

Energy Storage Systems Course: BESS & Battery Technologies

Dubai (UAE)

4 - 8 October 2026

UK Training

PARTNER



Energy Storage Systems Course: BESS & Battery Technologies

Code: OG32 From: 4 - 8 October 2026 City: Dubai (UAE) Fees: 4900 Pound

Introduction

As global power systems shift toward renewable energy and decentralized generation, energy storage systems have become a critical component of modern electricity infrastructure. They play a central role in grid stability, frequency regulation, peak shaving, load leveling, and renewable energy integration. Among these technologies, battery energy storage systems BESS stand out as one of the most flexible and scalable solutions for both utility-scale and distributed applications.

This intensive 5-day course provides a comprehensive and practical understanding of energy storage systems, with a strong focus on battery energy storage systems BESS. Participants will explore storage technologies including mechanical storage systems, thermal storage systems, and electromagnetic storage technologies, while gaining in-depth knowledge of BESS components, battery chemistries, battery management systems, and power conversion systems. The program also addresses system design, economic analysis, safety standards, regulatory frameworks, and real-world implementation strategies.

Course Objectives

By the end of this course, participants will be able to:

- Understand the principles and technologies of various energy storage systems
- Develop in-depth knowledge of battery energy storage systems BESS fundamentals
- Analyze BESS components, architecture, and battery management systems
- Integrate energy storage systems into modern power systems and renewable energy projects
- Evaluate grid stability applications such as frequency regulation, peak shaving, and load leveling
- Conduct economic analysis and assess business models for energy storage implementation
- Apply safety considerations and relevant standards in system design
- Assess emerging technologies including advanced battery technologies and hybrid energy storage systems

Course Outlines

Day 1: Introduction to Energy Storage Systems

- Overview of energy storage technologies
- Importance of energy storage systems in modern power systems
- Mechanical storage systems and thermal storage systems
- Electromagnetic storage technologies

Day 2: Battery Energy Storage Systems BESS Fundamentals

- Battery technologies and chemistries
- BESS components and system architecture
- Battery management systems and monitoring



- Power conversion systems for BESS

Day 3: BESS Applications and Grid Integration

- Grid stability and frequency regulation
- Peak shaving and load leveling strategies
- Renewable energy integration with storage solutions
- Microgrids and islanding operations

Day 4: Energy Storage System Design and Implementation

- Sizing and selection of energy storage systems
- Technical evaluation and performance optimization
- Economic analysis and business models
- Safety considerations and international standards
- Case studies of successful BESS implementation

Day 5: Future Trends and Emerging Technologies

- Advanced battery technologies and innovation
- Hybrid energy storage systems
- Energy storage in electric vehicles
- Policy and regulatory landscape shaping energy storage deployment

Why Attend This Course: Wins & Losses!

- Ability to assess and select appropriate energy storage technologies for specific applications
- Practical skills to design and size battery energy storage systems BESS
- Strong understanding of grid integration and renewable energy integration strategies
- Capability to conduct economic analysis and evaluate project feasibility
- Awareness of safety standards, regulatory requirements, and risk considerations
- Insight into future trends including hybrid systems and electric vehicle integration

Conclusion

Energy storage systems, particularly battery energy storage systems BESS, are transforming modern power systems and accelerating the transition toward renewable energy. This course equips participants with the technical, economic, and strategic knowledge required to design, evaluate, and implement energy storage solutions effectively.

By mastering system fundamentals, grid integration principles, economic considerations, and emerging technologies, participants will be prepared to contribute confidently to the future of sustainable energy infrastructure.



Blackbird Training Clients



MANNAI Trading
Company WLL,
Qatar



Alumina Corporation
Guinea



Booking.com
Netherlands



Oxfam GB International
Organization,
Yemen



Capital Markets
Authority,
Kuwait



Waltersmith Petroman Oil Limited
Nigeria



Qatar National Bank
(QNB),
Qatar



Qatar Foundation,
Qatar



AFRICAN UNION ADVISORY
BOARD ON CORRUPTION,
Tanzania



KFAS
Kuwait



Reserve Bank of
Malawi,
Malawi



Central Bank of Nigeria
Nigeria



Ministry of Interior,
KSA



Mabruk Oil Company
Libya



Saudi Electricity
Company,
KSA



BADAN PENGELOLA
KEUANGAN Haji,
Indonesia



NATO
Italy



ENI CORPORATE
UNIVERSITY,
Italy



Gulf Bank
Kuwait



General Organization for
Social Insurance
KSA



Defence Space Administration
Nigeria



National Industries
Group (Holding),
Kuwait



Hamad Medical
Corporation,
Qatar



USAID
Pakistan



STC Solutions,
KSA



North Oil company,



EKO Electricity



Oman Broadband



UNITED NATIONS
UN.



Authority for

UK Training
PARTNER



Blackbird Training Categories

Management & Admin

Entertainment & Leisure
Professional Skills
Finance, Accounting, Budgeting
Media & Public Relations
Project Management
Human Resources
Audit & Quality Assurance
Marketing, Sales, Customer Service
Secretary & Admin
Supply Chain & Logistics
Management & Leadership
Agile and Elevation

Technical Courses

Artificial Intelligence (AI)
Sustainability, ESG & Corporate Responsibility
Advanced Courses
Hospital Management
Public Sector
Special Workshops
Oil & Gas Engineering
Telecom Engineering
IT & IT Engineering
Health & Safety
Law and Contract Management
Customs & Safety
Aviation
C-Suite Training

