IED 90A Course Outline as of Fall 2005

CATALOG INFORMATION

Dept and Nbr: IED 90A Title: TECHNICAL MATH

Full Title: Technical Mathematics

Last Reviewed: 1/26/2009

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

Concepts of technical mathematics using electronic calculators to solve trade-related problems. Includes a study of fractions, decimals, percents, the metric system, area and volume, ratio, and proportion and fundamentals of algebra.

Prerequisites/Corequisites:

Recommended Preparation:

Eligibility for ENGL 100 or ESL 100.

Limits on Enrollment:

Schedule of Classes Information:

Description: Concepts of technical math using electronic calculators to solve trade related

problems. (Grade Only)
Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100.

Limits on Enrollment: Transfer Credit: CSU; Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree: Area Effective: Inactive: CSU GE: Transfer Area Effective: Inactive:

IGETC: Transfer Area Effective: Inactive:

CSU Transfer: Transferable Effective: Fall 1981 Inactive: Fall 2015

UC Transfer: Effective: Inactive:

CID:

Certificate/Major Applicable:

Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

The student will:

- 1. Comprehend and demonstrate basic mathematical concepts related to those subject areas as stated in the catalog course description.
- 2. Understand and become proficient in solving basic mathematical problems associated with the subject matter of the course.
- 3. Analyze, evaluate and solve mathematical word problems associated with the subject matter of the course.
- 4. Understand, evaluate and demonstrate the actual on-the-job uses of the mathematical concepts associated with his/her occupational field.
- 5. Comprehend and demonstrate the use of an electronic calculator in solving mathematical problems.
- 6. Understand and demonstrate the use of mathematical conversion tables and formulas.

Topics and Scope:

- I. Fractions
 - A. Terminology
 - B. Common denominators
 - C. Improper fractions and mixed numbers
 - D. Addition, subtraction, multiplication, and division
 - E. Practical applications in occupational areas
- II. Decimals
 - A. Terminology
 - B. Addition, subtraction, multiplication, and division
 - C. Rounding off
 - D. Conversion to fractions
 - E. Practical applications in occupational areas

- III. Percentages
 - A. Terminology and relationship to decimals and fractions
 - B. Determining percentages, discounts, and fractional parts of whole
 - C. Practical applications in occupational areas
- IV. Metric System
 - A. Terminology
 - B. Relationship to English system
 - C. Use of conversion tables
 - D. Practical applications in occupational areas
- V. Squares and square roots
 - A. Terminology
 - B. Right triangles and Pythagorean Theorem
 - C. Practical applications in occupational areas
- VI. Perimeters, Areas, and Volume
 - A. Terminology
 - B. Basic geometrical shapes and formulas
 - C. Concrete foundations and other practical applications in occupational areas
- VII. Ratio and Proportion
 - A. Terminology
 - B. Raitos, Direct, and Indirect proportion
 - C. Gears, levers, inclined planes and other practical applications in occupational areas
- VIII. Algebra Fundamentals
 - A. Terminology
 - B. Rules for evaluating algebraic expressions
 - C. Practical applications in occupational areas

Assignment:

Students will be required to complete:

- 1. Reading assignments that will average fifteen pages per week.
- 2. Computational homework assignments averaging two per week or approximately thirty five per semester.
- 3. Practical occupational problem assignments approximately ten assignments during the semester.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Exams

Problem solving 80 - 80%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Class performances

Skill Demonstrations 20 - 20%

Exams: All forms of formal testing, other than skill performance exams.

None

Exams 0 - 0%

Other: Includes any assessment tools that do not logically fit into the above categories.

None

Other Category 0 - 0%

Representative Textbooks and Materials:

Power, T.C., Industrial Education 90B Syllabus