



Consulting and Training | Reach New Heights

Course Name

Standard Application for SCADA & Automation Systems

Sector Name

Instrumentation & Controls

Document Type

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Standard Application for SCADA & Automation Systems

Course Introduction

This course has been developed to give participants an understanding of Supervisory Control and Data Acquisition (SCADA) systems and their applications in Industrial Automation Systems (IAS) extensively within the Oil & Gas, Petrochemical, Power Generation, Water/Waste Water Treatments, Pharmaceutical, Food and beverage, Transportation, Pulp and Paper, and other Process Industries.

The course also includes a study of modern SCADA technologies, with a hands-on approach using a modern industrial compliant SCADA software package. The delegate will acquire new and updated skills essential in any fast-moving industrial environment.

On completion of this course, the trainee will be able to evaluate the suitability and application of current in-house SCADA systems and offer guidance and advise on whether such systems may be modified or improved, consequently he will be able to leverage his skills to potentially cause an increase within the plant or process in terms of overall productivity and efficiency through analysis of current systems, also the trainee will be better equipped to advise on new system communication installations in terms of evaluating choices between different industrial automation systems.

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Target Audience

- ✓ Control & Instrumentation Engineer
- ✓ Controls Technologist
- ✓ Instrumentation Technician / Systems Control Tech
- ✓ Senior Control & Instrumentation Engineer
- ✓ Maintaining Equipment Engineer
- ✓ Facilities I&E / Controls Engineer
- ✓ Offshore Instrumentation Engineer

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Learning Objectives

- ✓ Familiarization with the codes, standards, and terminologies used in industrial automation systems
- ✓ Understanding of the fundamental concepts and features of the SCADA
- ✓ Understanding of every aspect of what makes a SCADA system work
- ✓ Gain knowledge of SCADA system programming
- ✓ Have a full understanding of the SCADA architectures and standards
- ✓ Gain knowledge to maintain, diagnose, and troubleshoot the automated system
- ✓ Develop a level of confidence to work with a SCADA system
- ✓ Be aware of the latest techniques employed in the SCADA system

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Course Outline

✓ **01 Day One**

Module (01) Background to SCADA

- ✓ Introduction and Brief History of SCADA
- ✓ Fundamental Principles of the SCADA Systems
- ✓ Real-Time Monitoring and Control Principles
- ✓ Overview of Industrial Control Systems (ICS)
- ✓ Introduction to SCADA Engineering
- ✓ SCADA Basic Functions

Module (02) Comparison of the Terms SCADA, DCS, PLC, and Smart Instrument

- ✓ SCADA System
- ✓ Distributed Control System (DCS)
- ✓ Programmable Logic Controller (PLC)
- ✓ Smart Instrument (SI)
- ✓ Considerations and Benefits of the SCADA System

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Course Outline

✓ 02 Day Two

Module (03) Engineering Hardware and Firmware

- ✓ Remote Terminal Units
- ✓ PLCs used as RTUs
- ✓ The Master Station
- ✓ System Reliability and Availability
- ✓ Communication Architectures and Philosophies
- ✓ Typical Considerations in Configuration of Master Station

Module (04) Engineering Software & Protocols

- ✓ The Components of A SCADA System
- ✓ The SCADA Software Package
- ✓ Specialized SCADA Protocols
- ✓ Distributed Network Protocol
- ✓ SCADA Security
- ✓ New Technologies in SCADA Systems

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Course Outline

✓ **03 Day Three**

Module (05) Maintenance and Troubleshooting

- ✓ Troubleshooting The Telemetry System
- ✓ Maintenance Tasks
- ✓ The Maintenance Unit System

Module (06) SCADA Standards and Specification

- ✓ Common Pitfalls
- ✓ SCADA Standards
- ✓ Performance Criteria
- ✓ SCADA Testing
- ✓ SCADA Documentation
- ✓ SCADA Future

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Course Outline

✓ **04 Day Four**

Module (07) SCADA Systems Evaluation

- ✓ Evaluate SCADA Systems and Hardware
- ✓ Important Components of the SCADA System
- ✓ Communications Media and Signals
- ✓ Access Control
- ✓ Alarm Handling
- ✓ Logging/Archiving
- ✓ SCADA Reliability, Redundancy, and Safety Issues
- ✓ SCADA Failure Modes
- ✓ Security Levels Applied to SCADA

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Course Outline

✓ 05 Day Five

Module (08) SCADA Practical Session

- ✓ Design and Development of the New SCADA Application
- ✓ Hardware/Software Requirements
- ✓ PC/Workstation Configuration
- ✓ SCADA Software Package Installation
- ✓ System Configurations Single/Multi-User Network
- ✓ Create a SCADA Project
- ✓ Configuration of Communication Drivers
- ✓ Real-Time Database Configurations
- ✓ Graphic Design Editor/ Mimic Display
- ✓ Alarm Message Configuration
- ✓ Reporting Design Configuration Editor
- ✓ Archiving Message Configurations
- ✓ Security Access Control Configurations
- ✓ Test and Commissioning
- ✓ Project Documentations

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Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 10, 2027	May 14, 2027	5 days	4250.00 \$	UAE , Dubai
Aug. 31, 2026	Sept. 4, 2026	5 days	4250.00 \$	UAE , Dubai
Oct. 19, 2026	Oct. 23, 2026	5 days	4250.00 \$	UAE , Abu Dhabi
Jan. 18, 2027	Jan. 22, 2027	5 days	4950.00 \$	Netherlands , Amsterdam

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