Advanced Gas Turbine Technology: Design and Operation

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London (UK)



Advanced Gas Turbine Technology: Design and Operation

Ref: 20222955_220123 Location: London (UK) Fees: 6100 GBP

Course Description

This comprehensive 1-week course covers the fundamentals of gas turbine technology, focusing on design principles, operational characteristics, and control systems. Participants will gain in-depth knowledge of gas turbine components, thermodynamics, and performance analysis, as well as practical skills in troubleshooting and maintenance.

Learning Objectives

- Understand gas turbine design principles and operational characteristics
- Analyze gas turbine performance and efficiency
- Master control systems and protection mechanisms
- Develop skills in troubleshooting and maintenance procedures
- Gain insights into emerging trends and future developments in gas turbine technology

Course Modules

Day 1: Introduction to Gas Turbine Technology

- Overview of gas turbine applications and types
- Thermodynamic principles and cycles
- Major components and their functions
- Performance parameters and efficiency calculations

Day 2: Gas Turbine Design and Components

- Compressor design and aerodynamics
- Combustion systems and fuel technologies
- Turbine section design and materials
- Auxiliary systems and integration

Day 3: Operational Characteristics and Control

- Start-up and shutdown procedures
- Load control and power management
- Emissions control and environmental considerations
- Advanced control systems and instrumentation



Day 4: Performance Analysis and Optimization

- Performance monitoring and data analysis
- Degradation factors and their impact
- Condition-based maintenance strategies
- Performance enhancement techniques

Day 5: Troubleshooting, Maintenance, and Future Trends

- Common operational issues and troubleshooting
- Preventive and predictive maintenance practices
- Emerging technologies and future developments
- Case studies and practical applications

Practical Wins for Participants

- Ability to optimize gas turbine performance and efficiency
- Enhanced troubleshooting and problem-solving skills
- Improved maintenance planning and execution capabilities
- Understanding of latest trends for future-proofing operations

