



Imperial Valley College Course Syllabus / WT 105 – Computational Procedures Operator I

Basic Course Information

Semester:	Fall 2021	Instructor Name:	Ramiro Salas
Course Title & #:	Computational Procedures Operator I / WT 105	Email:	ramiro.salas@imperial.edu
CRN #:	10404	Webpage (optional):	
Classroom:	3111 / Building 3100	Office #:	N/A
Class Dates:	8/17/2021 ~ 12/7/2021	Office Hours:	N/A
Class Days:	Tuesdays	Office Phone #:	(760) 355-6361 Dept. Sec. Tisha Nelson
Class Times:	6:00 PM ~ 9:10 PM	Emergency Contact:	(760) 427-5787 Cell.
Units:	3.0	Class Format:	Face-to-Face

Course Description

This course is designed to give water and wastewater treatment operators a general knowledge of basic mathematics as applied to treatment plant operations. This course includes calculations of treatment plant problems, fractions, decimals, percentages, ratios, proportions, averages, areas, volumes, metric system conversions, and estimation. (CSU)

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

None

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. Correctly calculate water treatment plant math problems including chemical dosages, flow rates, volumes, detention times, horsepower and energy costs. (IL02,IL03,IL04)
2. Demonstrate basic abilities to identify, troubleshoot and resolve treatment process problems that could compromise the proper water treatment processes as well as involved water related regulations. (IL01,IL02,IL03,IL04,IL0)
3. Identify mathematical methods that can be used to improve the performance of the water treatment plant. (IL02, IL03, IL04)

Course Objectives

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

1. Demonstrate knowledge of tools of analysis.
2. Demonstrate the ability to work word problems.
3. Demonstrate the ability to calculate addition, subtraction multiplication and division of fractions as well knowledge or reducing fractions and improper fractions.
4. Demonstrate the ability to add, subtract, multiply, and divide decimals.

5. Demonstrate the ability to calculate percentages.
6. Demonstrate knowledge of averages as they relate to arithmetic mean, median, mode, weighted averages.
7. Demonstrate the ability to calculate ratios and proportions.
8. Demonstrate the ability to calculate conversions including: cubic feet to ponds, flow conversions, linear measurements, arc measurements, volume measurement, metric system conversions, milligrams/liter to pounds, milligram per liter percentages milligram per liter to grain per US gallon conversions.
9. Demonstrate the ability to calculate area of rectangles, triangles, circles, trapezoids, and combined shapes.
10. Demonstrate the ability to calculate volume measurements.
11. Demonstrate the ability to make unit analysis.
12. Demonstrate the ability to solve for the unknown X.
13. Demonstrate the ability to make estimations.
14. Demonstrate the ability to make slide rule calculations as they relate to setting and reading, calculations, location of the answer and decimal location.

Textbooks & Other Resources or Links

Basic Math Concepts For Water and Wastewater Plant Operators (Recommended Only)

By Joanne Kirkpatrick Price. CRC Press.

ISBN-13: 978-0-87762-808-8

ISBN: 0-87762-808-4

Recommended textbook(s):

Operator Certification Study Guide (AWWA)

ISBN: 158321-287-6

Web site(s) recommended:

Water Treatment and Water Distribution:

http://www.waterboards.ca.gov/drinking_water/certlic/occupations/DWopcert.shtml

Wastewater: http://www.swrcb.ca.gov/water_issues/programs/operator_certification/docs/exam_info.pdf

Course Requirements and Instructional Methods

This is a Face-to-Face college format class; the student is required to physically attend class on college as scheduled it. Specific instructions and assignments will be available only through Zoom and Canvas.

Required materials: Computer (laptop), 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 ink pens or pencils.**

Assignments: Will be made in class or homework and will not be accepted late. All class activities will be described in advanced on weekly basis at Modules on your Canvas class home page during the semester.

Prerequisite(s): None



IMPERIAL VALLEY COLLEGE

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.

What if I need to borrow technology or access to WIFI?

