

**Basic Course Information**

Semester:	Fall 2016	Instructor Name:	Dr. Michael Kanyi
Course No. & Title	AG 220 – Irrigation and Drainage	Email:	michael.kanyi@imperial.edu
CRN #:	11009	Webpage (optional):	
Classroom:	2733	Office #:	3114
Semester Dates:	08/15 -10/5	Office Hours:	MTWR 11:10 AM – 12:10 PM
Class Days:	Monday & Wednesday	Office Phone #:	760-355-5717
Class Times:	Tuesday 8:00 AM – 10:05 AM Thursday 8:00 AM – 11:10 AM	Emergency Contact:	Frances Arce-Gomez Industrial Technology Staff Secretary 760 -355-6361
Units:	3		

**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 measurement, methods of irrigation, structures, crop water needs, problems and practices in soil reclamation, drainage systems, and drainage requirements for irrigated agriculture will be discussed.(CSU)

**Student Learning Outcomes**

Upon course completion, 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/geographic condition (ILO1, ILO2, ILO3, ILO4).
2. Discuss irrigation system and design as it influences plant nutrient application and utilization (ILO1, ILO2, ILO4).
3. Plan out and defend schedule for irrigation of a given crop over the life cycle based on system type, soil type and season of growth (ILO2, ILO4).

**Course Objectives**

Upon satisfactory completion of the course, students will be able to:

1. 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.
2. Differentiate between State vs. Federal water and projects; water district vs. irrigation district.
3. Identify sources of water for irrigation.
4. Describe and evaluate different water delivery systems.
5. Explain the principles and equipment used to measure water.
6. Describe and evaluate the different methods for applying and measuring irrigation water.
7. Demonstrate an understanding of soil-plant-water relationships; calculate evapotranspiration rates for crops grown in the Imperial Valley using CIMIS and other methods.

8. Describe the economics of irrigation and drainage.
9. Observe and describe irrigation practices in the Imperial Valley.

### Textbooks & Other Resources or Links

International Irrigation Association. (2012). Robert D. von Bernuth (Ed). *Principles of Irrigation* (3rd ed.) ISBN: 9781935324270

### Course Requirements and Instructional Methods

Learning activities for this class will include, but not limited to, instructor's guided discussions, lecture, lab and field practical experience, individual and group presentations, assignments and tests. Students participation in class learning activities will be highly encouraged. Critical thinking approach in solving irrigation systems issues with Imperial Valley and beyond will be emphasized.

### Course Grading Based on Course Objectives

Students are advised to acquaint themselves with all rules and regulations of Standards of Student Conduct outlined in the Imperial Valley College General Catalog. For writing assignments, it is expected that each student will demonstrate proficiency in the use of the English Language. Grammatical errors and writing that do not express ideas clearly will affect your grade.

#### *Individual Research Paper and Presentation*

There will be one research paper write-up (100 point) about an agricultural economics issue of your choosing. Specific details about this paper, including due dates will be announced in class.

#### *Practical demonstrations and Lab Work*

Students will participate in field demonstrations and lab work. Participation will be graded out of a possible 100 points.

#### *Group Work and Presentation*

There will be one group presentation (group membership will be determined). Class time will be set for this task. However, students might need some extra time outside the set class time to complete their work. Details about this assignment will be communicated in the due course.

#### *Exams*

There will be two sit-in tests/exam. Exams may include true/false, short answer, multiple choice, and short essay questions. Exams will be worth 100 points each. All students are advised to strictly adhere to the dates and times for the tests which will be communicated.

#### *Distribution of grading points*

- Research Paper and Presentation                      100 points

- Practical Demonstrations and Lab Work 100 points
- Group Work and Presentation 100 points
- Exams 200 points

### ***Grading***

Final score will be calculated out of a possible 500 points (100%). Final grade will be as follows:

- A= 100-90%
- B = 89-80%
- C = 79-70%
- D = 69-60%
- F =<59%

### **Attendance**

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See [General Catalog](#) for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

### **Classroom Etiquette**

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the [General Catalog](#).
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

### **Online Netiquette**

- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.

- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!)].

### Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

### Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- [Blackboard Support Site](#). The Blackboard Support Site provides a variety of support channels available to students 24 hours per day.
- [Learning Services](#). There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- [Library Services](#). There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

### Disabled Student Programs and Services (DSPS)

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. The DSP&S

office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

### Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center**. A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services**. Short-term individual, couples, family, and group therapy are provided to currently enrolled students. Contact the IVC [Mental Health Counseling Services](#) at 760-355-6196 in Room 2109 for more information.

### Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

### Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

### Anticipated Class Schedule/Calendar

Week	<i>This is a tentative schedule which will be amended to include assignments and tests</i>
1.	Overview of the syllabus and instruction to the course. History and importance of irrigation in the world, California and the Imperial Valley
2.	Irrigation systems for landscape/turf and agriculture
3.	Sources of water for irrigation, water regulation,; federal, state, county
4.	Soil, crop plants, and water relationship
5.	Soil texture, moisture monitoring devices
6.	Precipitation, water supply efficiency and uniformity
7.	Irrigation scheduling
8.	Presentations
9.	Valves and pipe fittings
10.	Hydraulics in irrigation systems
11.	Hydraulics in irrigation systems..cont.'
12.	Present irrigation practices and the future of irrigation in Imperial Valley

**\*\*\*Tentative, subject to change without prior notice\*\*\***