

# PST-2380: ARBORICULTURE

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## Cuyahoga Community College

**Viewing: PST-2380 : Arboriculture**

**Board of Trustees:**

February 2019

**Academic Term:**

Fall 2021

**Subject Code**

PST - Plant Science/Landscape Tech.

**Course Number:**

2380

**Title:**

Arboriculture

**Catalog Description:**

Study of the tree care industry including fertilization, spraying, pruning, bracing and cabling, equipment operation, climbing techniques, safe work practices, diagnosis of disorders, and client interactions.

**Credit Hour(s):**

2

**Lecture Hour(s):**

1

**Lab Hour(s):**

3

**Other Hour(s):**

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## Requisites

**Prerequisite and Corequisite**

PST-1311 Deciduous Woody Landscape Plants, and PST-1411 Equipment Operations and Safety, and HLTH-1230 Standard First Aid and Safety; or departmental approval.

## Outcomes

**Course Outcome(s):**

1. Demonstrate responsibilities, skills, and business procedures to work as a commercial or municipal arborist.

**Objective(s):**

1. Discuss the important role trees play in the sustainability of our environment.
2. Demonstrate proper woody plant pruning techniques.
3. Explain how growth factors can be used to promote optimum tree health.
4. Diagnose possible causes of tree disorders.
5. Properly fertilize woody plants.
6. Properly operate hand tools and machinery associated with the tree care industry.
7. Explain or safely use climbing techniques most commonly employed by the tree care industry.
8. Discuss cabling and bracing techniques used in the tree care industry.

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**Methods of Evaluation:**

1. Quizzes
2. Midterm

3. Lab participation
4. Knot skills
5. Final exam

**Course Content Outline:**

1. Tree care industry
  - a. Branches of service
  - b. Major companies
  - c. Resources
2. Trees and sustainability
  - a. Carbon sinks
  - b. Value of urban trees
  - c. Stormwater remediation
  - d. Soil retention
3. Pruning and care
  - a. Topping
  - b. Lion tailing
  - c. Thinning
  - d. Reduction
  - e. Heading back
  - f. Hazard reduction
  - g. Cross branching
  - h. Bracing
  - i. Cabeling
  - j. Staking
  - k. Planting
  - l. Fertilizing
  - m. Watering
4. Growth factors
  - a. Soil compaction
  - b. Construction
  - c. Impermeable surfaces
  - d. Lightning
  - e. Disease
  - f. Insect
  - g. Water
  - h. Nutrient availability
5. Disorders
  - a. Disease
  - b. Insect
  - c. Physiological
6. Industry practices
  - a. Jobsite safety
  - b. American National Standards Institute (ANSI) regulations
  - c. OSHA regulations
7. Tree climbing
  - a. ANSI regulations
  - b. Occupational Health and Safety Administration (OSHA) regulations
  - c. Common knots
  - d. Ground guides
  - e. Rope care
  - f. Mechanics of the climb

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**Resources**

Lily, S.J. *Tree Workers Guide*. 4th ed. Ohio State University, 1995.

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Clark, J.R., Matheny, N.P. *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*. 4th. Pearson AG, 2004.

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Gilman, E.F. *An Illustrated Guide to Pruning*. 3rd ed. Delmar Cengage Learning, 2011.

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American National Standards Institute. "ANSI Z133"

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International Shade Tree Conference. "Journal of Arboriculture"

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National Arborists Association. "National Arborists Standards"

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#### **Resources Other**

1. Trade journals, catalogs, extension bulletins.

Top of page

Key: 3773