

WT 110 Water Treatment Operation I

Mondays 05:30p.m.-09:45 p.m., Technology Room 1603

Deadline to Drop with “W”: Nov. 9th, 2013

Last Day to Add: August 31st, 2013

Class Start Date: August 19, 2013

Class End Date: December 7th, 2013.

CRN: 10914

Credits: 4.0

WT 110 Fall 2013 Course Syllabus

Instructor Manuel M. Sanchez

College of Technology and Applied Sciences

Department of Water and Wastewater Treatment Technology



Imperial Valley College
P.O. Box 158
Imperial, CA 92251

WT 110 Water Treatment Plant Operation I

4.0 Credit Units

Course Prerequisites: None

Course Description and Objectives:

This course is designed to train Water Treatment students in the practical aspects of operating and maintaining water treatment plants, emphasizing safe practices and procedures. Information is presented on drinking water regulations (including the Safe Drinking Water Act), iron and manganese control, fluoridation, softening, trihalomethanes, demineralization, handling and disposal of process wastes, maintenance, instrumentation, and advanced laboratory procedures. Administrative procedures for dealing with budgeting, setting rates, recordkeeping, personnel administration, public relations, and emergency planning are also covered in this course.

The chemical and biological elements of treatment will be presented as well as theory of hydrology and treatment technologies. Design engineering of processes will be stressed. Finally, federal and state regulations will be covered which directly impact various treatment technologies. This course may include the academic support of Blackboard, such shall be considered an integral part only, and students are required to physically attend all classes as scheduled.

Instructor Information:

Mr. Manuel M Sanchez

Cell phone: (760) 259-3834

Email: Manuel.Sanchez@Imperial.edu

Textbook:

“Water Treatment Plant Operation I” Six Edition.

By: Ken Kerri.

ISBN 978-1-59371-040-8

Course Evaluation:

Grading Criteria*:

Class Participation and assignments:	40%
Water Science Project	10%
Quizzes	40%
Final Exam:	<u>10%</u>
	100%

*Note: Grading criteria are guides only. Instructor retains the right to lower/ change these criteria, i.e., award higher grades to lower scores.

Course Requirements:

Readings and exercises projects: *Readings and exercises projects:* Students are required to complete the necessary reading and exercises assignments prior to the session as reflected in the schedule and are encouraged to bring the textbook(s) to class. Homework assignments shall be delivered to the Instructor's desk at the beginning of the class and will not be accepted late. Assignments may be both individual and group work, and may include presentations.

Attendance: Class attendance is strongly encouraged. "Excessive absences" is defined as a student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week. Instructor may drop a student after census and up until the final drop deadline (75% of the course) if the student has excessive absences and is no longer participating in the class; however, there is no responsibility on the part of the Instructor to do so. Students who are habitually late to class or leave early more than three times will be dropped. Three tardies will equal 1 absence. Imperial Valley College's policy will be strictly adhered to regarding absenteeism (General Catalog, page 28).

Drop Classes: The Instructor will not drop students from the class. Students are responsible for dropping classes. Failure to drop the class will result in an "F" for the semester.

Water Science Project: Each student will be expected to complete work in groups. Topics must be approved by the instructor. Students must use an approved form and style for the project involved. Directions will be given by instructor.

Homework Assignments: Must be delivered at the beginning of the class session at the Instructor's desk. Homework will not be accepted late.

Exams: All exams will be given during lecture times, and will generally consist of multiple choice and calculations. Exam dates are indicated on the course outline. No make-up exams will be given. If an exam is missed, all of the other exam scores will be averaged and that average minus ten percent will be used in lieu of the missed exam. Additionally missed exams will receive a score of zero.

This *syllabus may be modified* at the instructor's discretion as necessary to meet the needs of the course.

Laboratory Work: Some assignments and projects will be laboratory based. Bldg. 2700 or any of the local Water/ Wastewater Treatment Plants' labs will be used. Lab time will occur during normal class hours.

Field Trips: If any, will be scheduled as needed. These will, for the most part, use existing classroom hours. Great efforts by the Institution and instructors are involved and your attendance is expected.

