

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 - 231UE

Credits: 4

Contact hours

Lecture (# of hours): 44

Lec/lab (# of hours):

Lab (# of hours):

Total course hours: 44

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: Line Estimator Responsibility I: Live Line

Course Description:

Principles and concepts that govern field responsibilities related to line maintenance. Focus is on ground resistance, pole replacement and live line maintenance, fiber optic types, and codes and standards for installation procedures.

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): Electrician Apprenticeship Technology AAS

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

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

Yes

Recommendations: None

Requirements: Accepted into the Line Estimator apprenticeship program

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

No

Will this class use library resources?

Yes

Have you talked with a librarian regarding that impact?

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 Only

Audit: No

When do you plan to offer this course?

✓ Not every term

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. list and describe methods used to test ground resistance and discuss factors that affect ground resistance,
2. describe different optical fiber types and their characteristics,
3. identify types of fiber optic cables used for outside applications and review the codes and standards that govern installation and the techniques for pulling fiber optic cable through underground conduit,
4. explain the common types of live-line operations,
5. articulate basic procedures for performing live-line maintenance with hot sticks, including safe work distances from the hot end of sticks;
6. outline basic methods for pole replacement,
7. discuss the purpose of a maximeter and explain the use of primary metering installations,
8. summarize the advantages of constructing EHV lines,
9. describe the phase relationship of voltage and current in a purely resistive circuit,
10. define terms used in AC theory,
11. explain the operation of a capacitor and the principle of inductive reactance,
12. employ proper procedures for installing and removing rubber protective devices.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Methods used to test ground resistance.
2. Factors that affect ground resistance.
3. Different optical fiber types and their characteristics.
4. Types of fiber optic cables used for outside applications.
5. Common live-line operations.
6. Safe work distances from the conductors or hot end of sticks to the lineman.
7. Basic procedures used when performing live-line maintenance with hot sticks.
8. Basic methods used when performing a pole replacement.
9. Use of primary metering installations.
10. Advantages of constructing EHV lines.
11. Purpose of a maximeter.
12. Phase relationship of voltage and current in a purely resistive circuit.
13. Terms used in AC theory.

14. Inductive reactance.
15. Operation of a capacitor.
16. Codes and standards that govern the installation of fiber optic cable in outside applications.
17. Pulling techniques used for fiber optic underground conduit installations.
18. Procedures to be followed when installing and removing rubber protective devices.

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

:
