

**Clackamas Community College**  
Online Course/Outline Submission System

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**Section #1 General Course Information**

**Department:** Apprenticeship

Submitter

First Name: Shelly

Last Name: Tracy

Phone: 0945

Email: shellyt

**Course Prefix and Number:** APR - 113UW

**# 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:** Basic Substation Wireman III

Course Description:

Basic Substation Wireman III continues student training with the study of substation construction from prints to superstructure and bus design. Students will learn about various types of substation prints and drawings including single-line diagrams and schematics. This course will explore attributes of substation construction including foundations, platforms, ground grids, steel structures and the use of a boom truck and lift calculations. This course is part of the NJATC substation curriculum.

**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 Technologies AAS

Are there prerequisites to this course?

Yes

**Pre-reqs:** Successful completion of APR-112UW, Basic Wireman Substation II

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?

No

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?

**✓ Spring**

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. identify various types of substation equipment,
2. explain the processes involved in substation construction which include equipment foundations, bus, jumpers and ground grids;
3. identify basic types of prints, symbols, conventions, and abbreviations;
4. explain the purpose of construction measuring devices such as transits and levels,
5. explain spill prevention and counter measures,
6. describe insulated platforms and boom truck set up,
7. calculate safe lifts for fiberglass boom,
8. demonstrate (with a team) the construction of a steel structure.

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***This course does not include assessable General Education outcomes.***

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Major Topic Outline:

1. Substation equipment
2. Substation construction site layout and preparation.
3. Introduction to blueprints & specifications.
4. Single-line, schematic and electrical drawing diagrams.
5. Symbols, conventions and abbreviation's.
6. Introduction to measuring and leveling devices.
7. Spill prevention containment systems.
8. Insulated Platforms.
9. Boom capacities and load charts.
10. Steel superstructure assembly and erection.

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

- |                                      |           |
|--------------------------------------|-----------|
| 1. Increased energy efficiency       | <b>No</b> |
| 2. Produce renewable energy          | <b>No</b> |
| 3. Prevent environmental degradation | <b>No</b> |
| 4. Clean up natural environment      | <b>No</b> |
| 5. Supports green services           | <b>No</b> |

Percent of course: 0%

First term to be offered:

Next available term after approval

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