



Central  
North  
South  
SVI

# LHO135 - Introduction To Drainage & Irrigation Systems

Document Type: District Master Course Outline  
Proposal Type: Revision  
Requester(s): Robert Glatt Steve Hilderbrand  
College: South  
Origination Approved: 04/16/2014 - 3:35 PM

## BASIC INFORMATION

**Requester(s):** Robert Glatt  
Steve Hilderbrand

**College:** South Seattle Community College

**Division/Dept:** Professional Technical

**Dean:** Robert Glatt

**Peer Reviewer(s):** Van M Bobbitt  
Aaron Burman  
Sarah Skamser

## COURSE INFORMATION

**Proposed Course Number:**

Prefix: **LHO**                      Number: **135**

- Request a new Prefix
- This will be a common course

**Full Title:** Introduction To Drainage & Irrigation Systems

**Abbreviated Title:** Drain/Irrigation Systems

**Catalog Course Description:**

Study basic principles of hydraulics, drainage and irrigation systems, irrigation fixtures and apparatus.

**Course Length:** 11 Weeks                       Request an Exception

**Course Corequisite(s):**

None

**Topical Outline:**

- I. Hydraulic principles, types of irrigation systems, components and function 5
- II. Installation of components and systems 3
- III. Safety and codes 3
- IV. Drip systems 3
- V. Cross connections 5
- VI. Troubleshooting 5

VII. Precipitation Rate	3
VIII. Principles of drainage	6
	33

**COURSE CODING**

**Funding Source:** 1.....State

**Institutional Intent:** 21.....Vocational Preparatory

This Course is a requirement for the following program(s):  
(No Programs Selected)

My Course Proposal is a requirement for a program not on this list  
Program Title/Description/Notes:  
LHO 1 year Certificate

**Will this course transfer to a 4-year university?** **No**

**Is this course designed for Limited English Proficiency?** **No**

**Is this course designed for Academic Disadvantaged?** **No**

**Does this course have a Workplace Training component?** **No**

**CIP Code:** 01.0601  Request Specific CIP Code

**EPC Code:** 135  Request Specific EPC Code

**Credits:**

**Will this course be offered as Variable Credit?** No  
**No**

**List Course Contact Hours**

Lecture (11 Contact Hours : 1 Credit)	33
Lab (22 Contact Hours : 1 Credit)	0
Clinical Work (33 Contact Hours : 1 Credit)	0
Other (55 Contact Hours : 1 Credit)	0
Total Contact Hours	33
Total Credits	3

**COLLEGE SUPPLEMENTAL**

**Proposed Quarter of Implementation:**  Request Provisional Exception

**Class Capacity:** 25

**Modes of Delivery:** (Check all that apply)

- Fully On Campus
- Fully Online
- Hybrid
- Other Explanation:

**Class Schedule Description:**

Learn to design and install an irrigation system. Course will cover design theory, application and installation practices.

**Student Learning Outcomes:**

**Computation**

Use arithmetic and other basic mathematical operations as required by program of study  
 Comprehend basic system hydraulics and calculate for proper system layout and function.

**Critical Thinking and Problem-Solving**

Think critically in evaluating information, solving problems, and making decisions  
 Evaluate and assemble a drainage and irrigation system from a plan or field layout.

**Technology**

Select and use appropriate technological tools for academic and career tasks  
 Operate a hand-held calculator and multimeter.

**Program Outcomes:**

Included in Course Outcome Number	Landscape Design and Construction Certificate Program Outcomes
2, 4	1. Demonstrate ability to work with site requirements, installation contractors, clients, and maintenance personnel to accomplish project within prescribed time, resources, and budgets. (SLO 1.1, 2.1, 3.1, 3.2, 4.1, 6.2, 6.4, 6.5, 7.1)
1	2. Recognize, identify, and operate work site safety practices, environmental protection, workplace standards, work ethics, and leadership skills. (SLO 1.2, 3.1, 3.2, 6.1, 6.4, 6.5)
2, 3, 4	3. Prepare and generate required plans and documents for customers, co-workers, suppliers, and general public and effectively communicate desired outcomes and actions. (SLO 1.2, 2.3, 3.1, 3.2, 5.1)
	4. Describe and outline career opportunities, pathways, and requirements for entry and advancement within the field. (SLO 1.2, 4.1, 5.1, 6.2, 6.3, 7.2)
1, 2, 3	5. Describe and demonstrate skills in use of equipment, tools, environmental controls, and computers. (SLO 1.2, 5.1, 6.2, 6.4, 6.5)

Included in Course	Landscape Design and Construction Degree (AAS, AAS-T)

<b>Outcome Number</b>	<b>Program Outcomes</b>
2, 3	6. Create and develop a plan after conferring with client and assessing the client and site needs, and demonstrate critical thinking skills to reconstruct or modify design according to environmental and human resources, codes or regulations, and or budgetary concerns. (SLO 1.2, 2.3, 3.1, 3.2, 4.1, 5.1, 6.2, 6.5, 7.2)
1, 2, 3	7. Plan progression and determine cost to construct hardscape and install plants according to plan. (SLO 1.2, 2.2, 2.3, 4.1, 5.1, 6.4, 6.5)
2, 3	8. Demonstrate ability to analyze a given site, develop a maintenance schedule and plan, identify and solve problems, and estimate to manage for cost efficiency. (SLO 1.2, 2.2, 2.3, 4.1, 5.1, 6.5,7.2)
1, 2, 3, 4	9. Discuss and practice sound business practices as it relates to planning operations, budgets, personnel, customer service, and sales and marketing. (SLO 1.1, 1.2, 2.3, 3.1, 3.2, 4.1, 5.1, 6.1, 6.4, 6.5, 7.2)

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**Course Outcomes / Objectives:**

1. Demonstrate an understanding of safe and proper tool usage.
2. Describe design and installation principles of irrigation and drainage systems.
3. Describe the purpose and function of components used in the installation of irrigation and drainage systems.
4. Given a blueprint, discuss the steps and procedures for installation of a drainage and irrigation system.

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**Explain the student demand for the course and potential enrollment:**

Currently offered once a year.  
Required Course for 1 Year LHO Certificate

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**Explain why this course is being revised:**

Required Course for 1 Year LHO Certificate

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**What challenges, if any, do you foresee in offering this course:**

None.

This is to certify that the above criteria have all been met and all statements are accurate to the best of my knowledge.

Faculty involved in originating this program:

Robert Glatt

Print Name

*Robert Glatt*

Signature

1/1/0001

Date

Steve Hilderbrand

Print Name

*Steve Hilderbrand*

Signature

1/1/0001

Date

Dean:

Robert Glatt

Print Name

*Robert Glatt*

Signature

10/14/2013

Date

### Results of SSCC Curriculum Coordinating Council Findings

#### Participating Faculty Response and Remarks

Recommended for approval

Not recommended for approval

Chairman, Curriculum Coordinating Council:

Diane Schmidt

Print Name

*Diane Schmidt*

Signature

3/11/2014

Date

Vice President for Instruction:

Donna Miller-Parker

Print Name

*Donna Miller-Parker*

Signature

4/16/2014

Date