

**HORT 80 Course Outline as of Fall 2024****CATALOG INFORMATION**

Dept and Nbr: HORT 80 Title: SUSTAINABLE LANDSC MGMT

Full Title: Sustainable Landscape Management

Last Reviewed: 12/12/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	6	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: AG 93

**Catalog Description:**

This course prepares students to evaluate and improve the function and aesthetic value of public and private landscapes by applying appropriate maintenance techniques. Topics include planting, pruning, watering, soil fertility, pest management, weed control, proper use and care of hand tools, and basic landscape maintenance business practices. Sustainable landscape practices will be emphasized throughout the course.

**Prerequisites/Corequisites:****Recommended Preparation:****Limits on Enrollment:****Schedule of Classes Information:**

Description: This course prepares students to evaluate and improve the function and aesthetic value of public and private landscapes by applying appropriate maintenance techniques. Topics include planting, pruning, watering, soil fertility, pest management, weed control, proper use and care of hand tools, and basic landscape maintenance business practices. Sustainable landscape

practices will be emphasized throughout the course. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended:

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

**ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

**AS Degree:** Area Effective: Inactive:  
**CSU GE:** Transfer Area Effective: Inactive:

**IGETC:** Transfer Area Effective: Inactive:

**CSU Transfer:** Transferable Effective: Fall 1981 Inactive:

**UC Transfer:** Effective: Inactive:

**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

**COURSE CONTENT**

**Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Evaluate and make recommendations to improve the function and aesthetic value of public and private landscapes by applying appropriate sustainable industry maintenance techniques.
2. Describe sustainable practices for planting, pruning, watering, soil management, and basic landscape maintenance business practices.
3. Demonstrate safe and appropriate use of tools commonly used in the landscape maintenance industry.

**Objectives:**

At the conclusion of this course, the student should be able to:

1. Describe landscape maintenance careers and employment opportunities in the local area
2. Demonstrate safety consciousness in dress/apparel, tool use, job site demeanor, and use of personal safety equipment
3. Identify, maintain, and describe the use of various hand tools from a provided list
4. Select and safely use appropriate hand tools for a variety of landscape operations
5. Identify, select, and safely operate various types of landscape maintenance power equipment
6. Describe and demonstrate basic pruning techniques applied a variety of landscape plants such as: shade trees, shrubs, vines, perennials, roses, and fruit trees
7. Describe how to maintain and improve soil conditions with amendments and fertilizers
8. Identify the parts of an irrigation system and demonstrate how to make basic repairs and adjustments
9. Demonstrate how to program a controller for a water-efficient irrigation schedule
10. Identify common turf grasses for the region and recommend proper care of each
11. Plant container, balled and bur lapped, and bare root plants; ground covers and bedding plants

12. Recommend appropriate staking/guying methods for trees
13. Recognize symptoms of plant damage by at least fifteen common pests and diseases
14. Identify at least ten common insect pests and five beneficials
15. Identify at least forty-five common landscape weeds and recommend control measures for each
16. Describe integrated pest management (IPM) methods for controlling selected pests and diseases
17. Understand how to mix and apply selected pesticides and fertilizers according to label directions
18. Summarize state license requirements applicable to commercial landscape pest control
19. Create an annual maintenance calendar for a selected landscape
20. List the top ten landscape maintenance practices that contribute to more sustainable landscape
21. Present a cost estimate and contract proposal for landscape maintenance service of a given site

## **Topics and Scope:**

- I. Landscape Maintenance Industry in California
  - A. Scope of work of the maintenance industry
  - B. Career and employment opportunities
  - C. Licenses and permits
  - D. Local ordinances such as: weed abatement, noise control, waste disposal
  - E. Trends in sustainable landscape maintenance
- II. Safety
  - A. Importance of safe work habits
  - B. Clothing and shoes
  - C. Vehicles, power equipment and hand tools
  - D. Job site behavior
  - E. Accident and injury procedures
    1. First Aid
    2. Workers' compensation
    3. Safety training and record keeping
- III. Tool Identification, Care, and Safe Use
  - A. Hand tool cleaning, sharpening, repair
    1. Shovels, spades, hoes, trowels, weeders
    2. Garden and lawn rakes
    3. Pruning shears, loppers, saws
    4. Wheelbarrows, carts, and miscellaneous implements
  - B. Power equipment use and routine maintenance
    1. Mowers
    2. Edgers
    3. Leaf blowers
    4. String trimmers
    5. Hedge shears
    6. Rototillers
    7. Other: turf aerators, vertical mowers, etc.
- IV. Principles of Plant Growth
  - A. Plant structures and their function
  - B. Life cycles and seasonal changes
  - C. Light, air, water, and mineral requirements
- V. Pruning

- A. Objectives
  - 1. Plant health
  - 2. Landscape function
  - 3. Flowers and fruit
  - 4. Aesthetics and special forms
- B. Plant types and pruning needs
  - 1. Deciduous trees and shrubs
  - 2. Evergreen trees and shrubs
  - 3. Conifers
  - 4. Roses
  - 5. Vines
- C. Pruning methods and systems
  - 1. Heading back
  - 2. Thinning
  - 3. Pinching
  - 4. Shearing
  - 5. Pollarding
- D. Plant responses to placement and timing of pruning cuts
  - 1. Identification of stem structures
    - a. Terminal and lateral buds
    - b. Vegetative and flower buds
    - c. Bud scale scars and age of wood
  - 2. Importance of the branch collar and branch bark ridge
  - 3. 3-cut method of removing large diameter branches
  - 4. Shaping and directing growth with pruning cuts
- VI. Soil Amendments and Fertilizers
  - A. Aeration and drainage characteristics of different soil types
  - B. Amendments
    - 1. Organic
    - 2. Inorganic
  - C. Mulches
    - 1. Organic
    - 2. Inorganic
  - D. Fertilizers
    - 1. Selection of organic and inorganic fertilizers
    - 2. Nutrient needs of various plant types
    - 3. Fertilizer label
    - 4. Calculation of amounts required
    - 5. Spreader types and calibration
  - E. Soil sampling and testing
- VII. Planting Methods
  - A. Container grown plants
    - 1. Nursery cans and boxes
    - 2. Flats and cell packs
  - B. Bare root
  - C. Balled and bur lapped
  - D. Root barriers
  - E. Tree staking and guying methods
- VIII. Lawn Care
  - A. Warm and cool season turf grass varieties
  - B. Mowing, edging, watering, fertilizing
  - C. Aerating and dethatching

- D. Repair of damaged and degraded turf
  - 1. Spot seeding and sodding
  - 2. Renovation and overseeding
- IX. Introduction to Pests and Diseases of Landscape Plants
  - A. Symptoms of pest and disease damage
  - B. Pest and beneficial insects
  - C. Weed identification
  - D. Diseases caused by fungi, bacteria, and viruses
- X. Landscape Pest Management
  - A. Integrated pest management concept and other control practices
  - B. Pesticides
    - 1. Insecticides, miticides, herbicides, fungicides, rodenticides, molluscicides
    - 2. Reading and following label directions
    - 3. Safety precautions and protective equipment
    - 4. Mixing and applying
    - 5. Sprayer use and maintenance
  - C. Pesticide use regulations for landscape maintenance
    - 1. Qualified Applicator Certificate (QAC)
    - 2. Maintenance Gardener Pest Control Business License
    - 3. Qualified Applicator License (QAL)
    - 4. County Agricultural Commissioner registration
- IX. Professionalism in the Landscape Maintenance Industry
  - A. Importance of proper business practices and licenses
  - B. Public image and personal appearance
  - C. Scheduling seasonal maintenance tasks annually
  - D. Cost estimating and maintenance contracts
  - E. Client relations and communications
  - F. Certified Landscape Technician, Maintenance, or Irrigation exam

All topics are covered in the lecture and lab portions of the course.

### **Assignment:**

#### Lecture-Related Assignments:

1. Weekly reading
2. Case study assignment: evaluate and make recommendations to improve function and aesthetic value of a specified public and private landscapes by applying appropriate sustainable industry maintenance techniques.
3. Quizzes (2-8) Exams (1-2)

#### Lab-Related Assignments:

1. Field trip and lab reports
2. Lab exercises and field work
3. Attendance and participation

### **Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Field trip and lab reports	Writing 10 - 20%
<b>Problem Solving:</b> Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.	
Case study assignment	Problem solving 10 - 20%
<b>Skill Demonstrations:</b> All skill-based and physical demonstrations used for assessment purposes including skill performance exams.	
Lab exercises and field work	Skill Demonstrations 25 - 50%
<b>Exams:</b> All forms of formal testing, other than skill performance exams.	
Quizzes and exams	Exams 20 - 30%
<b>Other:</b> Includes any assessment tools that do not logically fit into the above categories.	
Attendance and participation	Other Category 0 - 10%

### **Representative Textbooks and Materials:**

Landscaping: Principles & Practices. 8th ed. Ingels, J. and Smith, Alissa. Cengage Learning. 2018.

National Association of Landscape Professionals, Landscape Maintenance Training Manual. National Association of Landscape Professionals. Herndon. 2011 (classic).

Sustainable Landscape Management. VanderZanden, Ann Marie and Cook, Thomas. Wiley. 2010 (classic).

Introduction to Landscaping: Design, Construction, and Maintenance. 3rd ed. Biondo, Ronald J. and Schroeder, Charles B. Vero Media Inc. 2002 (classic).

Instructor prepared materials.