

Effective: Fall 2018

I. CATALOG DESCRIPTION:
MATH 72C — TECHNICAL ELEMENTARY ALGEBRA C — 1.00 units

This course provides a survey of computational and elementary algebraic processes with an emphasis on applications in the automotive and welding trades. Topics covered include, but are not limited to: percentages and measurement. This course cannot be used as a prerequisite for Math 50 Core Intermediate Algebra or Math 55 Intermediate Algebra.

1.00 Units Lecture

Prerequisite
MATH 72A - Technical Elementary Algebra A
with a minimum grade of C
or

MATH 72B - Technical Elementary Algebra B
with a minimum grade of C

Grading Methods:
Letter or P/NP

Discipline:
• Mathematics

	MIN
Lecture Hours:	18.00
Expected Outside of Class Hours:	36.00
Total Hours:	54.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:
Before entering the course a student should be able to:

A. MATH72A
1. Perform computations with whole numbers and fractions without using a calculator
2. Use a calculator to perform computations with integers, fractions and decimal numbers
3. Solve applied problems using ratios and proportions.
B. MATH72B
1. Evaluate and simplify formulas and algebraic expressions;
2. Perform operations with algebraic expressions;
3. Solve linear equations in one variable;
4. Solve a formula for a specified variable;
5. Graph linear equations in two variables using various methods;
6. Solve applied problems using linear equations.

IV. MEASURABLE OBJECTIVES:
Upon completion of this course, the student should be able to:

A. Perform computations with decimal numbers to a specified number of significant digits;
B. Solve applied problems involving percentages;
C. Solve problems using U.S. customary units and metric units of length, area, volume, mass, temperature, and time;
D. Perform conversion of measurements within the U.S. or metric systems and between the U.S. and metric systems;
E. Use measuring instruments with accuracy;
F. Solve applied problems using percentages and systems of measurement.

V. CONTENT:
A. Percentages
1. Meaning of percent
2. Fraction/decimal/percent conversions

3. Solving percent equations
                    4. Technical applications
        B. Measurement
                    1. Precision and accuracy; significant digits
                    2. Units of measure
                            a. English system
                            b. Metric system
                    3. Operations with measurements to a specified degree of accuracy
                    4. Accurate use of measurement scales
                    5. Technical applications

VI. METHODS OF INSTRUCTION:
        A. **Audio-visual Activity** - web-based and/or videos embedded in an eText.
        B. **Classroom Activity** - Collaborative learning activities
        C. Homework
        D. Assigned reading with questions to be answered in writing.
        E. **Lecture** -

VII. TYPICAL ASSIGNMENTS:
        A. Homework
                    1. Problems from the text should be assigned for each section covered. The number of problems assigned may vary from section to section and from instructor to instructor, but the homework assignments should include a sufficient number and variety of problems to develop both skill and conceptual understanding. A typical assignment should take an average student 1 to 2 hours for each hour in class.
                    2. The majority of the problems assigned should be those for which answers are readily available so that students may obtain immediate feedback on their work.
                    3. Homework assignments may include reading the text or viewing tutorial videos. An instructor may require written work in conjunction with such assignments (e.g., have students complete a Q & A sheet related to the assigned reading or tutorial).
        B. Classroom Activity
                    1. Collaborative learning, done in small groups of 2-4 students, can be used to introduce new concepts, build skills, or teach problem solving.
                    2. Sample Collaborative learning assignment: Using measurement tools such as protractors and calipers, students practice measuring a variety of objects and answer questions about precision and accuracy. Students compare answers to check the validity of their work and assist each other in using the tools.
                    3. Sample Collaborative learning assignment: Given a to-scale drawing, students use measurement tools to determine the sizes of the figures drawn, then use ratios and proportions to convert the measurements to real-world dimensions in either the American or metric system of measurements.

VIII. EVALUATION:
Methods/Frequency

        A. Exams/Tests
        B. Quizzes
        C. Class Work
        D. Home Work

IX. TYPICAL TEXTS:
        1. Carman, Robert, and Hal Saunders. *Mathematics for the Trades.* 10th ed., Pearson, 2015.
        2. Peterson, John, and Robert Smith. *Introductory Technical Mathematics.* 7th ed., Cengage, 2019.
        3. Ewan, Dale. *Elementary Technical Mathematics.* 12th ed., Cengage, 2019.

X. OTHER MATERIALS REQUIRED OF STUDENTS:
        A. Scientific Calculator
        B. 12-inch ruler with both American customary units and metric units