Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Manufacturing

Submitter

First Name: Mike
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Course Prefix and Number: EET - 215

 # Credits: 2

Contact hours

Lecture (# of hours):
Lec/lab (# of hours): 44
Lab (# of hours):
Total course hours: 44

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: Electromechanical Systems I

Course Description:

This course emphasizes applied electromechanical principles. The theory and application of force, work, torque, energy power and force transformers are explored. Covers motion control systems, basic relay circuits and sensors, stepper and servo motors and power transmission systems. Introductory mechanics areas also covered, including simple machines and an introduction to static and dynamic forces.

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?

Yes

Pre-reqs: Current enrollment in or successful completion of EET-137 or MFG-130

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?

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. understand applied electromechanical principles, theory, operation and application of force, work, rate, resistance, energy power and force transformers;
2. understand the basics of industrial motion control and be able to design a simple system and specify the components of the system,
3. read schematics to enable the assembly of industrial control circuits,
4. create sketches to communicate design requirement to others,
5. use measuring tools to reverse engineer components in order to specify mating components,
6. apply basic shop skills including layout, soldering, drilling, threading and sawing;
7. calculate and solve equations for various parameters of an electromechanical system including forces, electrical quantities and linear position;
8. construct control circuits using various components such as: momentary contact switches, proximity switches, relays, pilot lights, motors and motor starters;
9. identify and specify threaded fasteners in both metric and US customary units.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Work, Energy, Torque, and Power.
2. AC and DC Generators/Motors.
3. Basic Hydraulics and Pneumatics.
4. Power Transmission Systems.
5. Basic Mechanics.

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
: