PTEC C115: PROCESS TECHNOLOGY 3: OPERATIONS

Item	Value
Curriculum Committee Approval Date	11/16/2007
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
Grading Policy	Standard Letter (S), • Pass/No Pass (B)

Course Description

This course covers concepts related to commission, normal startup, normal operations, normal shutdown, turnarounds, and abnormal situations within an operating unit. ADVISORY: PTEC C114. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Given an emergency scenario, select and diagram the corrective action and apply troubleshooting skills to analyze integrated system problems and return to normal operations.
2. Utilize inductive and deductive reasoning and knowledge of process equipment, variables, indicators, controllers, and troubleshooting tools and steps to solve problems in petrochemical process systems.

Course Objectives

- 1. Compare monitoring requirements for the various equipment types within the TimTene Unit.
- 2. Define the troubleshooting tools concerning balance, variables, time factors and process.
- 3. Describe the importance of root cause analysis after an unplanned event.
- 4. Using the symptoms and normal data table available, troubleshoot the issues and return operations to normal conditions.

Lecture Content

STARTUP COMMISSIONING NORMAL STARTUP Return to Service Removal of Energy Isolation Devices Utilities and Auxiliaries Process Unit NORMAL OPERATIONS Field Technician Control Room Technician Housekeeping/Complying with SH E Policies Communications ABNORMAL OPERATIONS Emergency Operations and Situations Tabletop Drill On-the-Job Training NORMAL SHUTDOWN Communication Process Unit EQUIPMENT MAINTENANCE Economic Impact SH E Impact DOCUMENTATION AND PERMITS Equipment Isolation Turnarounds

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 Coastlines 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

Identify and apply the appropriate quality management policies, procedures and guidelines to demonstrate quality control competency.

Required Writing, Problem Solving, Skills Demonstration

Weekly projects, plans, revisions, written reviews/critiques and discussion topic responses that will demonstrate skills application and problem solving skills through authentic projects.

Eligible Disciplines

Electromechanical technology (industrial mechanical technology): Any bachelors 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 bachelors degree and two years of professional experience, or any associate degree and six years of professional experience. Industrial technology (foundry occupations): Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience. Mining and metallurgy (oil field operations): Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Speegle, M. Process Technology Plant Operations, 2nd ed. 9781133950158: Cengage, 2016 Rationale: - Legacy Textbook Transfer Data: Legacy text

Other Resources

1. Coastline Library