Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Apprenticeship

Submitter

First Name: Shelly
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Course Prefix and Number:APR - 232UL

 # Credits:5

Contact hours

Lecture (# of hours): 55
Lec/lab (# of hours):
Lab (# of hours):
Total course hours: 55

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

Course Title: Outside Electrical Advanced Theory II

Course Description:

Instruct third year, second term apprentices on outside electrical apprenticeship training as it applies to distribution capacitors, capacitor switching, breakers and switches, rubber protective devices, live-line tools, live-line work practices, primary and single-phase revenue metering, substation safety procedures, substation construction and advanced math applications.

Type of Course: Career Technical Apprenticeship

Can this course be repeated for credit in a degree?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Electrical Apprenticeship Technologies AAS

Are there prerequisites to this course?

Yes

Pre-reqs:APR-231UL

Have you consulted with the appropriate chair if the pre-req is in another program?

No

Are there corequisites to this course?

No

Are there any requirements or recommendations for students taken this course?

Yes

Recommendations: None

Requirements: Second-year outside electrical theory

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit:No

When do you plan to offer this course?

✓ **Winter**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

No

Will this course appear in the schedule?

No

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. explain the function of primary fusing, breakers and switches, regulators and switching circuits (overhead and underground);
2. identify and name types of rubber protective devices when working near live-lines,
3. identify live-line tools and explain the use of each,
4. demonstrate insulator and cross arm changes and tower insulator changes as it applies to live-line work,
5. explain the difference between metering and single-phase revenue meeting,
6. list required substation safety procedures,
7. apply construction standards to their work,
8. calculate fault current.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Components of distribution.
2. Rubber protective devices.
3. Live-line tools.
4. Live-line work practices.
5. Metering.
6. Substation safety procedures.
7. Substation construction.
8. Advanced math applications.

Does the content of this class relate to job skills in any of the following areas:

1. Increased energy efficiency	**No**
2. Produce renewable energy	**No**
3. Prevent environmental degradation	**No**
4. Clean up natural environment	**No**
5. Supports green services	**No**

Percent of course:0%

First term to be offered:

Next available term after approval
: