

Course name:	PROCESS CONTROL 1
Short name:	PC1
Length:	8 hrs
Prerequisite:	None

Purpose

This course is an entry-level course designed to teach methods and procedures to safely work around process systems. The course is intended for those who have little prior experience with process control.

Description

This course covers systems of pressure, level, flow and temperature. Exercises are performed on simulators to gain practical experience with systems prior to performing fieldwork.

Topics include:

- Identification of fluid systems
- Start-up/shut down of systems
- Components of a system
- Safety rules for pressure vessels and systems
- Energy transfer/conservation in a system
- Fundamental system troubleshooting systems

Course Objectives:

Upon successful completion of this course, the trainee will leave with an appreciation in the above topics.

Course name:	PROCESS CONTROL 2
Short name:	PC2
Length:	80 hrs
Prerequisite:	Experience as process technicians, maintainers or engineers

Purpose

This course develops skills on Process Control instruments. The course is intended for those who have little prior experience with process control or that need updating on new technologies and practices.

Description

This course covers operating principles of various instruments that are used to measure and control pressure, level, flow and temperature. Exercises are performed on process simulators to gain practical experience prior to performing fieldwork.

Topics include:

- Symbols (ISA)
- Hardware
 - PID controllers
 - LVDT (position devices)
 - Load cell/Strain gauge
 - Test instruments
 - Current to pressure
 - Pressure to current
 - Control valves
- Schematic reading
- Control loops
 - Designs
 - Troubleshooting
 - Calibrators
 - Tuning
- Process characteristics
 - Energy of systems
 - Steam
 - Safety
- Measurement devices
 - Pressure
 - Differential pressure
 - Temperature
 - Flow
 - PH
 - Vessel fluid level
- Metrology systems fundamentals
 - Calibration
 - Traceability

Course Objectives:

Upon successful completion of this course, the trainee will be competent in:

- The reading of process control drawings.
- Performing diagnostics and troubleshooting.
- Locating and replacing defective hardware.
- Calibrating discreet, analog, and smart transmitters.
- Tuning simple PID loops.