WT 110 Water Treatment Operation I

Thursdays 05:50p.m.-10:10 p.m., Technology Room 3200
Deadline to Drop with "W": Nov. 10th, 2012
Last Day to Add: September 1st, 2012
Class Start Date: 23 August, 2012
Class End Date: 07 December, 2012.
Credits: 4.0
CRN: 10611

WT 110 Fall 2012
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 will 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:	10%
	100%

*Note: Grading criteria are guides only. Instructor retains the right to lower 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 of three. 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. 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. The greatest gift to any instructor is your effort and positive outcomes of the actual class.

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

WATER TREATMENT
EXAM SCHEDULE – T1 –T4

Final Filing Date	**Test Dates**
September 1, 2012	**Nov.17,2012**

To confirm Water Operator examination schedules and requirements visit: http://www.cdph.ca.gov/certlic/occupations/Documents/Opcert/Treatment%20exam%20schedule.pdf

***Student Outcomes*:** To build and strengthen a student's math 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 mathematical base for concepts encountered in the Water Utility Science program.

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

1. Retain some foundational knowledge: remember basic terms associated with Water Treatment Technologies, environmental issues, recognize potential cross-media impacts, acknowledge linkages between technology and environmental and human health impacts, identify sources of uncertainty in environmental problems, estimate costs and benefits (even qualitatively) of technology and associated environmental impacts.

2. Apply knowledge to other areas: enhance critical thinking in relation to complex problems, find appropriate data sources and use and cite them correctly, assess statistics and scientific information objectively, evaluate options from various viewpoints (e.g., technological feasibility, environmental impact, policy implications, everyday operations' strategy, etc.)

3. Integrate knowledge: combine knowledge of everyday consumer choices with basic engineering principles and environmental impacts, see the connectedness of human activities with environmental impacts on a global scale.

4. Reflect on the human dimension: remain conscious of their personal impact on the environment via their choices, educate others on the impact of decisions, realize that decision making is difficult and often doesn't have one right answer.

5. Remain motivated: feel that environmental issues are accessible to their general comprehension; be knowledgeable, not intimidated, by statistics, estimations, calculations, and general scientific information

6. Learn how to learn: ask questions to develop a more robust understanding, collaborate with others with different backgrounds, find good data and identify weak data

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.

Course Outline

Date	Chapter	Topic	Assignment Due
Aug. 23	---	Introduction and Overview of Treatment Technologies	None
Aug. 30	1	Water Treatment Operator	IN CLASS ASSIGNMENT
Sept. 6	2	Water Sources and Treatment.	Study for Exam#1
Sept. 13	3	Reservoir Management **Exam #1**	BLACKBOAD ASSIGNMENT #1
Sept. 20	4	Coagulation and Flocculation	IN CLASS ASSIGNMENT
Sept. 27	5	Sedimentation	BLACKBOAD ASSIGNMENT#2
Oct. 4	6	Filtration **Exam #2**	IN CLASS ASSIGNMENT
Oct. 11	---	. **MIDTERM**	BLACKBOAD ASSIGNMENT#3
Oct. 18	7	Disinfection	IN CLASS ASSIGNMENT
Oct. 25	8	Corrosion Control	BLACKBOAD ASSIGNMENT#4
Nov. 1	9	Taste and Odor Control **Exam #3**	IN CLASS ASSIGNMENT
Nov. 8	10	Plant Operation	BLACKBOAD ASSIGNMENT #5
Nov. 15	11	Laboratory Procedures	WATER PROJECT
Nov. 22	---	**Holiday.**	BLACKBOAD ASSIGNMENT #6
Nov. 29	---	Final Revision **Exam #4**	None. *Study for Final Exam*
Dec. 6	All	**Final Examination**	

***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