PST-2381: ARBORICULTURE

Cuyahoga Community College

Viewing: PST-2381 : Arboriculture

Board of Trustees:
December 2021

Academic Term:
Fall 2022

Subject Code
PST - Plant Science/Landscape Tech.

Course Number:
2381

Title:
Arboriculture

Catalog Description:
Theoretical and practical approach to tree climbing and pruning techniques according to industry standards. Emphasizes safe tree climbing techniques and the use of tree risk assessments.

Credit Hour(s):
3

Lecture Hour(s):
2

Lab Hour(s):
3

Requisites

Prerequisite and Corequisite
PST 1380 Introduction to Tree Care, or departmental approval

Outcomes

Course Outcome(s):
Evaluate and perform pruning concepts in accordance to the American National Standards Institute (ANSI) A300 standards.

Essential Learning Outcome Mapping:
Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):
1. Compare different trees for pruning needs.
2. Demonstrate pruning cuts used by the trade.
3. Compare commercial, municipal, and utility applications for pruning.
4. Determine pruning needs for specific trees and shrubs.

Course Outcome(s):
Understand and practice tree climbing safety guidelines.

Essential Learning Outcome Mapping:
Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

1. Perform pre-climb inspections.
2. Identify and inspect common tree climbing equipment.
3. Perform a H.O.P.E (Hazards, Obstacles, Plan, Equipment) analysis.
4. Interpret prepared work orders and job briefings.
5. Perform safety gear checks.
6. Use Personal Protective Equipment (PPE) properly.
7. Observe emergency response procedures.

Course Outcome(s):

Perform tree climbing using a variety of techniques.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

1. Identify and select appropriate tie-in points.
2. Demonstrate rope installation techniques for getting into trees.
3. Demonstrate ascending skills.
4. Compare static vs. dynamic forces in tree climbing.
5. Demonstrate repositioning techniques.
6. Demonstrate maneuvering and work-positioning techniques.
7. Demonstrate descending skills.
8. Apply basic climbing knots for various applications.

Course Outcome(s):

Perform a tree risk assessment.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

1. Utilize Tree Risk Assessment Qualification (TRAQ) form.
2. Summarize methods for recognizing branch failure risks.
3. Compare strategies for assessing tree risks.
4. Analyze signs and symptoms of tree and shrub decay.
5. Apply the compartmentalization of decay/damage in trees (CODIT) model to tree defects.
6. Explore techniques arborists can use to mitigate tree risks.

Methods of Evaluation:

1. In-class projects
2. Quizzes
3. Midterm
4. Final Exam

Course Content Outline:

1. American National Standards Institute (ANSI) A300
    a. Installing
    b. Fertilizing
    c. Mulching
2. American National Standards Institute (ANSI) Z60.1
3. American National Standards Institute (ANSI) Z133
4. Tree Care Equipment

a. Equipment Standards
b. Consumer awareness
c. Safety checks
d. Personal Protective Equipment (PPE)
e. Equipment selection

5. Tree climbing techniques
   a. Rope installation
      i. Tie-in points
      ii. Tree loads
      iii. Load bearing points
      iv. Basic knots
   b. Ascending
      i. Moving rope technique
      ii. Stationary rope technique
   c. Repositioning
   d. Maneuvering and Work-Positioning
   e. Descending
6. Emergency Response Procedures
7. Tree Risk Assessment
   a. Branch Failure
   b. Strategies
   c. Tree decay
   d. Compartmentalization of Decay in Trees (CODIT)
   e. Risk mitigation

Resources

Tree Care Industry Association. *ANSI A300 Pruning Standard*. 2017.

International Society of Arboriculture. *ANSI Z133 Safety Requirement for Arboricultural Operations*. 2017.

American Association of Nurserymen. *ANSI Z60.1 - American Standard for Nursery Stock*. Washington, D.C.: American Association of Nurserymen, 2014.

Julian A. Dunster, E. Thomas Smiley, Nelda Matheny, and Sharon Lilly. *Tree Risk Assessment Manual*. 2nd ed. International Society of Arboriculture, 2017.

G.F. Beranek. *The Fundamentals of General Tree Work*. EducatedClimber.com, 2017.

Jeff Jepson. *The Tree Climber's Companion*. Beaver Tree Publishing, 2005.

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