

**HORT 195 Course Outline as of Fall 2019****CATALOG INFORMATION**

Dept and Nbr: HORT 195 Title: CAD:LANDSCAPE DESIGN

Full Title: CAD: Landscape Site Plans

Last Reviewed: 2/11/2019

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:

**Catalog Description:**

Introduction to computer assisted landscape drafting utilizing CAD (computer-aided drafting) software to produce professional quality landscape site plans for residential and small commercial sites. Particular attention given to drafting base plans, building footprints, and other simple hardscape features, planting bed lines, plant symbolization and irrigation plan layout.

**Prerequisites/Corequisites:**

Course Completion of HORT 93

**Recommended Preparation:**

Course Completion of APTECH 46 and eligibility for CS 5 or proficiency in basic productivity software including word processing, spreadsheet, and presentation software

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Introduction to computer assisted landscape drafting utilizing CAD (computer-aided drafting) software to produce professional quality landscape site plans for residential and small commercial sites. Particular attention given to drafting base plans, building footprints, and other simple hardscape features, planting bed lines, plant symbolization and irrigation plan

layout. (Grade or P/NP)

Prerequisites/Corequisites: Course Completion of HORT 93

Recommended: Course Completion of APTECH 46 and eligibility for CS 5 or proficiency in basic productivity software including word processing, spreadsheet, and presentation software

Limits on Enrollment:

Transfer Credit:

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

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

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**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. Use CAD (computer-aided drafting) software to produce professional quality landscape site plans for residential and small commercial sites.
2. Use CAD software to show base plans, building footprints, property lines, and other simple site features.
3. Apply CAD software graphic symbols to landscape plans including vegetation and pattern lines, plant outlines, locating trees and shrubs.
4. Apply correct symbols and labeling styles for an irrigation plan layout including irrigation heads, valves, pipe, drip irrigation, and mainline pipe layout/placement.

### **Objectives:**

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

1. Create a new landscape drafting project using the CAD software program.
2. Prepare a base plan for a landscape drafting project.
3. Place and modify text in a drawing.
4. Illustrate plants in a landscape planting plan.
5. Create a plant table to identify plant material in a planting plan.
6. Develop a computer drafted irrigation plan from a schematic drawing.
7. Arrange lateral and mainline pipe in an irrigation plan.

### **Topics and Scope:**

- I. Beginning the Project
  - A. Adding a project
  - B. Default CAD settings

### C. Plot scales

## II. Base Plan

### A. Property line input

### B. Property line creation

1. line construction
2. connecting construction line end points
3. annotating lines

### C. Baseline Offsets

### D. Drafting a building footprint

### E. Inserting openings in building footprint

### F. Utility symbols

## III. Dimensioning and Labeling

### A. Placing/editing text

### B. Summing areas and lengths by layer

1. sum area by layer
2. sum by length of lines

## IV. Landscape Layout

### A. Symbol graphics

1. drawing vegetation lines
2. pattern lines
3. plant shadowing
4. placing edge stippling
5. other symbol graphics

### B. Locating trees and shrubs

1. locating hedge grove
2. locating hedge row

### C. Converting symbols and modifying attributes

1. converting a conceptual design to a plant layout
2. modify plant attributes

### D. Labels

1. labeling symbols
2. editing labels

## V. Plant Selection and Plant Table

### A. labeling plants

### B. editing plant labels

### C. plant selection

### D. creating plant tables

## VI. Quantity Takeoffs and Estimates

## VII. Irrigation Design

### A. Getting Started

1. symbol configuration
2. head configuration

### B. Placing Irrigation Heads

1. auto head layout
2. locate on edge
3. single head replacement

### C. Placing Pipe

1. placing lateral and mainline pipes
2. autopipe layout
  - a. placing laterals
  - b. autosizing laterals
3. autosizing laterals

#### D. Mainline Pipe Design/Placement

1. mainline pipe settings
2. drawing mainline pipe
3. autosizing

#### E. Completing an Irrigation Plan

1. symbols
2. table

### VIII. Materials Takeoff and Estimate

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

#### Assignment:

##### Lecture-Related Assignments:

1. Quizzes (2 - 14), and exams (1 - 2)
2. Weekly reading and homework: 5-10 pages per week

##### Lab-Related Assignments:

1. Lab exercises (4 - 12) related to basic CAD commands, production of base maps, drafting a site from field measurements, converting hand drawn designs into CAD, creating and drafting of a landscape master plan, and creating and drafting of construction documents such as: planting plans, irrigation plans, lighting plans, and/or construction details

##### Both Lecture- and Lab-Related assignments:

1. Final project and presentation: landscape design plan package
2. Field trips may be required (0 - 4)

#### 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.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework, Lab exercises

Problem solving  
10 - 20%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Lab exercises, Final Project and Presentation

Skill Demonstrations  
50 - 70%

**Exams:** All forms of formal testing, other than skill performance exams.

Quizzes and exams; Multiple choice, True/false, Matching items, Completion, Short answer

Exams  
20 - 40%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Participation and attendance, including field trips.

Other Category  
0 - 20%

**Representative Textbooks and Materials:**

Periodicals and professional journals.

Instructor prepared materials.