AGET 360 Course Syllabus

Course Description:

Field practices of irrigation. Evapotranspiration, soil/moisture relationships, water measurement, pumps, wells, drainage, and sprinkler, drip, and surface systems. 2.0 hours lecture, 3.0 hours laboratory. *Prerequisites: PSSC 002 or PSSC 050*

Instructor:

Michael Spiess

Office Hours and Contact Information:

Current contact information and office hours are available on Blackboard. See the Contact Me icon.
Note: Email is a good way to contact the instructor outside of class or office hours. Emails are generally answered within 12 hours or less. However some student messages may be trapped by the campus spam filter. To reduce your chances of having your message blocked always include a subject line, don't add links to the message, and don't type in all caps.

Class Meeting:

Monday and Wednesday 1100-1150, Lab Wednesday 1400-1650 in Shop II. Labs at the Farm will begin promptly at 1415. Some labs will meet in other locations. See Blackboard for location.

Course Objectives:

Students will:

- Have an understanding of the common types of irrigation systems and how they function.
- Have an understating of hydraulics principles and how they apply to irrigation systems.
- Demonstrate the ability to design a simple irrigation system.
- Have an understanding of basic plant-water-soil relationships used in irrigation scheduling
- Understand the factors effecting crop water use and how to schedule irrigations.
- Demonstrate the ability to apply knowledge of irrigation systems to evaluate irrigation systems.
- Be able to correctly identify common tools, equipment, and materials used in the irrigation

Required Texts:

Principles of Irrigation, 2003 (or current edition), The Irrigation Association
Lab Manual

Required Equipment:

Scientific Calculator (lecture and lab), NOT a cell phone.
Ruler and compass, drawing pencil (.5mm), engineering paper (a type of graph paper)

Web Site and Computer Use:

Computers are an integral part of the irrigation industry and students are expected to use this technology as part of the course. Some materials for this course are found on the course web site delivered by Vista. These materials are an integral part of the course and students will be expected to review it regularly. Written assignments are expected to be typed. Generally, assignments will be provided in MS-Word format allowing the student to print and edit the document. Students not familiar with computers or use of the Web (or Blackboard) are strongly encouraged to seek training (see instructor for further information). Computer portions of this course can be completed on a home computer with an internet connection or in a campus computer lab (see http://www.csuchico.edu/stcp/labs/). Information on other computer resources for students is available at: http://www.csuchico.edu/stcp/
On the web site students will find:

- Lecture Notes (PDF or PPT) provided as a study aid only.
- Lab Exercises
- Grades (generally posted after the 4th week)
- Assignments
- A current course activity schedule
- Other resources and required reading.
- Calendar (due dates)

Assignments & Labs

Assignments and will be found on Blackboard. Students will need to bring the entire lab manual to the lab meeting. Labs are due at the next lab meeting following the lab activity. Assignment instructions and DUE dates are found in Blackboard (see assignments and calendar).

Course Management:

- Students are strongly advised not to miss labs since this time may be difficult or impossible to make up.
- No makeup's will be allowed unless by prior permission of the instructor.
- No written assignments will be accepted after the last lecture meeting. Late assignments are subject to a 20% penalty.
- Tests will be a combination of multiple choice, short answer, and problems.
- Lab reports are due in the following lab period; late labs will not be accepted. .
- Student collaboration is encouraged; however each student must do their own work. (e.g. graphs, written answers, etc.)
- Student grades will be posted on the Instructor's web site and it is the responsibility of the student to check their grade for accuracy. If a student feels an error in grading has been made, the student has one week from the time of the assignment is returned to them (or the grade is posted on the web, whichever is later) to request a review of the grade. The request must be in writing – attached to the original assignment—and must include a specific statement as to what is in error, how it should be corrected, and what supporting evidence is available. It is highly recommend that students keep copies of assignments.
- Use of tobacco products is not allowed during class or lab.
- Students are expected to pay attention and participate in class meetings.
- All class participants are expected to exhibit respectful behavior to other students and the instructor. Students are expected to turn off all pagers, cell phones and other electronic devices during class time. **No texting** please. In class use of laptop computers is limited to use related to the course. **No email, IM,** etc.
- All students have the right and privilege to learn in the class, free from harassment and disruption.
- Inappropriate or disruptive behavior will not be tolerated, nor will lewd or foul language.
- The class follows the standards set in the ***Code of Students Rights and Responsibilities (EM 96-38***) and students are subject to disciplinary action for violation of that code.

Grading:

Grades will be determined by:

	Approximate Points
Written assignments	100-200
Midterm (2)	200
1 final exam (comprehensive)	150
Lab exercises (15 x 50)	750
Unannounced quizzes	100

Grades will be assigned using the following scale:

94% - 100%	A
90% - 93%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
67% - 69%	D+
60% - 66%	D
Below 60%	Failure

Policies Common to the University and College of Agriculture

University and College Policies will be enforced in this course. See the course web site.

Course Schedule:

The course schedule is subject to change. Changes will be announced in class and posted on the course web site (announcements). Reading should be completed before first lecture of the assigned week. "Online" reading will be posted on the web site. Assignments can be found on the web site.

Week Of	Topic	Reading*	Lab
1/23/2012	Overview of Irrigated Agriculture in California, Introduction to System Design	Chap 1 & 2, Glennon (online)	Irrigation System Tour
1/30/2012	System Uniformity	Chap. 3 & 4	Sprinkler Pattern Analysis
2/6/2012	Hydraulics	Chap. 8	Hydraulics
2/13/2012	Water Budget Scheduling	Chap. 5	Scheduling (PLMS)
2/20/2012	Water Budget Scheduling		Landscape Water Supplies
2/27/2012	Irrigation Scheduling with soil moisture measurement/ Midterm	Review Chap 4	Drip/Micro Audit
3/5/2012	Water Measurement	Online Water Measurement	Water Measurement
3/12/2012	System Design		Soil Moisture
3/19/2012	Spring Break		Spring Break
3/26/2012	Outlet Selection	Chap 6	Installation/Retrofit
4/2/2012	Lateral/Main Design	Chap 7	Controllers
4/9/2012	Pumps and Wells	Chap. 9	Pump Test
4/16/2012	Design Wrap-up / Midterm	Online	Design Information Gathering
4/23/2012	Control Systems and System Management	Chap. 10 Online	System Design (PLMS)
4/30/2012	Auditing		Landscape Audit
5/7/2012	Surface Irrigation		Surface Irrigation
5/14/2012	Final Exam **Monday** 12-1:50		