

Electrical Equipment and Control Systems: Best Practices & Innovations

COURSE OVERVIEW

This course provides a comprehensive framework into the principles, operation, and modern advancements shaping today's electrical and automation environments. The curriculum bridges the gap between traditional control systems and modern digital solutions. Through practical insights and case studies, participants will gain the skills needed to design, troubleshoot, and maintain electrical equipment and control systems effectively, aligning operations with international standards and emerging technologies such as IoT-based monitoring, predictive maintenance, and digital control architectures.

WHO SHOULD ATTEND?

This course is designed for electrical engineers, maintenance supervisors, plant engineers, instrumentation and control specialists, energy managers, and technical consultants involved in the design, operation, or maintenance of electrical and control systems. It is equally valuable for technicians, facility managers, and professionals in industries such as manufacturing, utilities, oil & gas, power generation, and process automation who seek to upgrade their knowledge on the latest technological innovations, reliability practices, and safety standards in electrical systems.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Identify best practices for the installation, operation, and maintenance of electrical control systems.
- Apply modern protection schemes and circuit design techniques to enhance equipment reliability and safety.
- Implement fault diagnosis and troubleshooting methods for various electrical components.
- Evaluate the impact of digitalization and automation on traditional electrical systems.
- Integrate energy management strategies and predictive maintenance techniques into system operations.
- Develop strategies for upgrading and modernizing electrical systems with innovative technologies.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- The core principles of electrical equipment operation, from motors and transformers to switchgear and control panels.
- The best practices for electrical system reliability, protection, and preventive maintenance.
- How control systems (PLCs, SCADA, and automation tools) are designed, configured, and optimized.
- The latest innovations in smart sensors, IoT-enabled devices, and real-time monitoring.
- The role of energy efficiency and load management in modern electrical networks.
- The importance of protective relays and coordination studies in industrial power systems.
- The integration of digital control systems and data analytics for intelligent plant operations.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate.
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded.