

**Course Overview:**

This course offers in-depth knowledge and practical insights into the design, operation, and maintenance of electrical transformers, critical components in modern power systems. Tailored for professionals in the power generation and maintenance sectors, it addresses the need for reliable and efficient transformer performance. The training ensures participants develop a strong understanding of transformer principles, enabling improved operational decisions and system reliability.

**Course Objective:**

- Understand the foundational principles of transformer engineering.
- Analyze and improve transformer performance and efficiency.
- Conduct routine and advanced maintenance and troubleshooting.
- Apply industry-standard safety and compliance measures.
- Manage transformer design and installation projects effectively.

**Course Outline:****Module 1: Principles of Transformer Engineering**

- Basic Concepts of Transformers
- Design Criteria and Construction
- Types and Applications of Transformers

**Module 2: Performance Analysis of Transformers**

- Efficiency and Load Characteristics
- Testing and Performance Measurement
- Identifying Performance Issues

**Module 3: Maintenance and Troubleshooting**

- Routine Maintenance Procedures
- Advanced Troubleshooting Techniques
- Common Transformer Failures and Remedies

**Module 4: Transformer Safety and Compliance**

- Safety Protocols in Transformer Handling
- Compliance with Electrical Standards
- Risk Management in Transformer Operations

**Module 5: Optimization and Efficiency Improvement**

- Strategies for Improving Transformer Efficiency
- Life Cycle Management
- Energy Conservation Measures

**Module 6: Technological Advances in Transformers**

- Emerging Technologies in Transformer Design
- Smart Transformers and Automation
- Trends in Transformer Engineering

**Module 7: Project Management in Transformer Engineering**

- Managing Transformer Design and Installation Projects
- Quality Assurance and Control
- Project Scheduling and Resource Management

**Module 8: Case Studies and Practical Applications**

- Real-World Transformer Engineering Examples

**Training Language:**

English/Arabic

**Training Methodology:**

The course combines various teaching methods, including instructor-led presentations, group discussions, case study analyses, and assessments through quizzes and a final exam to engage participants and ensure they understand and retain the material.

**Venue | Date | Fees**

Jubail | 19-10-2025 | 17,250 SAR

- Challenges and Solutions in Design and Maintenance
- Best Practices and Industry Insights

### Who Should Attend:

- Electrical Engineers
- Maintenance Engineers
- Technical Staff in Power Generation
- Designers of Electrical Systems