

Clackamas Community College
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Section #1 General Course Information

Department: Manufacturing

Submitter

First Name: **Jim**

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Course Prefix and Number: EET - 137

Credits: 4

Contact hours

Lecture (# of hours):

Lec/lab (# of hours): 88

Lab (# of hours):

Total course hours: 88

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: Electrical Fundamentals I

Course Description:

Introduction to the basic concepts of voltage, current, resistance and their relationships in DC circuits. Use SI units, engineering notation and prefixes. Analysis of series, parallel and series-parallel circuits will be made using Ohm's & Kirchhoff's laws.

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): Electronics Engineering Technology 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?

Yes

Recommendations: Completion of MTH-050 or higher

Requirements: None

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. illustrate basic concepts of voltage, current, resistance and their relationships in DC circuits;
2. analyze series, parallel and series-parallel circuits using Ohm's & Kirchhoff's laws and DC Network theorems;
3. assemble (prototype bread board) circuits,
4. calculate and solve equations for various parameters that control a circuit's operation and then measure the results using the circuit,
5. demonstrate the proper use of the digital multi-meter and bench power supplies during the lab exercises,
6. recognize, convert and translate engineering prefixes and common SI units.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Engineering notation and prefixes, SI Units and conversions.
2. Voltage, Current and Resistance.
3. Ohms Law, Power and Energy.
4. Series Circuits.
5. Parallel Circuits.
6. Series-Parallel Circuits.

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

:
