IED 90A Course Outline as of Fall 1997

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:	03 - May Be Taken for a Total of 3 Units
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 100A or ENGL 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 100A or ENGL 100.
Limits on Enrollment:
Transfer Credit: CSU;

Repeatability: May Be Taken for a Total of 3 Units

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 applicaitons 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