

HORT 92.2 Course Outline as of Fall 2018

CATALOG INFORMATION

Dept and Nbr: HORT 92.2 Title: LOW VOLUME LANDSC IRRIG
Full Title: Low Volume Landscape Irrigation
Last Reviewed: 10/10/2011

| 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: AG 297.72

Catalog Description:
Introduction to the design, installation, and maintenance of low volume irrigation systems. Topics include plant water requirement calculations, selection/characteristics of various types of emission devices, run time calculations, California Irrigation Management Information System (CIMIS), and other Evapo-transpiration (ET) data.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: Introduction to the design, installation, and maintenance of low volume irrigation systems. Topics include plant water requirement calculations, selection/characteristics of various types of emission devices, run time calculations, California Irrigation Management Information System (CIMIS), and other Evapo-transpiration (ET) data. (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:

| | | | |
|----------------------|----------------------|------------|-----------|
| AS Degree: | Area | Effective: | Inactive: |
| CSU GE: | Transfer Area | Effective: | Inactive: |
| IGETC: | Transfer Area | Effective: | Inactive: |
| CSU Transfer: | | Effective: | Inactive: |
| UC Transfer: | | Effective: | Inactive: |

CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:

Upon completion of the course, students will be able to:

1. Describe basic low volume irrigation characteristics.
2. Identify common site data factors for proper low volume irrigation design.
3. Demonstrate proper plant water requirement calculations.
4. Identify common low volume emission devices.
5. Demonstrate correct emission device placement when designing low volume irrigation systems for the landscape.
6. Demonstrate proper installation of a low volume irrigation system.
7. Demonstrate proper run time calculations.
8. Describe basic maintenance procedures.
9. Describe common techniques utilized to retrofit a conventional system to low volume.

Topics and Scope:

- I. Introduction
 - A. Irrigation system basics
 - B. Low-volume Irrigation characteristics
- II. Site Data
 - A. Soil
 - B. Climate
 - C. Potential evapotranspiration (P.E.T.)
- III. Water Requirements
 - A. Crop coefficient (Kc) factor
 - B. Hydrozones
- IV. Product Selection and Operation
- V. System Layout and Installation
 - A. Emitter placement

- B. Project design and takeoff
- VI. Run Time/Scheduling
- VII. Retrofit Design
- VIII. System Maintenance & Troubleshooting
- IX. Project Installation

Assignment:

1. Weekly reading assignments (5-10 pages) with corresponding worksheets
2. Calculation exercises
3. Skill demonstrations of irrigation knowledge
4. Final exam

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 on assigned reading

Writing
10 - 20%

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

Calculation worksheets

Problem solving
40 - 50%

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

Demonstrations of irrigation knowledge

Skill Demonstrations
30 - 40%

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

Final exam

Exams
10 - 20%

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

None

Other Category
0 - 0%

Representative Textbooks and Materials:

Low-Volume Landscape Irrigation Design Manual, by Rain Bird, Rain Bird Sales, Inc., (current online at rainbird.com)

Instructor prepared materials