

WASTEWATER COLLECTIONS SYSTEMS

Water/Wastewater Treatment Technologies

Tuesdays 05:50p.m.-10:50p.m., Technology Room 1308

WT 150

CRN:10561

Course Syllabus

Instructor: Joseph G. Comejo Sr.

Economic and Workforce Development Division

Department of Water and Wastewater Treatment Technology



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

Fall 2012

Course Evaluation: Grading Criteria*:

Class Participation and assignments:	30%
Term Paper	20%
Quizzes	30%
Final Exam:	<u>20%</u>
	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: 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 to class. Assignments will be made in class and will not be accepted late. Assignments will be both individual and group work, and will include presentations. Field trips may be scheduled.

Course Requirements:

Attendance: Class attendance is strongly encouraged. Any unexcused absence(s) will be reflected in the reduction of overall performance. Imperial Valley College's policy will be strictly adhered to regarding absenteeism (General Catalog, page 28).

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

Term Paper: Each student will be expected to complete a five page term paper. Topics must be approved by the instructor. Students must use an approved form and style manual such as APA (publication Manual of the American Psychological Association).

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

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

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.

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: 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: beepers and/or cell phones should be turned off during class as these devices are considered disruptive. No drinks or food is allowed in class. Bottled water is accepted. You are expected to execute all course assignments and activities in accordance with the Imperial Valley College's standard (see General Catalog page 27).

Instructors 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.

Student Outcomes:

Understand the problems and safety issues related to collection systems and effectively operate and maintain most collection systems with the proper use of tools and equipment, thus eliminating or reducing the following problems common in the collection of water wastes; After completing this course, it is expected that students will..

A. Demonstrate knowledge of Health hazards caused by untreated wastewater flowing down streets and watercourses during stoppages and storms;
B. Understand system failures that result from the lack of proper installation, inspection, preventive maintenance, surveillance, and repair programs designed to protect the public's investment in these facilities;
C. Learn how to prevent odors in collection systems, lift stations, and treatment plants caused by collection system problems;
D. To explain how shock loads from the clearing of stoppages affect wastewater treatment processes;
E. Learn how to prevent corrosion damages to equipment and structures in collection systems and treatment plants
F. Identified Inflow and infiltration, major cause of decrease capacity of treatment facilities;
G. Learn how to prevent noise pollution from collection systems (noisy manhole lids) and lift stations; and learn how to handle;
H. Handle complaints from the public or local officials due to the unreliability of the collection system.

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. (As a student, this was invaluable for me - as minor errors using a calculator could be caught.) 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. Refer to any common writing style manual for guidelines in citing material and writing source references. Published references are more static and permanent than internet sources and are preferred when available. Cheating and plagiarism will be dealt with according to IVCs policies (General Catalog, page 27).

WASTEWATER TREATMENT PLANT OPERATOR CERTIFICATION EXAMINATION SCHEDULE AND INFORMATION

An application post-marked **after** the final filing date will **not** be considered for the upcoming examination. You will be automatically scheduled for the next exam cycle. **THERE WILL BE NO EXCEPTIONS.**

Final Filing Date for Applications (Postmark)	Date of Examination
August 1, 2012	October 6, 2012
February 1, 2013	April 6, 2013
August 1, 2013	October 5, 2013
February 1, 2014	April 5, 2014
August 1, 2014	October 4, 2014
February 1, 2015	March 28, 2015
August 1, 2015	October 3, 2015

Information for Examinees:

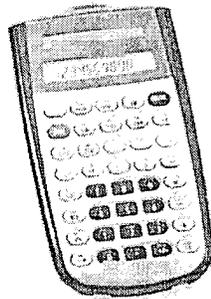
Examinations begin at 9:00 a.m. on the scheduled date. **NO ONE WILL BE ADMITTED AFTER THE EXAM HAS STARTED. THERE WILL BE NO EXCEPTIONS.**

Examinees must show examination identification letter and Government issued photo identification.

No reference material (such as books and notes), programmable calculators, pencils, sharpeners, briefcases, electronic devices are allowed at the examination site. Pencils and erasers will be provided.

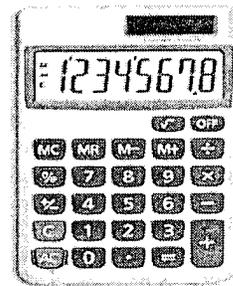
Non-Acceptable

Programmable calculators are not allowed. **Calculators with advanced functions will not be permitted for use into the exam.** See one example of a programmable/advanced function calculator below.



Acceptable

Hand-held Basic, non-programmable, no memory, self-contained, battery-operated/solar, silent, non-printing calculators will be permitted.



Cell phones are **NOT** permitted inside the examination room. **(NO EXCEPTIONS)**
Cell phones cannot be used in place of calculators.

Examinees violating these rules will be asked to leave the site immediately and may be disqualified from the exam.



RON CHAPMAN, MD, MPH
Director & State Health Officer

State of California—Health and Human Services Agency
California Department of Public Health



EDMUND G. BROWN JR.
Governor

EXAM SCHEDULES – Grade D1 – D5

**WATER DISTRIBUTION OPERATOR CERTIFICATION PROGRAM
DRINKING WATER TECHNICAL PROGRAMS BRANCH**

<u>Final Filing Date</u>	<u>Test Dates</u>
July 2, 2012	September 15, 2012
January 2, 2013	March 16, 2013
July 1, 2013	September 21, 2013
January 2, 2014	March 15, 2014
July 1, 2014	September 20, 2014

Exam dates are subject to Department approval.

Applications for all grades D1-D5 must be **POSTMARKED ON OR BEFORE** the final filing date to be considered for the current examination period. All minimum education qualification must be met by the final filing date of the exam you wish to participate in. Incomplete or illegible applications will result in a delay in the evaluation of your qualifications and scheduling examination.

PROPOSED EXAM SITES (Grade D1 – D5)

Bakersfield	Los Angeles-Torrance	San Diego	Vallejo
Eureka	Redding	San Jose	
Fresno	Sacramento	Santa Barbara	
Los Angeles-Northridge	San Bernardino	Santa Rosa	

Exit sites are in the general vicinity of the cities listed and are subject to change.

Rev. 3/23/2012



State of California—Health and Human Services Agency
California Department of Public Health



RON CHAPMAN, MD, MPH
 Director & State Health Officer

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 Governor

EXAM SCHEDULES

**WATER TREATMENT OPERATOR CERTIFICATION PROGRAM
 DRINKING WATER TECHNICAL PROGRAMS BRANCH**

<u>Final Filing Date</u>	<u>T1-T4 Test Dates</u>	<u>T5 Test Dates</u>
September 1, 2012	November 17, 2012	December 2012*
March 1, 2013	May 18, 2013	June 2013*
September 2, 2013	November 16, 2013	December 2013*
March 1, 2014	May 17, 2014	June 2014*
September 1, 2014	November 15, 2014	December 2014*

Exam dates are subject to Department approval.

Applications must be **POSTMARKED ON OR BEFORE** the final filing date to be considered for the current examination period. All minimum education qualification must be met by the final filing date of the exam you wish to participate in. Incomplete or illegible applications will result in a delay in the evaluation of your qualifications and scheduling examination.

* Grade 5 oral exams will be held in two locations **ONLY** – Northern California and Southern California (normally Sacramento and Lakewood).

PROPOSED EXAM SITES (Grade T1 – T4)

Eureka	Redding	San Diego	Vallejo
Fresno	Sacramento	San Jose	
Los Angeles	San Bernardino/Riverside Area	Santa Barbara	

Exit sites are in the general vicinity of the cities listed and are subject to change.

