

Clackamas Community College

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

First Name: Renee

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Course Prefix and Number:HOR - 240

Credits:3**Contact hours**

Lecture (# of hours): 33

Lec/lab (# of hours):

Lab (# of hours): 11

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:Irrigation and Drainage Practices**Course Description:**

Materials, equipment, and methods used to install irrigation and drainage systems in landscape areas. Emphasis is on home lawns, gardens, and larger areas. Class includes a lab component.

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): Horticulture AAS, Landscape AAS & Certificate, Irr Technician pathway

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?

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?

✓ **Spring**

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. evaluate, repair and install residential and small commercial irrigation and drainage systems;
2. develop a comprehensive irrigation scheduling program for a specific site,
3. program a variety of types of irrigation controllers.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Irrigation design application.
 - a. Gathering data.
 - a1. Review job site.
 - a2. Take measurements.
 - a3. Make sketch.
 - a4. Getting hydraulic information.
 - b. Selecting material.
 - c. Calculations.
 - d. Drafting the system.
 - e. Read irrigation design plans.
2. Drainage design.
 - a. Basic principles of drainage.
 - a1. Water movement.
 - a2. Soil types.
 - a3. Climate and precipitation.
 - b. Materials for drainage.
 - c. Calculations for drainage design.
 - d. Methods of installation.
 - e. Review irrigation designs.
 - f. Grading for drainage lines.
3. Irrigation construction.
 - a. Irrigation piping.
 - a1. Main line installation & repair.
 - a2. Lateral installation & repair.
 - a3. Backflow device installation.
 - b. Irrigation heads.
 - b1. Installation of heads.
 - c. Irrigation valves.
 - c1. Installation of valves.
 - d. Irrigation controllers and wiring.
 - d1. Installation of controllers and wiring.
 - d2. Programming controllers.

- 4. Drip irrigation.
 - a. Design theory.
 - b. Materials.
 - c. Costing.
 - d. Installation methods.
 - e. Uses in greenhouse and agriculture.
- 5. Irrigation troubleshooting.
 - a. Sprinklers.
 - b. Valves.
 - c. Controllers.
 - d. Drip systems.

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

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

Percent of course:50%

First term to be offered:

Specify term: Spring 2015
