PTEC C110: INTRODUCTION TO PROCESS TECHNOLOGY

Item	Value
Curriculum Committee Approval Date	09/14/2007
Top Code	099900 - Other Engineering and Related Industrial Technologies
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)

Course Description

Introduction to Process Technology provides an overview of various process industries (oil and gas, chemical, mining, power generation, pulp and paper, water and waste water treatment, food and beverage, and pharmaceutical), basic chemistry, basic physics, safety, health, environment and security, quality, teams, process drawings, and process equipment. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Given a process control scenario, design a process flow chart diagramming the movement through the major components used in the distillation of petrochemical products.
2. Describe the chemical processes used in petrochemical refinement.

Course Objectives

- 1. Identify and describe the duties of a process technician.
- 2. Define the responsibilities and expectations of the process technician in the field.
- 3. Identify and document workplace issues associated process technician safety.

Lecture Content

History of the Process Industries Basic Physics Basic Chemistry Safety, Health, and the Environment Principles of Quality Piping and Valves Tanks, Drums, and Vessels Pumps Compressors Steam Turbines Electricity and Motors Heat Exchangers Furnaces Boilers Distillation Process Control Instrumentation Process Utilities Process Auxiliaries Process Print Reading

Method(s) of Instruction

- Lecture (02)
- DE Online Lecture (02X)

Instructional Techniques

A variety of instructional techniques will be employed to address different student learning styles. These may include, but are not limited to, lecture, discussion, projects and small group activities. Instruction will be supplemented, where appropriate, by digital media presentations and simulations, industry resources and guest speakers.

Reading Assignments

Complete reading assignments assigned from the textbook, supplemental readings, handouts, internet resources, and any assignments from Coastline s Library.

Writing Assignments

Weekly projects, plans, revisions, discussion topic responses that will demonstrate skills application through authentic projects.

Out-of-class Assignments

Read/View the required materials, conduct appropriate research, prepare documents/plans, complete and revise projects, and prepare for quizzes/exams.

Demonstration of Critical Thinking

Demonstrate critical thinking by troubleshooting and finding solutions to industry workplace scenarios, applying skills learned and actively participating in discussions.

Required Writing, Problem Solving, Skills Demonstration

Identify and apply the appropriate safety policies, procedures, and guidelines to demonstrate competency with preventing and resolving safety violations.

Eligible Disciplines

Electromechanical technology (industrial mechanical technology): Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience. Environmental technologies (environmental hazardous material technology, ha...: Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience. Industrial technology (foundry occupations): Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience. Mining and metallurgy (oil field operations): Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required NAPTA. Introduction to Process Technology, 2nd ed. 9780134813158: Pearson, 2019 Rationale: Industry Standard

Other Resources

1. Coastline Library