APED 260B Course Outline as of Fall 2020

CATALOG INFORMATION

Dept and Nbr: APED 260B Title: APP ELECTRICIANS 2ND SEM
Full Title: Apprentice Electricians, Second 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 261

Catalog Description:
Introductory course for training related to electrician indentured apprentices. This is the second semester of a ten semester program.

Prerequisites/Corequisites:
Course Completion of APED 260A

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: Introductory course for training related to electrician indentured apprentices. This is the second semester of a ten semester program. (Grade Only)
Prerequisites/Corequisites: Course Completion of APED 260A
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. 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. Demonstrate knowledge of direct current theory.
2. Demonstrate knowledge of electrical conductor and insulation as outlined in the National Electrical Code.
3. Accurately draw and explain basic circuits.
4. Identify symbols and abbreviations used on blueprints.
5. Demonstrate various sketching techniques.
6. Relate the theory of various electrical components to work in the trade.
7. Explain the factors involved for electrical contractors to be competitive in the market place.
8. Demonstrate basic skills used in the electrical industry.
9. Complete Standard First Aid/CPR Training.

Topics and Scope:

I. Parallel Circuits - Voltage and Resistance
II. Combination Circuits
  A. Current and basic DC
  B. Voltage and power
  C. Voltage and polarity
III. Conductors
  A. Aluminum and basic circuits
  B. Voltage drop

IV. Working Drawings
   A. Layout and circuits
   B. Symbols and abbreviations
   C. Floor plans
   D. Elevation views
   E. Sectional views and plot plans
V. Overcurrent Protection - Fuses
VI. Trade information
   A. Residential plans and wiring
   B. Marketing
   C. Job costs review
VII. Safety-Electrical Shock
   A. Electromagnetism
   B. Principles of generation
   C. Three-wire system
   D. Transformer ratios
   E. Superposition

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)
3. Hands-on Craft Certification skills exam (students must pass in order to complete the course)
4. Written final exam (students must pass in order to complete the course)

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; quizzes; field work	Problem solving 5 - 10%

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

Class performances; field work	Skill Demonstrations 40 - 45%

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

Quizzes and examinations, Craft Certification skills exam, final exam	Exams 40 - 45%

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:
National Electrical Code. NFPA. National Fire Protection Agency. 2017
Electrical Systems Based on the 2017 NEC. Callanan, Michael and Wusinich, Bill. American Technical Publishers. 2017
Building a Foundation in Mathematics. 2nd ed. NJATC. Cengage Learning. 2011 (classic)
Blueprint Reading for Electricians. 3rd ed. Zachariason. Cengage Learning. 2010 (classic)
DC Theory. 2nd ed. NJATC. Cengage Learning. 2008 (classic)
Conduit Bending and Fabrication. ATP Staff. American Technical Publishers. 2007 (classic)
Test Instruments. Mazur, Glen. American Technical Publishers. 2005 (classic)