Academic Conduct and Responsibility: Cell phones, music headsets and any other electronic device must be turned off during class as these devices are considered disruptive. No drinks or food is allowed in class. You are expected to execute all course assignments and activities in accordance with the Imperial Valley College's standards (see General Catalog page 21). Horseplay and foul language are not acceptable.

Instructor's Conduct: Instructor will adhere to Imperial Valley College's standards. Instructor will not accept any kind of contributions, gifts or donations regardless of intentions, no exceptions.

Following are the schedules for licensing programs examinations by the State of California:

**WATER TREATMENT
EXAM SCHEDULE – T1 –T4**

Final Filing Date

September 1, 2013

Test Date

Nov.16,2013

To confirm Water Operator examination schedules and requirements visit:

<http://www.cdph.ca.gov/certlic/occupations/Pages/DWopcert.aspx>

**WATER DISTRIBUTION
EXAM SCHEDULE – T1 –T4**

Final Filing Date

January 2, 2014

Test Date

March 15,2014

To confirm Water Operator examination schedules and requirements visit:

<http://www.cdph.ca.gov/certlic/occupations/Pages/DWopcert.aspx>

Student Outcomes: To build and strengthen a student's ability to complete the Water and Wastewater Treatment Technology science programs at IVC and to successfully pass various mandated licensing examinations. To assist the student in analyzing word problems, to communicate the various aspects of the California Department of Health Services licensing programs, and to provide a strong base for concepts encountered in the Water Utility Science program.

After accomplishing this course, it is expected that students will...

1. Develop knowledge on the physical, chemical, and biological principles of unit processes and operations commonly used in water treatment.
2. Identify the importance of the acquisition of knowledge and skills required to provide the public with a reliable and safe water supply.
3. Correctly identify the origins, risks and assessments of contaminants in water.
4. Recognize the risks associated with chemicals and equipment used in water treatment and will be able to demonstrate the ability to use proper techniques and procedures necessary to protect themselves, coworkers and the public.

Collaboration, Cheating and Plagiarism: Collaboration is encouraged in the course for discussing topics outside class and in completing homework assignments. Collaboration in the latter sense means working together to frame problems, devise approaches, and comparing results. The final work however must be the work of the individual student, indicating that you alone prepared the work and understand the material. Cheating is copying someone else's work and turning it in as your own work and is unacceptable. Plagiarism is a serious offense. All material originally the work of others should be cited properly.

Disability Policy: Any student with a documented disability who may need educational accommodations should notify the instructor of the Instruction Student Programs (DSP&S) Office as soon as possible.

**DSP&S
Room 2117
Health Services Building
(760) 355-6212**

Course Outline

Date	Chapter	Topic	Assignment Due
Aug. 19	1	Introduction and Overview of Treatment Technologies	None
Aug. 26	1,2	Water Treatment Operator/ Water Sources & Treatment	IN CLASS ASSIGNMENT
Sept. 2	----	Labor Day.	Study for Exam#1
Sept. 9	3	Reservoir Management Exam #1	IN CLASS ASSIGNMENT #1
Sept. 16	4	Coagulation and Flocculation	IN CLASS ASSIGNMENT #2
Sept. 23	5	Sedimentation	IN CLASS ASSIGNMENT #3
Sept.30	6	Filtration Exam #2	IN CLASS ASSIGNMENT #4
Oct. 7	---	MIDTERM	IN CLASS ASSIGNMENT #5
Oct. 14	7	Disinfection	IN CLASS ASSIGNMENT#6
Oct. 21	8	Corrosion Control	IN CLASS ASSIGNMENT #7
Oct. 28	9	Taste and Odor Control Exam #3	IN CLASS ASSIGNMENT #8
Nov. 4	10	Plant Operation	IN CLASS ASSIGNMENT #9
Nov. 11	---	Veteran's Day	Study for Exam 4
Nov. 18	11	Laboratory Procedures	WATER PROJECT
Nov. 25	---	Final Revision Exam #4	None. <i>Study for Final Exam</i>
Dec. 2	All	Final Examination	