

Transformer Operational Principles, Selection and Troubleshooting

COURSE OVERVIEW

This practical course provides in-depth knowledge of transformer operations, focusing on principles of design, proper selection for specific applications, installation standards, performance monitoring, and troubleshooting techniques. It covers both power and distribution transformers, offering insights into common failure modes, maintenance strategies, and safety procedures.

Delegates will gain hands-on understanding of electrical parameters, load considerations, cooling mechanisms, insulation systems, and fault detection, enabling them to manage transformer assets effectively in both utility and industrial environments.

WHO SHOULD ATTEND?

This course is ideal for Electrical Engineers, Maintenance Technicians, Utility Operators, Substation Supervisors, Energy Auditors, Power System Planners, and professionals responsible for managing or maintaining electrical infrastructure involving transformers.

COURSE OUTCOMES

Delegates will gain knowledge and skills to:

- Understand the operational principles of power and distribution transformers
- Select appropriate transformers based on load and system requirements
- Perform routine diagnostics and preventive maintenance
- Identify common transformer faults and apply effective troubleshooting methods
- Ensure compliance with safety and regulatory standards
- Extend transformer life through condition monitoring and best practices

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand:

- Transformer types, components, and operating mechanisms
- Sizing and selection based on voltage, capacity, and application
- Testing procedures: insulation resistance, turns ratio, oil testing
- Troubleshooting internal and external faults
- Cooling methods and temperature control systems
- Causes of transformer failure and how to prevent them
- Installation, grounding, and protection practices
- Introduction to transformer monitoring systems and IoT applications

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