

Basic Course Information

Semester:	Spring 2020	Instructor Name:	Dr. Michael Kanyi
Course No. & Title	AG 230 Fertilizers & Soil Amendments	Email:	michael.kanyi@imperial.edu
CRN #:	21173	Webpage (optional):	
Classroom:	2732	Office #:	3114/2732
Semester Dates:	February 18, 2020 – June 11, 2020	Office Hours:	MTWR 12:45 pm – 1:45 pm (T&R online via email)
Class Days:	MW	Office Phone #:	760-355-5717
Class Times:	Monday 11:20 am – 12:45pm Wednesday 11:20 am – 12:45pm	Emergency Contact:	Tisha Nelson Economic & Workforce Development (760) 355-6361/ (760) 355-6161
Units:	3		

Course Description

This course covers the nature of fertilizers and soil amendments, their properties, methods of application, and effects on plants, soils, and the environment. The composition, value, and use of fertilizer materials and soil amendments are discussed. Methods employed in the production, distribution, and application of fertilizers and soil amendments are described. (CSU, UofA)

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. Plan out and defend schedule for fertilization of a given crop over the life cycle based on system soil type, stage and season of growth (ILO2, ILO4).
2. Discuss fertilization system and design as it influences plant nutrient uptake and utilization (ILO1, ILO2, ILO4).
3. Discuss various fertilization systems and benefits/compromises of each system based on a given crop system/soil type/geographic condition (ILO1, ILO2, ILO3, ILO4).

Course Objectives

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

1. Describe the effect of the major nutrients and other soil components, including different forms of organic matter, on plant growth, development, and disease resistance.
2. Describe the importance of fertilizers and amendments in agricultural production; describe the process of production, selection, and application of fertilizers and soil amendments for California and Imperial Valley conditions.
3. Describe the basics of soil fertility and maintenance for certified organic production, as well as the production, selection, and application of the common organically approved fertilizers and soil amendments.
4. Describe the environmental impacts of the common methods of fertilizer use.

Textbooks & Other Resources or Links

Havlin, IL, S.L. Tisdale, Werner L. Nelson, and James D. Beaton (2016). *Soil Fertility and Fertilizers: an introduction to nutrient management* (8th ed.): Pearson Education Dorling Kindersley, (Paperback)
ISBN-13: 978-9332570344, ISBN-10: 9332570345

Western Plant Health Assn. (2002). *Western Fertilizer Handbook*. ISBN: 978157766679

Gilman, S. (2010). Organic soil-fertility and weed management. *Organic Principles and Practices Handbook*. Chelsea Green Publishing. ISBN: 9781603583596

California Plant Health Association. (2003). *Western Fertilizer Handbook* (9th ed.). Prentice Hall
ISBN: 978-0813432106

Course Requirements and Instructional Methods

Learning activities for this class will include, but not limited to, instructor's guided discussions, lecture, lab and field demonstrations, individual and group presentations, assignments and tests. Students' participation in class room and field and/or lab learning activities is highly encouraged.

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.

Assigned Individual Research Project/ Term Paper and Presentation

There will be one term paper write-up. Instructions for this research project and presentation, including due dates, will be communicated in class.

Practical, Lab Activities, Participation Random Quizzes

Students will participate in out-of-class activities, demonstrations and lab work. Participation is mandatory. There will be random quizzes that will be graded as participation.

Exams

There will be **two mid-term** tests and a **comprehensive final test**. Tests may include true/false, short answer, multiple choice, and short essay questions. All students are advised to strictly adhere to the dates and times for the tests which will be communicated.

Distribution of grading points

- Term paper/project and presentation 100 points
- Practical lab work, participation quizzes 200 points
- Mid-term tests (2) 200 points
- Comprehensive final test 100 points

Grading

Final score will be calculated out of a possible 600 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 this class will be dropped by the instructor as of the first official meeting. 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 absence 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; € 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.

- **CANVAS LMS.** Canvas is Imperial Valley College’s main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **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 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 counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information.

Veteran’s Center

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and

community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.
- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

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. Changes including tests and due dates will be communicated in class</i>	
	Topics	
1.	Soil and crop plant growth; source of nutrients and natural support	
2.	Water and crop plant growth; nutrient availability and uptake	
3.	Principles of plant growth	
4.	Essential plant nutrients; macro elements, micro elements	
5.	Test 1	
6.	Fertilizers as source of plant nutrients	
7.	Fertilizer formulation, handling, and storage	
8.	Methods of applying fertilizer	
9.	Site-specific fertilizer management	
10.	Soil and plant tissue testing	
11.	Soil pH and soil amendments	
	Test 2	
12.	Environmental effects of fertilizers	
13.	Soil health	
14.	Organic farming	
	Comprehensive Final Test	

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