

Renewable Energy & Solar Energy: Fundamentals & Applications

IT & IT Engineering
Baku (Azerbaijan)
15 - 19 Dec 2025

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Renewable Energy & Solar Energy: Fundamentals & Applications

Ref: 321708_144511 **Date:** 15 - 19 Dec 2025 **Location:** Baku (Azerbaijan) **Fees:** 4400 **Euro**

Course Description

This intensive 5-day course provides a comprehensive overview of renewable energy systems with a focus on solar energy applications. Participants will gain practical knowledge in system design, installation techniques, and project management for various renewable energy technologies. The course combines theoretical concepts with hands-on exercises to ensure a well-rounded understanding of the subject matter.

Learning Objectives

- Understand fundamental principles of renewable energy systems and their applications
- Master solar PV system design, component selection, and installation techniques
- Analyze renewable energy project feasibility and perform basic economic assessments
- Develop skills in renewable energy system maintenance and troubleshooting
- Gain insights into emerging trends and technologies in the renewable energy sector

Course Modules

Day 1: Introduction to Renewable Energy

- Overview of renewable energy sources and technologies
- Global energy trends and the role of renewables
- Fundamentals of energy conversion and storage
- Policy and regulatory frameworks for renewable energy

Day 2: Solar Energy Fundamentals

- Solar resource assessment and site analysis
- Photovoltaic cell technology and module types
- Solar PV system components and configurations
- Basic electrical concepts for solar PV systems

Day 3: Solar PV System Design

- PV system sizing and energy yield calculations
- Component selection and system integration
- Shading analysis and performance optimization
- Grid-connected and off-grid system design considerations

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Day 4: Installation and Commissioning

- Safety protocols and best practices for solar installations
- Mounting systems and installation techniques
- Electrical wiring and connection methods
- System testing, commissioning, and documentation

Day 5: Project Management and Emerging Technologies

- Renewable energy project planning and execution
- Economic analysis and financial modeling
- Operations and maintenance strategies
- Emerging technologies in renewable energy

Practical Wins for Participants

- Ability to design and size solar PV systems for various applications
- Hands-on experience with solar PV installation techniques
- Skills to assess the economic viability of renewable energy projects
- Knowledge to stay updated with the latest trends in renewable energy technologies

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