

**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

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**Course Prefix and Number:**APR - 123UL

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**# 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.

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**Course Title:**Outside Electrical Fundamental Theory III

**Course Description:**

Instruct the second year apprentice on cable applications, steps to restoring service, identification and care of hot line tools, lifting and digging operations with a mobile crane, traffic signal industry overview and basics of street lighting maintenance.

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**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:**APR-122UL

**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?

**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?

**✓ 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 and select appropriate cable; both type, and size, for applications involving terminations, splicing, and use of a meggar (type of meter);
2. name indicators of faults, and ways to locate them and restore electrical service;
3. identify hot line tools and explain their use and proper care,
4. calculate boom capacity of a load when using a mobile crane,
5. demonstrate lifting and digging operations with a mobile crane/boom truck (digger derrick);
6. name safety rules to be followed when working in a confined space doing underground installations,
7. explain the fundamentals of traffic signal cabinets, hardware, equipment, phasing and other traffic control devices;
8. explain the fundamentals of street lighting including: time and control, light control, lamps, trouble shooting and series circuits.

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

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**Major Topic Outline:**

1. Cable splicing I-XII.
2. Distribution test instruments.
3. Hotsticks.
4. Mobile cranes/booms.
5. Confined space/underground installations.
6. Introduction to the Manual of Uniform Traffic Control Devices.
7. Street lighting.

**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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