Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Apprenticeship

Submitter

First Name: Shelly
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Course Prefix and Number: APR - 231UG

 # 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: Systems Operator

Course Description:

Designed to instruct students on process control systems, programmable logic controllers (PLCs) and software systems. The student will also learn the coordination and control of reservoir levels through water management and power generation. There will also be an overview of state and federal agencies laws and regulations.

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 Technology AAS and Electrician Apprenticeship Technology Certificate

Are there prerequisites to this course?

Yes

Pre-reqs: MTH-095 or instructor consent

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?

Yes

Recommendations: Take 200-level UG classes in sequence, but not required.

Requirements: MTH-095 or successful completion of the POSS test.

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
✓ Not every year

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. explain process control systems and how they work,
2. create a PLC system operation and interface,
3. explain and demonstrate the protocol for precipitation monitoring,
4. apply principles of water flow,
5. control reservoir levels through water management,
6. power-up and demonstrate all applications for hydro plant operations,
7. re-state the rules and regulations a hydro operator must follow.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Process control systems.
2. Programmable Logic Controls (PLC).
3. Hydro power operations.
4. Reservoir management.
5. Laws and regulation for local, state and federal agencies.

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
: