



## Basic Course Information

Semester:	<b>Fall 2021</b>	Instructor Name:	<b>Marcos Tarazon</b>
Course Title & #:	<b>WT 230 Wastewater Treatment 2</b>	Email:	marcos.tarazon@imperial.edu
CRN #:	<b>10925</b>	Webpage (optional):	
Classroom:	<b>ZOOM</b>	Phone Cell #:	<b>760-791-9532</b>
Class Dates:	<b>8/16/2021 ~ 12/6/2021</b>	Office Hours:	
Class Days:	<b>Monday</b>	Office Phone #:	
Class Times:	6:00PM~10:15PM	Emergency Contact:	<b>760-791-9532</b>
Units:	4.0	Class Format:	

## Course Description

This course is designed to train operators in the practical aspects of operating and maintaining wastewater treatment plants, emphasizing the use of safe practices and procedures. Information presented includes the role and responsibilities of a treatment plant operator, an explanation of why wastes must be treated, and detailed descriptions of the equipment and processes used in a wastewater treatment plant. Operators learn to operate and maintain racks, screens, comminutors, sedimentation tanks, trickling filters, rotating biological contactors, package activated sludge plants, oxidation ditches, ponds, and chlorination facilities. Operators also learn to analyze and solve operational problems and to perform mathematical calculations relating to wastewater treatment process control. It will also consist of wastewater plant maintenance, plant safety, sampling, laboratory procedures, hydraulics, records, process control, activated sludge, sludge digestion, solids handling, and possible approaches to solving operational problems.

## Course Prerequisite(s) and/or Corequisite(s)

Wastewater Treatment 130

## Student Learning 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. Assist the student in analyzing operational process control problems. Communicate the various aspects of the California Regional Water Quality Control Board operator certification programs. Provide a strong biological process control base for operational events encountered in the wastewater treatment plant.

## Course Objectives

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

1. Retain some foundational knowledge: remember basic terms associated with Water and Wastewater 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.

### Textbooks & Other Resources or Links

Textbook Needed:

**Operation of Wastewater Treatment Plants Volume II, Seventh Edition**  
(Water Programs Sacramento State)

Textbook also used:

**Operation of Wastewater Treatment Plants Volume 1, Eighth Edition 2019**  
(Water Programs Sacramento State)

Book may be ordered at

IVC Library or

link to order on website:

[Wastewater Courses \(csus.edu\)](http://csus.edu)

### Course Requirements and Instructional Methods

**Required materials:** Notebook, pen and pencil with eraser, calculator with at least 9 digits capability (not programmable), solar power recommended. **Cell phones will not be allowed as calculator. No red pens or pencils.**

**Assignments:** Will be made in class/homework, and will not be accepted late. Assignments will be both individual and group work, and will include presentations.

**Out of Class Assignments:** The Department of Education policy states that one (1) credit hour is the amount



of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

### Course Grading Based on Course Objectives

Exam grade scale is strictly base on score percentage. No partial credit will be given for math. All work must be shown for credit. You are strongly advised to be present for all exams. Make up test, unless due to special circumstances, will not be granted. Grade scale is as follows:

<b>100 - 90%</b>	~	<b>A</b>
<b>89 - 80 %</b>	~	<b>B</b>
<b>79 - 70 %</b>	~	<b>C</b>
<b>69 - 60 %</b>	~	<b>D</b>
<b>59 % or less</b>	~	<b>F</b>

### Course Policies

#### *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. Failure to drop the class will result in an "F" for the semester.** 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, only students enrolled in the class may attend; children are not allowed.

#### *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.

## Other Course Information

N/A

## IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit <http://www.imperial.edu/studentresources> or click the heart icon in Canvas.



## Anticipated Class Schedule/Calendar

<b>WT 230 – Wastewater Treatment Operator II Course Outline</b>			
<b>DATE</b>	<b>CHAPTER(S)</b>	<b>TOPIC</b>	<b>ASSIGNMENT</b>
August 16, 2021		Introduction & Course overview	
August 23, 2021		Review of Intro to Wastewater Treatment	Class Practice
August 30, 2021	11	Activated Sludge	Class Practice
<b>September 6, 2021</b>			
September 13, 2021	11	Activated Sludge	Class Practice
September 20, 2021	11	Activated Sludge	Class Practice
September 27, 2021	12	Sludge Digestion	Class Practice
October 4, 2021	12	Sludge Digestion	
October 11, 2021	13	Effluent Disposal	Class Practice
October 18, 2021	14	Plant Safety	Class Practice
October 25, 2021	15	Plant Maintenance	Class Practice
November 1, 2021	15	Plant Maintenance	Class Practice
November 8, 2021	16	Laboratory Procedures	Class Practice
November 15, 2021	16	Laboratory Procedures	Class Practice
<b>November 22, 2021</b>	All Chapters	Review	Class Practice
November 29, 2021		<b>Holiday</b>	
<b>December 6, 2021</b>	<b>All</b>	<b>Final</b>	<b>Final</b>