

Clackamas Community College

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

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Course Prefix and Number:HOR - 230**# Credits:**2**Contact hours**

Lecture (# of hours): 22

Lec/lab (# of hours):

Lab (# of hours): 22

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:Equipment Operation & Maintenance**Course Description:**

Selection, operation, and maintenance of power driven machines, such as mowers, rototillers, chain saws, edgers, sprayers, tractors, and related equipment for nursery and landscape applications. 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 & Certificate, Landscape AAS & Certificate

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?

✓ **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. demonstrate the fundamentals of small 2 and 4-cycle engine operation,
2. evaluate common engine problems to keep small engines operating,
3. operate and perform basic maintenance of power equipment common to the industry,
4. demonstrate the safety procedures for equipment operation.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Fundamentals of gas and diesel engines operation and maintenance.
 - a. Engine parts identification.
 - a1. 4 cycle.
 - a2. 2 cycle.
 - b. Air filtering systems.
 - c. Fuel and fuel systems.
 - d. Lubrication and cooling systems.
 - e. Ignition and electrical systems.
 - f. Clutches, power trains, PTO.
2. Preventative maintenance.
 - a. General maintenance.
 - a1. Schedules.
 - a2. Procedures.
 - b. Winterizing engines and equipment.
3. Troubleshooting.
4. Equipment safety.
 - a. Tractors and equipment safety.
 - b. Landscape equipment safety.
5. Tool identification.
 - a. Mechanic hand tools.
 - b. Selection of equipment price and quality.
6. Equipment Operation.
 - a. Tractor.
 - b. Loader.
 - c. Rototiller.
 - d. Midmower.
 - e. String trimmer.
 - f. Edger.
 - g. Chain saw.
 - h. Riding mower.
 - i. Blower.

- j. Fork lift.
- k. Sprayer.
- 7. Gas and diesel powered equipment.
 - a. Small tractors.
 - a1. Models and their features.
 - a2. Parts of small tractors.
 - a3. Levers and controls.
 - a4. Indicators.
 - a5. Function of specific equipment.

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 | Yes |
| 4. Clean up natural environment | No |
| 5. Supports green services | No |

Percent of course: **10%**

First term to be offered:

Specify term: **Winter 2015**
