PTAC-1310-101C3
Process Tech Equipment
Fall 2025
9am-11:20am

Instructor Information:

Derrick Lewis
dlewis22@com.edu
409-933-8607 Office
Students may also contact the COM PTEC Administrative Office to leave a message for the instructor by contacting:
Patricia England, Administrative Assistant
Phone: 409-933-8536
E-Mail: *pengland@com.edu*

Office hours and location:

ICB suite 207

- M-W 2pm-3:45pm
- T-Th 11:00 am-12pm and 5pm to 6pm

If for any reason a student wishes to meet at another time, please contact me to set up an appointment outside of the blocked times posted

Required Textbook/Materials:

ISBN-13: 978013489126-2

Process Technology Equipment

Published 2018

Pearson (NAPTA)

Course Description:

This course provides instruction in the use of common process equipment. The student will identify process equipment components; use appropriate terminology to describe components of process equipment; describe basic functions of process equipment; and relate scientific principles associated with process equipment.
Prerequisite: PTAC 1302 with a grade of "C" or better. Prerequisite: TSIA2 Math Diagnostic 4 or 5. Equipment is one of the eight core courses in the Process Technology Alliance curriculum, sponsored by the North American Process Technology Alliance (NAPTA,

formerly GCPTA). The two-year program has been created to train students for careers as process technicians in the chemical and refining process industries.

This course is designed to give the class members an introductory review of the equipment necessary in the process industries. It will cover the how and why basics of equipment, such as piping, valves, pumps, heat exchangers, turbines, compressors and instruments. This course provides the background necessary for both the Systems and Unit Operations courses.

Upon completion of this course, students should be able to continue with the core courses for the PTEC program with the basic foundation required to understand why and how a plant works. The student will learn these techniques by class discussions of equipment details, their many types, their theory of operations, in-class demonstrations of the equipment and systems such as the PTEC Glycol Separation Unit (GSU), by assigned homework, and other assignments as required.

Course requirements:
Students are required to participate in all in class and out of class activities and assignments.

1. **Critical Thinking Skills**: Students will demonstrate creative thinking, innovation, and the ability to analyze, evaluate and synthesize information.
2. **Communication Skills:** Students will develop, interpret, and express ideas through written, oral, and visual communication.
3. **Personal Responsibility:** Students will demonstrate the ability to connect choices, actions and consequences to decision making.

Determination of Course Grade/Detailed Grading Formula:
Grades will be determined by Test 80% (test are timed), Quizzes 20% (quizzes are timed and given at instructors' discretion. Quizzes may also be given Via D2L)

Late Work, Make-Up, and Extra-Credit Policy:
No late work will be accepted after the due date has passed (Test and Quizzes are included in this statement). Test make ups may be considered at teachers' discretion.

Attendance Policy:
Students are required to be in class on scheduled class days. Students who miss 6 classes during the semester may be dropped from the class. Please see Fn Grading below.
Much of the learning occurs in the classroom setting through lectures and labs. It is difficult to learn all the concepts simply by reading the course textbook. Class participation is essential to

learning. Many of the class sessions cover topics that have no handouts. Good note taking is important to be successful in this class. Attendance is taken each class period and excessive missed classes (6) can result in the instructor dropping you from the course.
Coming to class late (more than 30 minutes) will be counted as an absence. Also, leaving the class early (before being released by the instructor) may result in an absence.

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means. (Faculty may add additional statement requiring monitoring and communication expectations via D2L or other LMS)

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Define and use terminology	*Critical Thinking	Homework, Exams, Quizzes
2. Identify and describe components, basic functions and scientific principles associated with process equipment	*Critical Thinking *Communication-writing *Personal Responsibility-attendance	Homework, Quizzes, Exams, Class attendance & participation,

Academic Dishonesty:
Any incident of academic dishonesty will be dealt with in accordance with college policy via the Student Handbook. Academic dishonesty – such as cheating on exams is an extremely serious offense and will result in a **grade of zero** on that exam and the student will be referred to the Office of Student Conduct for appropriate discipline action. IN OTHER WORDS, "If the student is caught cheating on any classwork of any kind, they get an immediate 0% for that grade. If two students copy each other's work, both get zeros."

