

**HORT 189 Course Outline as of Spring 2012****CATALOG INFORMATION**

Dept and Nbr: HORT 189 Title: LANDSCP DRAINAGE BASICS

Full Title: Landscape Drainage Basics

Last Reviewed: 10/24/2011

| Units   |      | Course Hours per Week |      | Nbr of Weeks | Course Hours Total |       |
|---------|------|-----------------------|------|--------------|--------------------|-------|
| Maximum | 1.50 | Lecture Scheduled     | 1.50 | 17.5         | Lecture Scheduled  | 26.25 |
| Minimum | 1.50 | Lab Scheduled         | 0    | 6            | Lab Scheduled      | 0     |
|         |      | Contact DHR           | 0    |              | Contact DHR        | 0     |
|         |      | Contact Total         | 1.50 |              | Contact Total      | 26.25 |
|         |      | Non-contact DHR       | 0    |              | Non-contact DHR    | 0     |

Total Out of Class Hours: 52.50

Total Student Learning Hours: 78.75

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:**

This course covers common grading, drainage, and erosion control methods related to residential landscape sites. Discussion includes surface and subsurface systems as well as the basics of residential erosion control.

**Prerequisites/Corequisites:****Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100

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

Description: This course covers common grading, drainage, and erosion control related to residential landscape sites. Discussion includes surface and subsurface systems as well as the basics of residential erosion control methods. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100

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: |
|---------------|----------------------|------------|-----------|

|                      |            |           |
|----------------------|------------|-----------|
| <b>CSU Transfer:</b> | Effective: | Inactive: |
|----------------------|------------|-----------|

|                     |            |           |
|---------------------|------------|-----------|
| <b>UC Transfer:</b> | Effective: | Inactive: |
|---------------------|------------|-----------|

**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Outcomes and Objectives:**

Upon successful completion of this course, the student will be able to:

1. Develop a design and describe installation specifications for:
  - a. Swale
  - b. French Drains
  - c. Surface Drains
2. Describe basic soil and water relationships.
3. Analyze water movement within differing soils.
4. Assemble equipment and material specifications and select appropriate materials for a variety of drainage systems.
5. Write installation specifications and standards for a variety of types of installation projects.
6. Select sloped surface stabilization methods for specified degrees of slope.
7. Describe site grading processes for a variety of conditions.

### **Topics and Scope:**

- I. Soil and Water Relationships
- II. Site Grading
- III. Site Drainage
  - A. Surface systems
  - B. Subsurface systems
- IV. Equipment and Materials
  - A. Selection
  - B. Specifications
- V. Installation
  - A. Types of projects
  - B. Installation sequence
  - C. Testing and evaluation of system
- VI. Erosion Control
  - A. Perimeter erosion

- B. Surface erosion
- C. Channel erosion
- VII. Special Situations
  - A. Slope ratios
  - B. Grade tolerances

### Assignment:

1. Weekly reading assignments with corresponding worksheet calculations
2. Final site design project with installation specifications
3. Write installation specifications
4. Participation in field activities

### 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.

Worksheets. Installation specifications

Writing  
20 - 30%

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

Worksheets, final project: site design project.

Problem solving  
40 - 50%

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

None

Skill Demonstrations  
0 - 0%

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

None

Exams  
0 - 0%

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

Participation in field activities

Other Category  
20 - 30%

### Representative Textbooks and Materials:

California Landscape Standards. CLCA, Sacramento, CA. Current edition.  
Sauter, David. Landscape Construction. Delmar, 2010.  
Instructor prepared materials