1. To request a loaner laptop, MYFI device, or other electronic device, please submit your request here: <https://imperial.edu/students/student-equity-and-achievement/>
2. If you'd like access the WIFI at the IVC campus, you can park in parking lots "I & J". Students must log into the IVC student WIFI by using their IVC email and password. The parking lots will be open Monday through Friday from 8:00 a.m. to 7:00 p.m.

Guidelines for using parking WIFI:

- Park in every other space (empty between vehicles)
- Must have facemask available
- For best reception park near buildings
- Only park at marked student spaces
- Only owners of a valid disabled placard may use disabled parking spaces
- Only members of the same household in each vehicle
- Occupants **MUST** remain in vehicles
- Restrooms and other on-campus services **not** available
- College campus safety will monitor the parking lot
- Student code of conduct and all other parking guidelines are in effect
- Please do not leave any trash behind
- **No parking permit required**

If you have any questions about using parking WIFI, please call Student Affairs at (760) 355-6455.

CANVAS

Access to Canvas is extremely important for this class since the class eventually will be online; all the class content is located on your IVC Canvas site.

You need to login into [Canvas Student Login](#) and then go into the course. You can also use CANVAS to email your fellow students or myself. 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.

You may also chat with someone live about your issue at:

<https://cases.canvaslms.com/liveagentchat?chattype=student&sfid=001A000000YzURSIA3>

If you need additional training using Canvas you may go here:

<https://training-portal-prod-pdx.insproserv.net/pages/tutorial>

Here it is an overview from the course key areas, each one can be accessed from the course menu:

- **Home Page** will be the starting point of class and will give you as well a general overview from class activities and notifications during the semester.
- **Announcements** will be made every week letting you know about the next week class schedule and activities.
- **Syllabus** contains information that you will use throughout the course: Syllabus and Schedule.
- **Modules** contains everything you need for each week of the course. Simply click on "next" to move forward from one item to the next one into the week's module.
- **Quizzes** provides one-click access to weekly quizzes and occasional surveys.

- **Tests** provides one-click access to chapter exams.
- **Grades** lists your scores and the points possible for all assignments. Most quiz grades are posted immediately after completion. You will also see your current total points and percentage.

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 quizzes and exams. Make up test, unless due to special circumstances, will not be granted.

Asking to make-up missed quizzes or exams is your responsibility and needs to be for a reasonable excuse. Exams may include true/false and multiple choice questions (math included).

Grade scale is as follows:

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

Final grade shall consist of:

Items to verify:	
Attendance	20%
Class Participation	25%
Chapter Exams	25%
Final Exam	30%
Final Grade	100%

Note: Grading criteria are guides only. Instructor retains the right to modify these criteria.

Course Policies

- 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.

What does it mean to “attend” an online class?

Attendance is critical to student and for IVC to use federal aid funds. Acceptable indications of attendance are:

- Student submission of an academic assignment
- Student submission of an exam
- Student participation in an instructor-led Zoom conference
- Documented student interaction with class postings, such as interactive tutorial or computer-assisted instruction via modules
- A posting by the student showing the student's participation in an assignment created by the instructor
- A posting by the student in a discussion forum showing the student's participation in an online discussion about academic matters
- An email from the student or other documentation showing that the student has initiated contact with a faculty member to ask a question about an academic subject studied in the course

Logging onto Canvas alone is **NOT** adequate to demonstrate academic attendance by the student.

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.

How do I act differently if I have an on-ground class during COVID?

- **DO NOT COME TO CAMPUS OR ATTEND AN OFF-CAMPUS CLASS IF YOU FEEL SICK, HAVE A FEVER, OR HAVE A COUGH**
 - Even if your symptoms are mild, stay home.
 - Email your instructor to explain why you are missing class.
 - If you are sick with COVID-19 or think you might have COVID-19, provides CDC guidance.
 - If you have tested positive for COVID-19, you must self-quarantine for 14 days and then be without symptoms for at least 72 hours. Clearance is required prior to returning to any face-to-face interaction. It is recommended that you undergo a final COVID-19 test to confirm that you are no longer infected.



- If you are exposed through direct contact with a person known to be COVID-19 positive, then you must submit negative COVID-19 test results prior to returning to any face-to-face interaction.
- **ARRIVE AT CAMPUS EARLY (at least 15 minutes early is advised).**
 - All people entering the IVC campus will need to pass a screening process, which will occur at the gates as your drive onto campus.
 - You will need to take a short questionnaire and get your temperature taken (the screening is completely touchless and will take place while you remain in your car).
- **BRING A MASK TO CLASS (and always wear it).**
 - Be sure that your mask covers both your nose and mouth.
 - If your mask is cloth, then wash it each day.
 - If your mask is disposable, then use a new one each day.
- **GO DIRECTLY TO YOUR CLASSROOM.**
 - The IVC campus is mostly closed so you should not visit other areas or seek any face-to-face services.
 - Services are available to students online and can be accessed through www.imperial.edu.
- **WASH YOUR HANDS FREQUENTLY (and use the provided sanitation supplies).**
 - Your classroom is equipped with cleaning supplies. Use them as needed.
- **BE SURE TO SOCIAL DISTANCE (stay at least 6 feet from other).**
 - The number of students in a classroom at any one time is very limited so you have plenty of space to spread and ensure that you stay at least 6 feet from others.
- **BRING YOUR OWN FOOD AND DRINKS.**
 - There is no food service currently offered on campus.

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 (!!!!)].

How am I expected to act in an online “classroom” (especially Zoom)?

Attending a virtual meeting can be a challenge when there are many students on one conference call. Participating in such meetings may count as class attendance, but disruptive behavior may also result in you not being admitted to future meetings. Follow the tips below for best results:

1. **Be RESPECTFUL**
 - a. Your written, verbal, and non-verbal communications should be respectful and focused on the learning topics of the class.
2. **Find a QUIET LOCATION & SILENCE YOUR PHONE (if zooming)**
 - a. People walking around and pets barking can be a distraction.

3. EAT AT A DIFFERENT TIME.

- a. Crunching food or chugging drinks is distracting for others.
- b. Synchronous zoom times are set in advance so reserve meals for outside class meetings.

4. ADJUST YOUR LIGHTING SO THAT OTHERS CAN SEE YOU

- a. It is hard to see you in dim lighting so find a location with light.
- b. If your back is to a bright window, you will be what is called “backlit” and not only is it hard on the eyes (glare) but you look like a silhouette.

5. POSITION THE CAMERA SO THAT YOUR FACE AND EYES ARE SHOWING

- a. If you are using the camera, show your face; it helps others see your non-verbal cues.
- b. You may be at home, but meeting in pajamas or shirtless is not appropriate so dress suitably. Comb your hair, clean your teeth, fix your clothes, etc. before your meeting time to show self-respect and respect for others.

6. Be READY TO LEARN AND PAY ATTENTION

- a. Catch up on other emails or other work later.
- b. If you are Zooming, silence your phone and put it away.
- c. If you are in a room with a TV – turn it off.

7. USE YOUR MUTE BUTTON WHEN IN LOUD PLACES OR FOR DISTRACTIONS

- a. Pets barking, children crying, sneezing, coughing, etc. can happen unexpectedly. It's best if you conference in a private space, but if you can't find a quiet place, when noises arise MUTE your laptop.

8. REMEMBER TO UNMUTE WHEN SPEAKING

- a. Follow your instructor's directions about using the “raise hand” icon or chat function to be recognized and to speak, but make sure you have unmuted your device.
- b. Do not speak when someone else is speaking.

9. REMAIN FOCUSED AND PARTICIPATE IN THE MEETING

- a. Especially when the camera is on YOU, we can all see your actions. Engage in the meeting. Look at the camera. Listen to instruction. Answer questions when asked.
- b. Do not use the Zoom meeting to meet with your peers or put on a “show” for them.

10. PAUSE YOUR VIDEO IF MOVING OR DOING SOMETHING DISTRACTING

- a. Emergencies happen. If you need to leave the room or get up and move about, stop your video.

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.

How do I show academic honesty and integrity in an online "classroom"?

1. KEEP YOUR PASSWORDS CONFIDENTIAL.

- You have a unique password to access online software like Canvas. Never allow someone else to log-in to your account.

2. COMPLETE YOUR OWN COURSEWORK.

- When you register for an online class and log-in to Canvas, you do so with the understanding that you will produce your own work, take your own exams, and will do so without the assistance of others (unless directed by the instructor).

Examples of Academic Dishonesty that can occur in an online environment:

- Copying from others on a quiz, test, examination, or assignment;
- Allowing someone else to copy your answers on a quiz, test, exam, or assignment;
- Having someone else take an exam or quiz for you;
- Conferring with others during a test or quiz (if the instructor didn't explicitly say it was a group project, then he/she expects you to do the work without conferring with others);
- Buying or using a term paper or research paper from an internet source or other company or taking any work of another, even with permission, and presenting the work as your own;
- Excessive revising or editing by others that substantially alters your final work;
- Sharing information that allows other students an advantage on an exam (such as telling a peer what to expect on a make-up exam or prepping a student for a test in another section of the same class);
- Taking and using the words, work, or ideas of others and presenting any of these as your own work is plagiarism. This applies to all work generated by another, whether it be oral, written, or artistic work. Plagiarism may either be deliberate or unintentional.

Additional Services for Students

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.

How do I access services now that we are mostly online?

- **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

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 located 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..

Veterans 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 & Achievement 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. SEA addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, LGBTQIA+, Veterans, foster youth, homelessness, and formerly incarcerated students. The SEA Program also houses IVC's Homeless Liaison, Foster Youth Liaison, Formerly Incarcerated Liaison, and Military Affiliated Liaison, who provide direct services and referrals to students in need. SEA strives 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 enrollment, education, degree and certificate completion, and the ability to transfer to a university. SEA also provides outreach at local Imperial County high schools to ensure graduating seniors are successfully matriculated into the college and have a strong support system. Please visit us online for assistance at <https://imperial.edu/students/student-equity-and-achievement/> or call us at 760-355-6465 or when campus reopens, visit Building 401.

What if I cannot afford food, books, or need other help?

We have many resources that are available to you. Please tell us what you need by submitting your request(s) here: <https://imperial.edu/students/student-equity-and-achievement/>

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

Subject to change without prior notice

WT 105 Comp Procedures Op I Course Outline			
DATE	CHAPTER(S)	TOPIC	ASSIGNMENT
August 17, 2021		Introduction & Course overview	Get Calculator & Laptop
August 24, 2021	1	Area & Volume (Square & Circle)	Class Practice & Quiz
August 31, 2021	2	Volume in Gallons & Conversion Factors	Class Practice & Quiz
September 7, 2021	1 - 2	Review Chps 1 - 2	Exam Chps. 1 - 2
September 14, 2021	3	Pressure	Class Practice & Quiz
September 21, 2021	4	Flow	Class Practice & Quiz
September 28, 2021	5	Velocity	Class Practice & Quiz
October 5, 2021	3 - 4 - 5	Review Chps 3 - 4 - 5	Exam Chps. 3 - 4 - 5
October 12, 2021	6	Detention Time	Class Practice & Quiz
October 19, 2021	7	Surface Loading Rate	Class Practice & Quiz
October 26, 2021	8	Chemical Feed Calculations	Class Practice & Quiz
November 2, 2021	9	Chemical Feed Calculations (Gallons)	Class Practice & Quiz
November 9, 2021	6 - 7 - 8 - 9	Review Chapters 6 - 7 - 8 - 9	Exam Chps. 6 - 7 - 8 - 9
November 16, 2021	All	General Review	Class Practice
November 23, 2021		No Class (Campus Open)	
November 30, 2021	All	Final Review (All Chapters)	Class Practice
December 7, 2021	All	Final Examination	Good Luck!