Student Concerns:
If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Derrick Lewis Department Chair dlewis22@com.edu 409-933-8706

Course outline:
Attached at the end of the syllabus

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook https://www.com.edu/student-services/student-handbook.html**.** *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodation is requested to contact:
Kimberly Lachney, Student Accessibility Services Coordinator
Phone: 409-933-8919
Email: AccessibilityServices@com.edu
Location: COM Doyle Family Administration Building, Student Success Center

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is October 1. The last date to withdraw from the 16-week session is November 14. The last date to withdraw for the 2nd 8-week session is November 25.

FN Grading: The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here https://www.com.edu/community-resource-center/. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.

Nondiscrimination Statement:
The College District prohibits discrimination, including harassment, against any individual on the basis of race, color, religion, national origin, age, veteran status, disability, sex, sexual orientation, gender (including gender identity and gender expression), or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy.

Equipment Schedule

Week#	Topic/Lecture	**Reading Assignments/ Quiz/Test**
Week 1	Mon: Introduction to Equipment Syllabus review – Start lecture on PROCESS DRAWINGS Wed: Chapter 2 Process Drawings and Industry Standards – Introduce Chapter 4 Piping, Gaskets, Tubing, Hoses, Fittings	Ch's 2,4,5 Wed: Beginning of class Quiz Ch. 2
Week 2	Wed: Chapter 4 Piping, Gaskets, Tubing, Hoses, Fittings, and Introduce Chapter 5 Valves	Ch's 2,4,5 Mon: Beginning of class Quiz Ch. 2 Wed: Beginning of class Quiz Ch. 4
Week3	Mon: LABOR DAY **Wed:** Finish Ch. 5 Valves/Review	Ch's 2,4,5 Mon: Beginning of class Quiz Ch. 5
Week 4	**Mon: Test: Ch's 2,4,5** Wed: Chapter 6 Pumps – Mon: Chapter 7 Compressors – Wed: Chapter 8 Turbines	Ch's 6,7,8 Wed: Beginning of class Quiz Ch. 6
Week 5	Mon: Chapter 7 Compressors Wed: Chapter 8 Turbines	Ch's 6,7,8 Mon: Beginning of class Quiz Ch.7 Wed: Beginning of class Quiz Ch.8

Week 6	Mon: Review/Lab Wed: Test Ch's 6,7,8	Ch's 6,7,8 Wed: Test Ch's 6,7,8
Week 7	Mon: Chapter 11 Heat Exchangers Wed: Chapter 12 Cooling Towers	Ch's 12.13,14,15 Mon: Beginning of class Quiz Ch. 11 Wed: Beginning of class Quiz Ch. 12
Week 8	Mon: Chapter 13 Furnaces Wed: Chapter 14 Boilers	Ch's 12.13,14,15 Mon: Beginning of class Quiz Ch. 13 Wed: Beginning of class Quiz Ch. 14
Week 9	Mon: Review/Lab Wed: Test Ch's 11,12,13,14	Ch's 11,12,13,14
Week 10	Mon: Chapter 16 Reactors Wed: Chapter 17 Filters and Dryers	Ch's 15,16,17,10 Mon: Beginning of class Quiz Ch. 15 Wed: Beginning of class Quiz Ch. 16
Week 11	Mon: Chapter 17 Filters and Dryers Wed: Chapter 10 Lubrication	Mon: Beginning of class Quiz Ch. 17 Wed: Beginning of class Quiz Ch. 10
Week 12	Mon: Review/Lab Wed: Test: Ch's 15,16,17,10	Ch's 15,16,17,10
Week13	Mon: Distillation components Wed: Distillation Operation	Handouts and videos (See Instructor)
Week 14	Mon. In class distillation PFD Drawing 50% Wed. Test Distillation 50%	
Week 15	Safety presentations: To get full awarded points, you must be present for all presentations. A Rubric along with instructions will be given week 10	
Week 16		

Instructor reserve the right to change schedule and syllabus if needed