



Course Title: CCPS' What Every New Engineer Needs to Know about Process Safety

Course ID:	Course Type:
CCPS' What Every New Engineer Needs to Know about Process Safety	eLearning Course
http://www.aiche.org/ela154	

Course Outline

Process Safety Module 1

- Course Objectives
 - Describe key elements of process safety
 - Identify and apply key concepts and terminology to process safety
 - Locate other resources to further process safety education
- What is Process Safety?
- Why is it important?
 - Ethics
 - Regulations
 - Economics
- Basic Terminology
 - Hazard
 - Loss of Containment
 - Vulnerability
 - Consequence
 - Frequency
 - Risk
 - Mitigation
 - Risk Tolerance
 - ALARP (As Low As Reasonably Practicable)
 - RAGAGEP (Recognized and Generally Accepted Good Engineering Practices)

- Process Safety Module 2
- Objectives
 - Describe means of identifying hazards
 - Identify means of modeling hazards and risks
- Introduction
 - How to determine what hazards are present and what to do with them?
- Hazard identification
 - Known vs. Unknown Hazards
 - Sources of hazard information:
 - Hazard analysis studies
 - Leading and lagging indicators
 - Incident Pyramid
- Hazard Modeling
 - Loss of containment
 - Toxic Dosage
 - Fires
 - Vapor cloud explosion
 - Other Explosions and concerns
- Risk Modeling
 - Consequence modeling
 - Frequency modeling
 - Risk modeling
 - Cost benefit analysis
- Mitigation
- Definitions

Process Safety Module 3

1. Objectives
 - a. Describe methods for reducing likelihood of loss of containment
 - b. Discuss different management techniques to reduce risk
2. Introduction
3. Inherently Safer Design
4. Mechanical Integrity
5. Training
6. Emergency Response Planning
7. Culture
8. Definitions