

**APED 268 Course Outline as of Fall 2019****CATALOG INFORMATION**

Dept and Nbr: APED 268 Title: APP ELECTRICIANS 9TH SEM

Full Title: Apprentice Electricians, Ninth 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 220.9

**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. Describe and demonstrate electrical principles and regulations related to 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 various management factors that affect electrical contractors.
2. Identify and describe the function of fire alarm components.
3. Demonstrate the ability to install, start, and check fire alarm systems.
4. Identify and describe the function of motor protection devices.
5. Calculate electrical energy loads for residential, industrial, and commercial installations.

### **Topics and Scope:**

- I. Electrical Contracting
  - A. Cost awareness
  - B. Planning
  - C. Marketing
  - D. Recruiting
  - E. Organizing after apprenticeship
- II. Fire Alarm Systems
  - A. Wiring
  - B. Installation, start, check out
  - C. Troubleshooting
- III. Motor Branch Circuits
  - A. Protection
  - B. Sizing motors
- IV. Loads
  - A. Residential
  - B. Multi-family
  - C. Commercial
- V. Trays and Electric Welders

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 examinations 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:

Photovoltaic Systems. 2nd ed. Dunlop, James. American Technical Publishers. 2010 (classic)  
Power Quality Analysis. Dranetz. National Joint Apprenticeship Training Committee. 2010 (classic)  
Significant Changes to the National Electrical Code 2011. NJATC. National Joint Apprenticeship Training Committee. 2010 (classic)

Structure Cabling. NJATC. National Joint Apprenticeship Training Committee. 2009 (classic)

Building Automation: System Integration with Open Protocols. NJATC. American Technical Publishers. 2009 (classic)

Fire Alarm Systems. 2nd ed. National Joint Apprenticeship Training Committee. 2008 (classic)

Health Care Systems. NJATC. National Joint Apprenticeship Training Committee. 2008 (classic)

GE NetworX/Sentrol Reference Guide. NJATC. National Joint Apprenticeship Training Committee. 2006 (classic)

Fundamentals of Instrumentation. Stafford, Todd and National Joint Apprenticeship Training Committee. Thomson Delmar Learning. 2005 (classic)