

APED 321 Course Outline as of Fall 2022**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:

An entry-level guided study for Electrician Apprentices of topics ranging from basic arithmetic through prealgebra using a diagnostic and learning software program, such as ALEKS online Learning Management System, to allow students to progress from their initial levels of competency. Students will build mathematical 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:**

Indentured apprentice - apply and be accepted by the Redwood Empire Joint Apprenticeship & Training Committee (REJATC)

Schedule of Classes Information:

Description: An entry-level guided study for Electrician Apprentices of topics ranging from basic arithmetic through prealgebra using a diagnostic and learning software program, such as

ALEKS online Learning Management System, to allow students to progress from their initial levels of competency. Students will build mathematical 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: Indentured apprentice - apply and be accepted by the Redwood Empire Joint Apprenticeship & Training Committee (REJATC)

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. Apply mathematical operations and formulae to solve basic problems.
2. Interpret information and solve basic word problems.

Objectives:

At the conclusion of this course, the student should 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, multiplication, 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:

1. Practice assessment exercises (ungraded)
2. Modular quizzes (10)

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

Writing
0 - 0%

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

None

Problem solving
0 - 0%

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.

Quizzes

Exams
100 - 100%

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

None

Other Category
0 - 0%

Representative Textbooks and Materials:

ALEKS online Learning Management System. McGraw-Hill Ed. 2021
Instructor prepared materials