

**APED 260G Course Outline as of Fall 2020****CATALOG INFORMATION**

Dept and Nbr: APED 260G Title: APP ELECTRICIANS 7TH SEM

Full Title: Apprentice Electricians, Seventh 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	2	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 266

**Catalog Description:**

Introductory course for training related to electrician indentured apprentices. This is the seventh semester of a ten semester program.

**Prerequisites/Corequisites:**

Course Completion of APED 260F; OR An applicant with trade experience or previous trade related schooling, upon submitting documentation for review, at the discretion of the Committee, may attempt to challenge the final exams and Hands-on Craft Certification skills in order to test up into a higher year

**Recommended Preparation:****Limits on Enrollment:****Schedule of Classes Information:**

Description: Introductory course for training related to electrician indentured apprentices. This is the seventh semester of a ten semester program. (Grade Only)

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discretion of the Committee, may attempt to challenge the final exams and Hands-on Craft Certification skills in order to test up into a higher year

Recommended:

Limits on Enrollment:

Transfer Credit:

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

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**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. Describe and demonstrate electrical principles and regulations related to electricians' trade.
2. Apply best practices in practical environment related to electricians' trade.

**Objectives:**

Students will be able to:

1. Relate the responsibilities and privileges of journeyman and supervisory status to careers in the electrical industry.
2. Demonstrate a knowledge of nuclear hazards and safety rules and procedures.
3. Demonstrate the ability to apply and connect motor controls.
4. Apply factors of electronics to the inside wireman trade.

**Topics and Scope:**

- I. Marketing IV
- II. Motor Control
  - A. Theory boards
  - B. Nuclear safety I
  - C. Nuclear safety II
  - D. Nuclear safety III
  - E. Nuclear safety IV
- III. Cords, Cables, and Fixture Wire
- IV. Synchronous motor control, clutches, and drives
  - A. Motor control applications
  - B. Start-stop stations

- V Semiconductor Diodes, Wiring Materials, and Meters
- VI. Vapor-Compression Refrigeration and Load
- VII. Air Conditioning
  - A. Transducers
  - B. Switching and biasing conduit

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 (4 to 6 per semester)

Lab-Related Assignments:

1. Class performances and field work (on-the-job demonstrations) 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 assignments; field work

Problem solving  
10 - 25%

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

Class performances; field work

Skill Demonstrations  
50 - 65%

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

Quizzes and examination

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:**

Lighting Design Basics. 3rd ed. Karlen, Mark and Spangler, Christina and Benya, James. John Wiley and Sons. 2017

Programmable Logic Controllers. Lin, Jonathon. Industrial Press, Inc. Pearson Custom Publishing. 2016

Fundamentals of Motor Control. Pearson Learning Solutions. 2010 (classic)

Building Automation: Control Devices and Applications. NJATC. American Technical Publishers. 2008 (classic)

Motors. NJATC. American Technical Publishers. 2008 (classic)

Hazardous Locations. NJATC. National Joint Apprenticeship Training Committee. 2006 (classic)