

## Clackamas Community College

### Online Course/Outline Submission System

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#### Section #1 General Course Information

**Department:** Energy and Utility Resource Management

**Submitter**

First Name: Shelly

Last Name: Tracy

Phone: 0945

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**Course Prefix and Number:** ERM - 112

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**# Credits:** 2

**Contact hours**

Lecture (# of hours): 22

Lec/lab (# of hours):

Lab (# of hours):

Total course hours: 22

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.

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**Course Title:** Mapping and Technical Drawings in the Utility Industries

**Course Description:**

An introduction of basic concepts for managing utility industry assets and operations through visual maps and technical drawings (e.g. blueprints). Students will interact with a series of guest speakers from electric, natural gas, telecommunications, civil engineering, and water utilities to review basic symbols and mapping systems most commonly used in construction projects and daily operations.

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**Type of Course:** Career Technical Preparatory

**Reason for the new course:**

Needed for certificate completion. No comparable class available.

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):** AAS.Energyresman, CC.Energyresman, CC.utilfieldtech, CC.Utrdepreplnwr,

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:** Pass RD-090 with a C or better or placement in RD-115; pass MTH-060 with a C or better or placement in MTH-065; pass WR-095 with a C or better or placement in WR-121; pass CS-090 with a C or better or placement in CS-120.

**Requirements:** Instructor consent.

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: No**

When do you plan to offer this course?

**Winter**

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. identify common mapping and technical drawings used in utility industries,
2. describe common purposes of various types of maps and technical drawings,
3. apply basic skills of diagraming, drawing, modeling, and mapping;
4. manually create a simple project plan through visual drawings and maps,
5. manually create a materials list from visual drawings and maps,
6. manually create a written step by step process plan from a visual drawings and maps.

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***This course does not include assessable General Education outcomes.***

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**Major Topic Outline:**

1. Compare and contrast the most common types of maps and technical drawings
2. Review basic elements of a Geographic Information System (GIS) for maps/drawings
3. Review basic integration of drawings, materials ordering, and project planning
4. Review of Case Studies in Utility and related Industries
5. Future Trends in mapping and technical drawings (e.g. 3D)
6. Classroom Guest Speaker – Electric Utility Industry
7. Classroom Guest Speaker – Natural Gas Utility Industry
8. Classroom Guest Speaker – Water Utility Industry
9. Classroom Guest Speaker – Telecommunications Industry
10. Classroom Guest Speaker – General Construction Industry

Does the content of this class relate to job skills in any of the following areas:

- |                                      |           |
|--------------------------------------|-----------|
| 1. Increased energy efficiency       | <b>No</b> |
| 2. Produce renewable energy          | <b>No</b> |
| 3. Prevent environmental degradation | <b>No</b> |
| 4. Clean up natural environment      | <b>No</b> |
| 5. Supports green services           | <b>No</b> |

Percent of course: 0%

First term to be offered:

**Specify term:** Winter 2016

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