Distributed Control System (DCS)

Course Price

£3050

Course Description

This short course is very suitable as a precursor to vendor training. It is aimed at the Instrument Engineer/Technician and the Automation Engineer/Technician.

Course Objectives

At the end of this course the delegate should be able to demonstrate:

- A solid understanding of the architecture and operation of Distributed control systems (DCS)
- Ability to design the overall DCS and process control system
- Better specification of the planned DCS
- Improved process performance for the plant
- Understanding of the key ergonomic issues in design of operator displays
- Apply advanced control strategies to a plant control system
- More effective use of your existing DCS process control capabilities
- Design and create a consistent and effective alarm philosophy for any installation
- Recognise and deal with human problems when interfacing to alarm systems

Who Should Attend

Instrument Engineer/Technician, Automation Engineer/Technician, Mechanical Supervisory and Management personnel

Course Content

- Introduction to the course
- Pre-course test
- Smart field instrumentation
- The use of microprocessors and the meaning of a truly “distributed” system
- Fieldbuses and Foundation Fieldbus, the instrument bus system

- Controlling the Smart field instruments, the programmable logic controller PLC
- Brief review of P+I+D control
- DCS architecture and the roll of the PLC
- PLC architecture
- Putting it all together PLC and DCS
- An introduction to logic control and relay ladder logic
- The relationship between electrical ladder diagrams and PLC ladder logic
- SCADA/DCS systems hardware and firmware
- SCADA systems software and protocols
- Typical DCS and SCADA systems
- Introduction to communications for DCS and SCADA
- Local area network systems
- Programming of DCS systems
- Ladder logic programming
- Programming logical functions
- Programming timers
- Programming counters
- The shift register
- Conveyor belt example
- The PLC graphic simulator
- Alarm system management
- Distributed co0ntrol system reporting
- Maintenance considerations
- Distributed control system applications
- Post-course test
- The delegate must submit any completed exercises as part of the post-course test
- Course Evaluation

CPD Unit

Continuing Professional Development

35 HOURS CPD