Las Positas CurricUNET

LAS POSITAS COLLEGE

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Course Outline for MATH 72B

TECHNICAL ELEMENTARY ALGEBRA B

Effective: Fall 2018

I. CATALOG DESCRIPTION:
MATH 72B — TECHNICAL ELEMENTARY ALGEBRA B — 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: linear equations, the rectangular coordinate system, and linear equations in two variables. 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

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.

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

A. Evaluate and simplify formulas and algebraic expressions;
B. Perform operations with algebraic expressions;
C. Solve linear equations in one variable;
D. Solve a formula for a specified variable;
E. Graph linear equations in two variables using various methods;
F. Solve applied problems using linear equations.

V. CONTENT:
A. Introduction to algebra
 1. Evaluating and simplifying algebraic expressions
 2. Addition and subtraction of algebraic expressions
 3. Multiplication of algebraic expressions (Distributive Property)
 4. Exponents (multiplication)
B. Solving linear equations in one variable
 1. Equation solving processes
 2. Technical applications
C. Rectangular coordinate system
 1. Reading and interpreting graphs
 2. Points in the plane
 3. Midpoint formula
 4. Technical applications

D. Linear equations in two variables
    1. Graphing linear equations in two variables
        a. Tables of solutions
        b. Intercepts
        c. Horizontal and vertical lines

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 real world data, students create and interpret graphs of the data.

VIII. EVALUATION:
A. **Methods**

    1. Exams/Tests
    2. Quizzes
    3. Class Work
    4. Home Work
B. **Frequency**

    1. Recommend a minimum of one exam plus the final
    2. Homework should be assigned for each section covered
    3. Number of quizzes and class work activities are at the discretion of the instructor

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

X. OTHER MATERIALS REQUIRED OF STUDENTS:
A. Scientific Calculator