

DCS400:
DCS Training for Control Room Personnel

Duration:	1 Day Classroom or 6 hours Online
Audience:	Plant Operators, Process Engineers, DCS technicians, Instrument Engineers
Prerequisites:	Some control room exposure is desirable, but not required.
Course Material:	DCS screens and slides

Course Description and Objectives:

Many new and inexperienced control room operators enter plants every year. This course is aimed at training both new and experienced operators. The course focuses not only on the mechanics of how to use the DCS but also covers many of the intricate details necessary for skilled and high quality operation.

This course covers important DCS operational details, including DCS tag attributes, parameters and fields, how to start up complex control schemes. We cover procedures for how to detect control problems and tackle them quickly and effectively. The course covers DCS graphics.

The course helps to prevent careless mistakes that could potentially cause shut-downs and encourages safe habits. The operators also learn to fully utilize features like alarms, trending, event monitoring, history and other advanced features that can make the operators' time more effective. The course also covers the meaning and use of various types of DCS tags – PV, analog, digital, input/output, numerics, summers, multipliers, timers, sequence programs, continuous programs and many other tags.

Learning Outcomes:

At the end of the course, operators will be skilled on all basic, advanced and practical concepts on DCS operations. They will understand DCS tag attributes and variables. They will know how to activate control schemes correctly, troubleshoot process and control problems and identify tuning problems. They would have learnt tag ranges, tuning parameters, alarm system, alarm limits, rate of change limits, trending in the DCS, event history, logs, reports and security.

The course also teaches safety and important good habits recommended for operators. This course is a must for any operator or technician and will be of great value to engineers and supervisors too. The following topics are covered in this course:

- Distributed Control Systems (DCS) Introduction
- DCS Architecture and Control Network
- Analog and Digital Signals
- DCS Tagnames and Graphics
- PID Control Tags and Attributes
- Other Types of DCS Tags
- Custom DCS Tags and Calculations
- Activating Long Cascade and Complex Control Schemes
- Continuous versus Sequence Control
- Online Analyzers and Discrete Signals
- Control Valve Characterization and Nonlinear Transformations
- Alarms, Events and Alerts

- Trends
- Remote Access
- Safety and Recommended Procedures
- Advanced Process Control
- Management of Change Procedures