

**IMPERIAL VALLEY COLLEGE**  
**COURSE SYLLABUS**  
**Spring 2013**

Instructor: Steve Burch

<b>Course Title:</b> Irrigation and Drainage	<b>Course Number:</b> Ag 220
<b>Lecture/Discussion Hours:</b> 36 <b>Lab Hours:</b> 54	<b>CRN#:</b> 20287
<b>Credit Units:</b> 3	<b>Class Days:</b> M W
<b>Location:</b> Bldg. 2700 – Room 2732	<b>Time:</b> M - 1600-2015 W – 1600-2110

**Instructor Contact Info:** Cell – (760) 427-8467    email – waterdoctor.sb@gmail.com or  
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**Course Textbook:** Principles of Irrigation - The Irrigation Association

**Course Description:**

This course covers the fundamental principles and practices of irrigation. History of irrigation with emphasis on the Imperial Valley, water law, plant-soil-water relationships and measurement, methods of irrigation, structures, crop water requirements, problems and practices on soil reclamation, drainage systems, and drainage requirements for irrigation agriculture.

**Measurable course objectives and minimum standard for grade of C:**

The student will:

- Describe the importance of irrigation water in agriculture; describe problems facing California and Imperial Valley agriculture in a period of limited water; to differentiate between State vs. Federal water and projects; water district vs. irrigation district.
- Differentiate between State vs. Federal water and projects; water district vs. irrigation district.
- Identify sources of water for irrigation.
- Describe and evaluate different water delivery systems.
- Explain the principles and equipment used to measure water.
- Describe and evaluate the different methods for applying and measuring irrigation water.
- Demonstrate and understanding of soil-water-plant relationships; calculate evapotranspiration rates for crops grown in the Imperial Valley using CIMIS and other methods.
- Describe the economics of irrigation and drainage.
- Observe and describe irrigation practices in the Imperial Valley.

**Exams and grading procedures:**

- There will be several quizzes throughout the semester, for a quiz total of 100 points, and 2 exams (midterm and final), each worth 100 points. There will be no make-ups. (No exceptions!!!) - Total 300 points.
- Oral presentation (due prior to final) worth 100 points.
- Class notebook – worth 50 points
- Homework assignments – worth 50 points.

Total possible points: 500

Grading scale (straight percentage):	A = 90% and above
	B = 80-89%
	C = 70-79%
	D = 60-69%
	F = 59% or below

Assignments turned in late will not be accepted. They can, however, be turned in early.

Interaction with the instructor and other students is an integral part of the learning process. However, you must personally complete any assignments. All work submitted for grading must be your own.

#### **Attendance Policy:**

- Class attendance and tardy policy follows the regulations described in the IVC catalog.
- Student may be automatically dropped after a total of 7 hours of absence from the lecture and/or laboratory unless a written petition to justify absences is approved by the instructor. (We are required by federal regulations to report drops to the veteran and financial aid office.)
- It is your responsibility to drop before any deadline.
- It is your responsibility to obtain notes and work assignments from a classmate and study them. If class notes and text do not provide sufficient explanation, please call the instructor to make an appointment.
- It is your responsibility to make an appointment with the instructor if you have concerns about your progress in the class.
- It is your responsibility to complete a DROP REQUEST if you are withdrawing from the class.
- Absence from any class will result in a deduction of 3 points.
- You are considered tardy if you arrive after roll is called. Tardiness for any class will result in a deduction of 1 point.

#### **Other school policies:**

- No food or beverage (except bottled water) allowed in classroom.
- No children allowed in classroom.
- All electronic devices are to be turned off, or to silent mode.
- Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. DSP&S, Room 2117, Health Science Building (760) 355-6312.

#### **Course Outline – By Week (subject to change at the discretion of the instructor):**

Jan 14 – Soil-Plant-Water Relationships / History of Irrigation in the Imperial Valley  
 Jan 21 – **Monday (Holiday)** - Irrigation Systems  
 Jan 28 – Precipitation Rates  
 Feb 4 – Efficiency and Uniformity Concepts  
 Feb 11 – Irrigation Scheduling  
 Feb 18 – **Monday (Holiday) – (Wednesday – Midterm)** - Pipe and Fittings  
 Feb 25 – Control Valves, Specialty Valves, Controllers & Backflow Prevention  
 Mar 4 – Hydraulics of Irrigation Systems  
 Mar 11 – Pumps for Irrigation  
 Mar 18 – Mon – Oral Presentations  
 Mar 20 - Final

**Institutional Student Learning Outcomes:** **ISLO1** = communication skills; **ISLO2** = critical thinking skills; **ISLO3** = personal responsibility; **ISLO4** = information literacy; **ISLO5** = global awareness

**Course Student Learning Outcomes:** Upon completion of this course, the successful student will have acquired new skills, knowledge, and/or attitudes as demonstrated by being able to: 1) discuss various irrigation systems and benefits/compromises of each system based on a given crop system, soil type and geographic condition (ISLO1, ISLO2, ISLO3, ISLO4), 2) Discuss irrigation system and design as it influences plant nutrient application and utilization (ISLO1, ISLO2, ISLO4), and 3) Plan out and defend a schedule for irrigation of a given crop over the crop life cycle based on system type, soil type and season of growth. (ISLO2, ISLO4)