APED 321 Course Outline as of Spring 2019

CATALOG INFORMATION

Dept and Nbr: APED 321   Title: APP ELECTRICIAN MATH REV
Full Title: Apprentice Electricians Mathematics Review
Last Reviewed: 1/24/2022

Units			Course Hours per Week		Nbr of Weeks	Course Hours Total		
Maximum	1.00		Lecture Scheduled	0	17.5	Lecture Scheduled		0
Minimum	1.00		Lab Scheduled	0	4	Lab Scheduled		0
			Contact DHR	3.00		Contact DHR		52.50
			Contact Total	3.00		Contact Total		52.50
			Non-contact DHR	0		Non-contact DHR		0

Total Out of Class Hours: 0.00   Total Student Learning Hours: 52.50

Title 5 Category: AA Degree Non-Applicable
Grading: Grade Only
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:

Catalog Description:
Guided study for Electrician Apprentices of topics ranging from basic arithmetic through pre-algebra using diagnostic software to allow students to progress from their initial levels of competency. Students build mathematics skills in specific areas to prepare for desired apprenticeship requirements and courses. Students may work at home or at the Electricians Apprenticeship Training Center.

Prerequisites/Corequisites:

Recommended Preparation:

Limits on Enrollment:
Admission to Apprenticeship Program

Schedule of Classes Information:
Description: Guided study for Electrician Apprentices of topics ranging from basic arithmatic through pre-algebra using diagnostic software to allow students to progress from their initial levels of competency. Students build mathematics skills in specific areas to prepare for desired apprenticeship requirements and courses. Students may work at home or at the Electricians

Apprenticeship Training Center. (Grade Only)
Prerequisites/Corequisites:
Recommended:
Limits on Enrollment: Admission to Apprenticeship Program
Transfer Credit:
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:		Effective:	Inactive:	
UC Transfer:		Effective:	Inactive:	

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Define and give examples of basic mathematical language.
2. Apply basic mathematical operations.
3. Interpret information and solve basic word problems.
4. Apply formulae to solve basic geometric problems.|

Objectives:
Upon completion of the course, students will be able to:
1. Apply basic operations of addition, subtraction, multiplication, and division to whole numbers, fractions, mixed numbers, and decimals;
2. Apply basic operations to signed numbers and algebraic expressions;
3. Represent a number in its equivalent decimal, fraction, percent, and scientific notation;
4. Interpret data from basic graphs, charts, and tables;
5. Convert units of English and metric measurements, using tables of equivalents;
6. Identify basic mathematical language and translate into numerical and symbolic notation;
7. Use rounding and estimating to solve word problems and verify answers;
8. Interpret and apply strategies to solve basic word problems containing whole numbers, fractions, decimals, percents, and signed numbers;
9. Set up and solve basic linear and proportional equations;
10. Apply formulae for perimeter, area, and volume of regular and irregular shapes to solve measurement problems;
11. Apply order of operations.

Topics and Scope:

I. Whole numbers
 A. Place value and terminology
 B. Rounding and estimating whole numbers
 C. Four operations with whole numbers, including the language of expressing addition, subtraction, multipication, and division
 D. Word problems, charts, graphs, and tables with whole numbers
II. Fractions
 A. Fraction terminology
 B. Equivalent fractions; reviewing and building fractions
 C. Four operations with fractions and mixed numbers
 D. Prime factors, prime factorization, multiples
 E. Word problems with fractions
III. Decimals
 A. Place value and terminology
 B. Rounding decimals
 C. Conversions between decimals and fractions
 D. Comparing and ordering decimals
 E. Four operations with decimals
 F. Word problems, charts, graphs, and tables with decimals
IV. Ratio and proportion
 A. Setting up and solving proportions
 B. Unit rate
 C. Word problems with ratio and proportion
V. Percents
 A. Conversions between decimals, fractions, and percents
 B. Setting up percent problems; finding whole, part, and percent
 C. Word problems with percents
VI. Measurement
 A. Converting units of English and metric measurements
 B. Four operations, as applied to units of measurement
VII. Signed numbers
 A. Reading a number line with rational numbers, absolute value, and relative size of numbers
 B. Four operations with signed integers, fractions, and decimals
 C. Word problems with signed numbers
VIII. Exponents
 A. Simplifying exponential expressions using rules of exponents
 B. Scientific notation
 C. Word problems
IX. Geometry measurement
 A. Perimeter, area, and volume of regular and irregular shapes
 B. Manipulating formulae
X. Algebraic expressions
 A. Algebraic terminology
 B. Simplifying algebraic expressions
XI. Equations
 A. Solving linear equations
 B. Algebraic word problems
XII. Descriptive Statistics
 A. Mean
 B. Median
 C. Mode

Assignment:

Students will have 4 hours of lecture and will then take the initial assessment evaluation skills examination in a supervised computer lab at the Electrician Apprenticeship Training Center to determine their math and algebra skills. For the remainder of time in the course, students will be in the supervised lab or at home on a web-based computer.

Assignments will include, but are not limited to, the following:

1. Ten to 20 weekly software-generated problems on topics as assigned by the instructor;
2. Three written self-assessments;
3. Six to eight quizzes;
4. One to two tests;
5. Twenty written responses to questions assigned by the instructor;
6. Instructor will monitor all of students' weekly web-based activities and provide additional instructional assistance.

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.

Self-assessments; responses to questions	Writing 10 - 20%

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

Software-generated problems	Problem solving 35 - 50%

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

None	Skill Demonstrations 0 - 0%

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

Multiple choice; Completion; Short answer	Exams 30 - 50%

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

Attendance and participation	Other Category 5 - 10%

Representative Textbooks and Materials:
Instructor prepared materials