

# PST-1411: EQUIPMENT OPERATIONS AND SAFETY

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## Cuyahoga Community College

**Viewing: PST-1411 : Equipment Operations and Safety**

**Board of Trustees:**

March 2025

**Academic Term:**

Fall 2025

**Subject Code**

PST - Plant Science/Landscape Tech.

**Course Number:**

1411

**Title:**

Equipment Operations and Safety

**Catalog Description:**

An overview of common horticultural hand tools, power tools, and large equipment. Emphasis on safe operation with hands-on practice and basic preventative maintenance on each machine.

**Credit Hour(s):**

2

**Lecture Hour(s):**

1

**Lab Hour(s):**

3

## Requisites

**Prerequisite and Corequisite**

None.

## Outcomes

**Course Outcome(s):**

Identify common green industry hand tools, power tools, and large equipment.

**Objective(s):**

1. Discuss the limitations of each tool and piece of equipment.
2. Summarize the safety tips to keep in mind when operating each tool and piece of equipment

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**Course Outcome(s):**

Choose the most appropriate tool for various tasks encountered on the typical landscape jobsite.

**Objective(s):**

1. Appraise the challenges each jobsite and working condition will present to a crew.
2. Assess the most appropriate use of time, equipment, and labor to respond to each challenge.

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**Course Outcome(s):**

Perform safe operation of power equipment.

**Objective(s):**

1. Perform a pre-trip inspection of each piece of equipment including location of fluids, lubrication, and filters.
2. Demonstrate preventative maintenance techniques for each piece of equipment.
3. Demonstrate correct start up and shut down procedures for each piece of equipment.
4. Operate each piece of equipment safely.

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**Course Outcome(s):**

Discuss the importance of the owner's manual for each tool and piece of equipment.

**Objective(s):**

1. Interpret each section of the owner's manual.
2. Discuss the areas of most concern in the manual.
3. Select the correct pages needed for a preventative maintenance program on power equipment.

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**Methods of Evaluation:**

1. Written assignment
2. Written examination
3. Case studies
4. Individual presentation
5. Group demonstrations
6. Class participation
7. Observance of jobsite safety

**Course Content Outline:**

1. Common green industry hand tools, power tools, and large equipment
  - a. Skid steer
  - b. Truck & trailer
  - c. Mini-excavator
  - d. Mini-track loader
  - e. Chainsaw
  - f. String trimmer
  - g. Blower
  - h. Zero-turn mower
2. Operation of common green industry hand tools, power tools, and large equipment
  - a. Demonstration and practice to master the limits to which a tool and power equipment can be used
  - b. Review of Occupational Safety and Health Administration (OSHA) rules and regulations with each associated tool and equipment
  - c. Review of safe operation principles
3. Assess the appropriateness of a tool for each task encountered on the typical landscape jobsite
  - a. Challenges on the jobsite
    - i. Inclement weather
    - ii. Disruptive employees
    - iii. Damaged equipment
    - iv. Improperly maintained equipment
    - v. Delivery issues
    - vi. Transportation logistics
    - vii. Muddy job sites
  - b. Review most appropriate use of time, equipment, and labor to respond to each challenge
4. Practice safe operation of power equipment
  - a. Pre-trip inspections including location of fluids, lubrication, and filters
  - b. Preventative maintenance techniques
  - c. Start up and shut down procedures
5. Owner's manuals

- a. Review each section of the owner's manual
- b. Areas of most concern in the manual including service interval charts
- c. Setting up a preventative maintenance program on power equipment

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## Resources

Jay Webster. *Repairing Your Outdoor Power Equipment*. 1. Clifton Park: Delmar, 2001.

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"Compact Equipment"

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"Equipment World"

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"Stihl Owners Manuals"

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"Walker Mowers Owners Manuals (Found on Resources Page of site)"

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"Scag Owners Manuals"

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"Bobcat Owners Manuals"

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## Resources Other

None

## Instructional Services

### OAN Number:

CTAN Approved: Career Technical Assurance Guide CTHOR003

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