Rev. 3/23/2012

Water Treatment Exam Results

May 19, 2012

Exam	Pass	Fail	Examinees	Pass Rate
T1	239	151	390	61%
T2	324	292	616	53%
T3	88	81	169	52%
T4	25	39	64	39%
T5	7	9	16	43%
Total	683	572	1,255	54%

2011 Results

November 19, 2011

Exam	Pass	Fail	Examinees	Pass Rate
T1	389	126	515	76%
T2	474	195	669	71%
T3	125	38	163	77%
T4	36	24	60	60%
T5	10	12	22	45%
Total	1,034	395	1,429	72%

May 21, 2011

Exam	Pass	Fail	Examinees	Pass Rate
T1	364	93	457	80%
T2	532	162	694	77%
T3	133	47	180	74%
T4	52	11	63	83%
T5	10	11	21	54%
Total	1,091	324	1,415	77%

Course Outline

Date	Chapter	Topic	Asignments
Aug. 21	1	Introduction to; THE WASTEWATER COLLECTIONS SYSTEM	Pages 7, 8, 9
	2	WHY COLLECTION SYSTEM OPERATION	Pages 18, 21, 22
Aug. 28	3	COLLECTIONS SYSTEM PURPOSE	Pages 27-33, 38, 39, 41, 47
Sept. 04	3	COLLECTIONS SYSTEM COMPONENT	Pages 59, 61, 64, 72, 74
Sept. 11	1-3	Quiz #1	Study page questions
Sept. 18	4	SAFE PROCEDURES	Pages 88, 93, 95, 99, 113, 119, 121, 128
Sept. 25	4	SAFE PROCEDURES	Pages 134, 139, 148, 153, 161, 165, 176
Oct. 02	5	INSPECTING COLLECTIONS SYSTEMS	Pages 186-187, 188, 189, 191, 194, 218, 223
Oct. 09	5	TESTING COLLECTIONS SYSTEMS	Pages 230, 231, 239, 240, 247, 251, 252
Oct. 16	4-5	Quiz #2	Study page questions
Oct. 23	6	PIPELINE CLEANING	Pages 282-329
Oct. 30	6	AND MAINTENANCE	Pages 330-389
Nov. 06	1-6	TERM PAPER	Study guide, pages:
Nov. 13	7		Pages 397-427
Nov. 20	7		Pages 428-455
Nov. 27	7		Pages 456-501
Dec 04	1-7	Final Examination	Study guide pages:

Changes to the water distribution exams in September, 2012

The D1 – D5 water distribution exams will change to a 100 question exam similar to the water treatment exams starting in September, 2012. This change will reflect the new Expected Range of Knowledge developed through the exam validation process by CDPH and subject matter experts. The new exams will consist of 100 multiple choice questions that will include 15 that require mathematical calculations, (math problems). Each question is worth one point unless a calculation is required in which case it is worth two points.

Water Distribution Exam Format

Exam Content Grade	number of questions				
	D1	D2	D3	D4	D5
DISINFECTION	15	20	20	15	10
DISTRIBUTION SYSTEM DESIGN / HYDRAULICS	20	20	15	10	10
EQUIPMENT OPERATION / MAINTENANCE / INSPECTIONS	20	20	25	20	15
DRINKING WATER REGULATIONS / MANAGEMENT / SAFETY	15	10	15	35	45
WATER MAINS AND PIPING	20	20	15	5	5
WATER QUALITY/WATER SOURCE	10	10	10	15	15
	100	100	100	100	100

Important Dates:

August 21 Instruction Begins

Late Registration. Add authorization code from instructor required to register for any class starting on the first day the class meets whether it is filled or open.

Sept. 02

Deadline to register for full-term courses.

Nov. 10

Deadline to drop without course appearing on transcript (without receiving W).

Note: fees will be charged and no refunds given for courses dropped on this date. See Sept. 5.

IMPORTANT DATES

September, 03

November, 12

November, 22-24

December, 07

Labor Day

Veterans Day

Thanksgiving Day

Final Exams

Disability Policy:

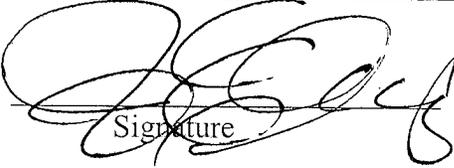
Any student with a documented disability who may need educational accommodations should notify the instructor of the Instruction Student Programs (DSP&S) Office as soon as possible.

DSP&S

Room 2117

Health Services Building

(760) 355-6212

Approval of Syllabus		
<u>Joseph G. Conroy</u> Course Instructor	<u></u> Signature	<u>9/13/2012</u> Date
_____ Department chair	_____ Signature	_____ Date