



Process Scenarios Classroom Implementation

Troubleshooting Importance

Plant incidents and accidents continue to manifest themselves in industry.

The combined request from the industry and education sectors to help improve the ability of graduating Process Technology students to recognize and resolve process problems drove the development of these process scenarios.

Educational Materials Format

- **Instructor Lesson Plan**
 - Instructor Only Information
 - Performance Assessment
- **Student Learning Plan**
 - Process Description
 - Scenario Statement
 - Troubleshooting Form

Design Usage

- Designed for use in advanced courses
- Student has received instruction in Troubleshooting Methodology
- Process scenarios may be used as stand-alone exercises
- Includes paper and simulation exercises

Module Categories

There are 34 total module topics that cover the following sectors.

- Petrochemical/Refining
- Power Generation
- Oil & Gas Production
- Ethanol Production
- Biodiesel Production

Student Learning Plan

- Overview
- Competency
- Performance Standards (Criteria and Conditions)
- Learning Objectives
- Learning Activities List
- Performance Assessment Activities List
- Self-Check Questions
- Module Introduction
- Process Background
- Equipment Specifications
- Normal Design Conditions
- Problem Statements with Abnormal Operating Conditions
- Bibliography

Instructor Lesson Plan

Also includes:

- Table pairing learning activities with teaching activities, instructional materials, supplies and equipment needed
- Causes and actions (investigative, compensative, and/or corrective) for each problem
- Answer key for the self-check questions
- Performance assessment rubrics for both paper-based and simulation-based problems

Contact Information

Educational Materials Available Via Website on

October 1, 2016

www.ptseonline.com

Contact

martha.mckinley@ptseonline.com

Let's Troubleshoot!

- Divide into teams of 3
- Complete exercises – Student Learning Plan (15 minutes)
- Review potential solutions – Instructor Lesson Plan (5 minutes)
- Group discussion and debrief on exercises

Debrief

- Students should complete pre-work to establish a troubleshooting methodology
- Did you have enough information?
- Were you able to solve the problem?
- Could there be more than one solution?

Questions



martha.mckinley@ptseonline.com