

Energy Storage Systems: Design, Operation & Maintenance

COURSE OVERVIEW

This course offers an in-depth knowledge of the technologies, principles and practices driving modern energy storage solutions. It covers the design and configuration of various storage systems, including batteries, thermal storage and mechanical storage, while addressing their integration into power grids, renewable energy systems, and industrial applications. Participants will explore operational strategies, performance optimization, safety protocols, and predictive maintenance approaches, ensuring they gain both the theoretical foundation and practical skills to manage energy storage assets effectively.

WHO SHOULD ATTEND?

This course is designed for engineers, technical managers, project developers' operations and maintenance professionals, utility planners, and renewable energy specialists who are involved in the planning, deployment, operation or regulation of energy storage systems. It is also valuable for professionals seeking to enhance their technical expertise and decision-making capabilities in the fast-evolving energy sector.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Understand the fundamentals and classifications of energy storage technologies.
- Design and evaluate energy storage systems for different applications.
- Apply best practices in system operation, safety, and regulatory compliance.
- Implement effective maintenance strategies to improve reliability and life cycle performance.
- Analyze case studies to develop problem-solving and decision-making skills in factual contexts.
- Integrate digital monitoring and control systems to enhance storage efficiency and grid integration.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- Core principles for designing safe, efficient, and sustainable energy storage systems.
- Material selection and design innovations for improved efficiency and durability.
- Methods for sizing and configuring systems to meet application needs.
- Strategies for integrating energy management, conversion, and control technologies.
- Techniques for enhancing efficiency through predictive maintenance and monitoring.
- Key factors for scaling solutions, ensuring compliance, and maintaining safety throughout the lifecycle.

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