

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 - 236IE**# Credits:**3**Contact hours**

Lecture (# of hours): 36

Lec/lab (# of hours):

Lab (# of hours):

Total course hours: 36

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:Motors & Controls**Course Description:**

This course is the first of two classes designed to teach students the basics of Basic Motor Controls, reversing starters, timers, counters & sensing devices and solid state soft starts.

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 and CC

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?

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 Only

Audit:Yes

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. identify components of motor circuits,
2. identify components of motor controls,
3. properly size motor circuits per NEC Article 430,
4. draw ladder diagrams,
5. explain how motor controls work,
6. explain how to wire basic motor controls.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Orientation, NEC Article 430 layout.
2. General principles of motor controls.
3. Symbols and schematic diagrams, ladder diagram basics.
4. Starters, overloads, and relays.
5. Timer relays, pressure sensors, float switches.
6. Design multi-motor circuits and overcurrent.
7. Design control circuits for a specific scenario with ladder diagram.

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

:
