



IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	Fall 2023	Instructor Name:	Rafael Serrano
Course Title & #:	PLNT 080-Plant Operator 1	Email:	rafael.serrano@imperial.edu
CRN #:	11099	Webpage (optional):	N/A
Classroom:	3119	Office #:	3121
Class Dates:	8/14/2023 - 12/9/2023	Office Hours:	1130-1230
Class Days:	Tuesday-Thursday	Office Phone #:	
Class Times:	0800-1040	Emergency Contact:	
Units:	3.00	Class Format:	Face to Face

Course Description

This course provides students with basic knowledge and understanding of industrial plant operations, including standards and procedures, hazardous materials, environmental compliance, and understanding of turbine generators, turbine controls, and generator operations. (Nontransferable, AA/AS degree only)

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. understand the processes and controls in industrial plant operations.
2. understand and recognize safety, hazard, and IDLH associated with plant operations.

Course Objectives

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

1. Understand basic water treatment processes.
2. Perform PH adjustment, scaling, Filtration, Precipitation
3. Understand wet chemistry, titration, sampling procedures.
4. Understand basic industrial hand tools and methods
5. Perform standard procedures appropriate to the plant operation.
6. Recognize and deal with hazardous materials in the plant operation
7. Understand emergency response guide (SDS)
8. Understand and properly use personal protective equipment (PPE)
9. Perform lock-out-tag-out (Mechanical & Electrical) process safety.
10. Understand emergency shut-down systems
11. Understand 2 abnormal operations and how to handle the situations.
12. Understand hazardous materials awareness

13. Understand and perform confined space training/safe work
14. Perform air monitoring.
15. Understand Environmental Compliance
16. Understand the principles of steam turbines
17. Understand steam turbine generator, turbine control, and generator operations

Textbooks & Other Resources or Links

Speegle, Michael. 2015. Process Technology Plant Operations. 2nd Cengage. ISBN: 978-1133950158.

Course Requirements and Instructional Methods

Method of Instruction: Methods of instructions may include, but are not limited to, the following: lectures, textbook, worksheets, hands-on worksheets, internet readings, internet research, large and small group discussions, audiovisual aids, and demonstrations.

Reading and Writing: Reading book chapters, answering questions, and/or writing short essays when directed.

Students will read a chapter from the textbook related to Low Voltage Systems each week. Students will complete assigned review questions at the end of each chapter and must be turned in the following week.

Course Grading Based on Course Objectives

Grading will be on a points system

1. Grading system:

- A=900-1000 of points= Excellent
- B=800-899 of points= Good
- C=700-799 of points= Satisfactory
- D= 600-699 of points= Pass, less than satisfactory
- F= Less than 600 of points= Failing

2. Very important:

- Mid-Term will be given on October 5.
- Final-Exam will be given on December 5.
- There are no make-up exams unless you have a very good reason and make arrangements with the instructor **before** the exam.

Midterm Exam	250
Final Exam	250
Homework and Quizzes	250
Lab Assignments and EXIT Tickets	250
Total	1000

Course Policies

- Attendance is important.
- 1 excused absence is allowed but notifications must be made.
- 2 10 minute tardies equal 1 absence
- 4 unexcused absences equals to being dropped from the class.
- It's the students responsibility to drop or officially withdraw from the class by no later than Nov. 4th 2023.
- Students are expected to show up to class on time and in the proper attire.
- No open toe shoes will be allowed as this is an industrial environment.
- Provided PPE will be worn during lab sessions and horseplay or pranks will not be tolerated.
- Please keep phones on silent and use them to a minimum.
- There will be no name calling or putting down of any sorts.
- Remember the "Golden Rule".
- Please do not interrupt when someone is speaking and wait your turn.
- Assignments will be due at the following class meeting.

Other Course Information

None

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

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1 August 14 - 19	Syllabus & Introduction Chapter 1: The Process Technician Today Homework:Chapter 1 review questions and Resources assignment	
Week 2 August 21 - 25	Basic Industrial Hand Tools and Methods Understand Proper PPE use and Identification	

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 3 August 28- September 1	Chapter 2: Jobs in the Processing Industry Homework: Chapter 2 review questions	
Week 4 September 5 - 8	Basic Water Treatment	
Week 5 September 11 - 15	Week 1-4 Test PH Adjustment, Scaling, Filtration and Precipitation	
Week 6 September 18 - 22	Wet Chemistry, Titration, and Sampling Procedures	
Week 7 September 25 - 29	Chapter 4: Operator Safety Homework:Chapter 4 review questions and Activities Assignment	
Week 8 October 2 - 6 MIDTERM	Lock Out Tag Out Procedures and Devices	
Week 9 October 9 - 13	Air Monitoring Confined Space Training and Safe Work	
Week 10 October 16 - 20	Chapter 5: Environmental Compliance and Title V Homework:Chapter 5 Review Questions and Activity #1	
Week 11 October 23 - 27	Emergency Response Guide (SDS) Hazardous Material Awareness	
Week 12 October 30 November 3	Chapter 6: Emergency Response Teams Homework:Chapter 6 Review Questions and Activity	
Week 13 November 5 - 10	Review Chapter 6 Activity Chapter 7: Process Physics Homework:Chapter 7 Review Questions and Activity	
Week 14 November 13 - 17	Steam Turbines, Steam Generators, Generator Operations	
	THANKSGIVING BREAK NOVEMBER 18-26	

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 15 November 27 December 1	Chapter 21:Abnormal Situations Recognizing Abnormal Conditions Emergency Shutdown Systems	
Week 16 December 4 - 8 FINAL	COURSE REVIEW FINAL EXAM	

*****Subject to change without prior notice*****