



University of Puerto Rico
Mayagüez Campus
College of Agricultural Sciences
Choose an item.



OFFICIAL SYLLABUS
MICROIRRIGATION SYSTEMS
SAGA 5015

Credit Hours: 3	Contact Hours: Two (2) hours conference and a laboratory period of three (3) hours per week.
Prerequisites: AGRO 3005 or (AGRO 3011 and AGRO 3013) or Authorization of the Director of the Department	Co-requisites: None
Course Description (English): Principles of drip irrigation, system and components, soil and water relations, tensiometer principle and installation, problem shooting, and field evaluation.	
Course Description (Spanish): Estudio de los sistemas de microrriego y sus componentes, relación suelo-agua-planta, requisitos de agua en cosechas y evaluación de campo.	
Learning Objectives: After completing this course, the students should be able to: a. Develop an understanding of the many factors involved in the design, construction and management of drip irrigation systems.	

Content Outline and Time Distribution:

<i>Topics to be covered</i>		<i>Contact hours</i>
I.	Course Overview, Background to Drip and Micro Irrigation, General Principles	2
II.	Soil and Water Plant Relations	2
III.	System Flow Rate Requirements	2
IV.	Emitter / Sprayer Design	3
V.	Hose Friction and Hydraulics	3
VI.	Strategies for Sizing Pipes and Hoses	3
VII.	Pressures, Pipe Sizing, and Pipe Positioning	3
VIII.	Control Valves	3
IX.	Water Supply Requirements	3
X.	Pumps	2
XI.	Filtration Systems	2
XII.	Chemical Injection	2
XIII.		
XIV.		
XV.		
XVI.		
XVII.		
XVIII.		
<i>Total hours: (equivalent to course contact period)</i>		30

<i>Laboratories</i>		<i>Contact hours</i>
1.	Lab Overview	3
2.	Mathcad training; Soil water relations, tensiometer and unit conversions	3
3.	Construction of Irrigation System at Isabella Station	3
4.	Surveying and Soil Sample Collection	3
5.	Evapotranspiration Analysis using CROPWAT and PR-ET	3
6.	Emitter Performance Evaluation	3
7.	Irrigation System Construction	3
8.	Irrigation System Construction	3
9.	Irrigation System Construction	3
10.	Field Trip: Lajas Experimental Station	3
11.	Training: "How to Write a Good Technical Report"	3
12.	Computerized Timer and Electric Control Valves	3
13.	Chemical Injection	3
14.	Field Evaluation of DU	3
15.	Irrigation Design Presentations	3
<i>Total hours: (equivalent to laboratory contact period)</i>		45

Instructional Techniques:

- conference discussion computation laboratory
 seminar with formal presentation seminar without formal presentation workshop
 art workshop practice trip thesis special problems
 tutoring research others, please specify:

Learning Resources and Minimum Facilities Available or Required:

The course will be taught in a traditional classroom. Equipment such as transparencies and head projector will be used in lectures. General Library and University Computer Center is available to obtain professor's reference materials. Presentations will be done in the computer with a projector, which is also available in the department.

Evaluation Techniques and Relative Weight:

	Percent
<input checked="" type="checkbox"/> Exams (20% each)	20
<input type="checkbox"/> Final exam	
<input checked="" type="checkbox"/> Short quizzes	20
<input checked="" type="checkbox"/> Laboratory	20
<input type="checkbox"/> Oral reports	
<input checked="" type="checkbox"/> Homework	20
<input type="checkbox"/> Portfolio	
<input type="checkbox"/> Journals	
<input checked="" type="checkbox"/> Projects	20
<input type="checkbox"/> Others, specify:	
TOTAL: 100%	100%

Grading System:

- Quantifiable (letters) Not Quantifiable

Standard Curve: 90 to 100 A; 80 < 90 B; 70 < 80 C; 60 < 70 D; 0 < 60 F

Bibliography:

Drip and Micro irrigation for Trees, Vines and Row Crops by Charles M. Burt and Stuart W. Styles, published by the Irrigation Training and Research Center (ITRC), 2nd Edition.

Sprinkler and Trickle Irrigation by Jack Keller and Ron Bliesner , 1990., Van Nostrand Reinhold Publisher.

According to Law 51:

Law 51: The Comprehensive Educational Services Act for People with disabilities states that after identifying with the instructor and the institution, the student with disabilities will receive reasonable accommodation in their courses and evaluations. For more information contact the Department of Counseling and Psychological services at the Office of the Dean of Students (Office DE 21) or call 787-265-3864 or 787-832-4040 x 3772, 2040 and 3864.

Academic Integrity:

The University of Puerto Rico promotes the highest standards of academic and scientific integrity. Article 6.2 of the UPR Students General Bylaws (Board of Trustees Certification 13, 2009-2010) states that academic dishonesty includes, but is not limited to: fraudulent actions; obtaining grades or academic degrees by false or fraudulent simulations; copying the whole or part of the academic work of another person; plagiarizing totally or partially the work of another person; copying all or part of another person answers to the questions of an oral or written exam by taking or getting someone else to take the exam on his/her behalf; as well as enabling and facilitating another person to perform the aforementioned behavior. Any of these behaviors will be subject to disciplinary action in accordance with the disciplinary procedure laid down in the UPR Students General Bylaws.—

Policy Against Discrimination Based on Sex, Sexual Orientation, and Gender Identity:

The University of Puerto Rico prohibits discrimination based on sex, sexual orientation, and gender identity in any of its forms, including that of sexual harassment. According to the Institutional Policy Against Sexual Harassment at the University of Puerto Rico, Certification Num. 130, 2014-2015 from the Board of Governors, any student subjected to acts constituting sexual harassment, may turn to the Office of the Student Ombudsperson, the Office of the Dean of Students, and/or the Coordinator of the Office of Compliance with Title IX for an orientation and/or formal complaint.

Sexual Harassment: Certification 130-2014-2015 states:

Sexual harassment in the workplace and in the study environment is an illegal and discriminatory act and is against the best interests of the University of Puerto Rico. All persons who understand they have been subject to acts of sexual harassment at the University of Puerto Rico may file a complaint and request that the institution investigate, where

necessary, and assume the corresponding action by the university authorities. If the complainant is a student, he or she must refer his or her complaint to the Office of the Student Ombudsperson or that of the Dean of Students.

Certification 06-43 of the Academic Senate states, "The academic guidelines for offering online courses," defines:

Traditional face-to-face courses are those that have less than 25% of the course's regular contact hours via the Internet. Therefore, a three-credit course will be considered "face to face" if, of the 45 hours of regular contact, 11 or less are taught via the Internet. According to certification 16-43 of the Academic Senate, a course may include up to 25% of its total contact hours via the Internet. The objective of this is so that all professors have this alternative in the case of any unscheduled eventuality.

Includes attachments:

Yes

No