

APED 265 Course Outline as of Fall 2019**CATALOG INFORMATION**

Dept and Nbr: APED 265 Title: APP ELECTRICIANS 6TH SEM

Full Title: Apprentice Electricians, Sixth 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 220.6

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. Describe the function of transformers and the theory of three phase connections.
2. Describe the function of manual and magnetic starters.
3. Identify control devices from symbols on blueprints.
4. Demonstrate the ability to connect direct and alternating current motor controls.
5. Describe the function of fuses and circuit breakers.
6. Complete CPR review training.

Topics and Scope:

- I. General Lighting
 - A. Transformers - three phase connections
 - B. Manual starters and magnetic coils
 - C. Overload protection
- II. Control Devices and Symbols
 - A. Wire control
 - B. Feeders-outside branch circuits
 - C. Wiring diagrams
 - D. Reversing and sequential motor control
- III. Jogging and Plugging
 - A. Refrigerants
 - B. Piping
- IV. DC Motor Controls
 - A. Solid state control
 - B. Wiring methods
 - C. Stepped motors
- V. AC Motor Controls - AC Motor Starters

VI. Overcurrent Protection

A. Fuses

B. Circuit breakers

VII. American Labor History

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:

Rigging and Lifting Principals. American Technical Publishers. 2010 (classic)

Electrical Safety-Related Work Practices. 2nd ed. Jones and Bartlett Publishers. 2009 (classic)

Soares Book on Grounding. 10th ed. International Association of Electrical Inspectors. 2008 (classic)

Semiconductors. 2nd ed. Smith, Robert. DELMAR/Cengage Learning. 2008 (classic)