

AGTC 222: AG IRRIGATION SYSTEMS

Proposer:**Name:**

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Effective Term:

Fall 2021

Credit Status:

Credit - Degree Applicable

Subject:

AGTC - Agricultural Technology

Course Number:

222

Catalog Title

Ag Irrigation Systems

Catalog Description

Fundamentals of irrigation systems and maintenance to include sprinkler, micro, surface and sub-surface applications. As irrigation systems have grown more complex so have their components. Topics include pumping and delivery systems, piping, flow control, filtration, automation, pressure regulation, equipment setup and testing. Emphasis will be placed on cost effective installation and maintenance requirements for efficient operation.

Method of Instruction:

Distance Education

Laboratory

Lecture and/or Discussion

Course Units/Hours:**Course Units Minimum:**

3

Lecture Hours Minimum (week)

3

Lab Hours Minimum (week)

1

Total Contact Hours Minimum (semester)

70

Total Outside Hours Minimum (semester)

105

Total Student Learning Minimum Hours (semester)

175

Repeatability:

No

Open Entry/Exit:

No

**Field Trips:**

Not Required

Grade Mode:

Standard Letter

TOP Code:

010100 - * Agriculture Technology and Sciences, General

SAM Code:

C - Clearly Occupational

Course Content**Methods of Assessment:**

Oral presentations
Problem solving assignments or activities
Problem solving quizzes or exams
Project
Short answer quizzes or exams
Skill demonstrations

Course Topics:

	Course Topics
1	System Overview
2	Pump and water delivery setup
3	Filtration Systems
4	Valves for flow control and pressure regulation
5	Flow Meters
6	Piping and Hydraulics
7	Emission Devices- Microsprayers, tape, microsprinklers, in hose and on hose emitters
8	Automation and monitoring

Course Objectives:

	Course Objectives
1	Effectively specify the equipment and tools required to install irrigation systems.
2	Develop a maintenance schedule for specific irrigation systems in order to maintain proper system efficiency.
3	Identify different irrigation components.
4	Correctly select irrigation system components for an installation based on system pressure and flow rate.
5	Select appropriate emission devices based on crop and field conditions.
6	Determine the optimum filtration system based on water source and quality.
7	Understand monitoring and automation components.
8	Read a variety of flow metering devices

Course Outcomes:

	Course Outcomes
1	Given an Irrigation System students will be able to correctly identify components in the system.
2	Given a flow and operating pressure students will be able to correctly select the appropriate components for an irrigation system.

Assignments:

Assignment Type:	Details
Reading	Students will need to read manufacturer literature to determine proper operating flow rate and pressure for various irrigation components.
Writing	Students may have to do a written review on irrigation automation components.
Homework	Students may have to select correct filtration unit for a system given a set of plans.
Lab	Students may have to disassemble clean and reassemble a tubular screen filter.

Textbooks or other support materials

Resource Type:	Details
Books	Irrigation Irrigation Association Irrigation Association 6th 2011 978-1-935324-50 This book is published by the Irrigation Association, the nation's leading organization in irrigation education and certification.

Other Degree Attributes

Not Transferable
Degree Applicable
Not a Basic Skills Course

Distance Learning Addendum

AGTC 222 DLA Form 2020.pdf

Banner Title:

Ag Irrigation Systems

Curriculum Committee Approval Date:

02/25/2021

Academic Senate Approval Date:

03/10/2021

District Governing Board Approval Date:

04/12/2021

Course Control Number:

CCC000587958