

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information**Department:** Manufacturing**Submitter**

First Name: Dan

Last Name: Tuggle

Phone: 3876

Email: dant

Course Prefix and Number: MFG - 130**# Credits:** 3**Contact hours**

Lecture (# of hours): 33

Lec/lab (# of hours):

Lab (# of hours):

Total course hours: 33

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 Electricity I**Course Description:**

Explores fundamentals of AC and DC electricity. Includes: atomic structure, direct current, alternating current, Ohm's law, series, parallel, and combination circuits, DC circuit theorems, production of DC voltages, magnetic principles, transformers, motors and generators.

Type of Course: Career Technical Preparatory

Is this class challengeable?

Yes

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): Manufacturing Programs

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?

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 or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

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?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. demonstrate the units of electrical quantities,
2. diagram direct current and alternating current electricity,
3. analyze DC parallel and series circuits,
4. demonstrate the use a DMM to measure electrical quantities,
5. summarize electro-magnetic nature electricity,
6. work safely around electricity.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Atomic nature of electricity.
2. Direct current.
3. Ohm's law.
4. Measurement of electricity.
5. The digital multi-meter.
6. Series circuits.
7. Parallel circuits.
8. Combination circuits.
9. DC circuit theorems.
10. Alternating current.
11. Transformers, motors and generators.
12. Electrical safety.

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

:
