

APED 263 Course Outline as of Fall 2019**CATALOG INFORMATION**

Dept and Nbr: APED 263 Title: APP ELECTRICIANS 4TH SEM

Full Title: Apprentice Electricians, Fourth Semester

Last Reviewed: 3/28/2022

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	4.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	4.00	Lab Scheduled	3.00	8	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	6.00		Contact Total	105.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 210.00

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: APED 220.4

Catalog Description:

Related supplemental instruction for apprentice electricians.

Prerequisites/Corequisites:**Recommended Preparation:****Limits on Enrollment:**

Indentured apprentice

Schedule of Classes Information:

Description: Related supplemental instruction for apprentice electricians. (Grade Only)

Prerequisites/Corequisites:

Recommended:

Limits on Enrollment: Indentured apprentice

Transfer Credit:

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

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree: Area
CSU GE: Transfer Area

Effective: Inactive:
Effective: Inactive:

IGETC: Transfer Area

Effective: Inactive:

CSU Transfer: Effective:

Inactive:

UC Transfer: Effective:

Inactive:

CID:

Certificate/Major Applicable:
Not Certificate/Major Applicable

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Demonstrate knowledge of theory and regulations of electricians' trade.
2. Apply best practices in practical environment related to electricians' trade.

Objectives:

Upon completion of this course, the students will be able to:

1. Relate the theory of electrical transformers to practical applications in the trade.
2. Solve mathematical problems related to the electrical industry.
3. Identify and describe the function of various electrical protection components.
4. Interpret various blueprint conventions.
5. Demonstrate basic manipulative skills used in the electrical industry.

Topics and Scope:

- I. Transformers
 - A. Introduction
 - B. Installation
 - C. Maintenance
 - D. Distribution systems
 - E. Concepts and problems
- II. Capacitive Reactance
 - A. Capacitor types and ratings
 - B. Capacitors in series
 - C. Capacitors in parallel
 - D. AC meters
 - E. Characteristics of AC circuits
- III. Resistor-Inductor (RL) Circuits
 - A. Parallel RL circuits
 - B. Series RL circuits
 - C. Cable assemblies
- IV. Ropes and Riggings

V. Inductor-Capacitor (LC) and Resistor-Inductor-Capacitor (LCR) Circuits

- A. Series LCR circuits
- B. Parallel LCR circuits

VI. Electrical Component Protection

- A. Boxes
- B. Fittings

VII. Plans and Specifications

All topics are covered in the lecture and lab portions of the course.

Assignment:

Lecture-Related Assignments:

1. Homework assignments (1 to 2 sets per week)
2. Quizzes and examinations (3 to 5)

Lab-Related Assignments:

3. On-the-job demonstration of skill development, safety practices, equipment, and material handling.

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, field work

Problem solving
10 - 25%

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

Class performances

Skill Demonstrations
50 - 65%

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

Exams to include multiple choice, true/false, matching items, and completion

Exams
10 - 20%

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:

AC Theory. 3rd ed. NJATC and Keljik, Jeff. Cengage Learning. 2009 (classic)

Code Calculations. National Joint Apprenticeship and Training Committee. 2008 (classic)

Applied Codeology. 2nd ed. NJATC. Cengage Learning. 2008 (classic)

Transformer Principals and Applications. taylor, Otto and Overnyer, Jim and Michaelis, Ron.

American Technical Publishers. 2006 (classic)