

Clackamas Community College

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Section #1 General Course Information**Department:** Energy and Utility Resource Management**Submitter**

First Name: Shelly

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Course Prefix and Number: UG - 111**# 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: Hydro-Generation: Electrical Theory I**Course Description:**

Review of basic level math, followed by an introduction to the basics of electrical theory. The focus will be on calculating voltage, current and resistance in series and parallel DC circuits.

Type of Course: Career Technical Preparatory

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

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): Generation Technologies AAS Degree, Hydro-Generation Operator One Year Certificate and Hydro-Generation Pathway Certificate

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: Successful completion of the POSS test (or instructor waiver), basic computer skills and basic math skills.

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. conduct basic math calculations,
2. describe the difference between alternating and direct current, and give the best application for each;
3. conduct various word problem calculations once given the parameters,
4. name types of different DC and AC power systems,
5. explain the basics of electrical theory, including voltage, current and resistance;
6. explain the difference between series and parallel circuits,
7. calculate current, voltage and/or resistance in a series, parallel, or series/parallel circuits using ohm's and Kirchhoff's laws.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Working with fractions.
2. Measurement and scientific notation.
3. Percentages, ratios and proportions.
4. Numbering system of algebra.

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:

Specify term: Fall 2015
