



Fire Safety Management Institute

Course Name: International Diploma in Energy Engineering.

Course Overview: This course is designed to provide students with a comprehensive understanding of energy engineering on an international scale. Students will learn about various energy sources, technologies, and systems, as well as the environmental and socio-economic factors that influence energy production and consumption. Through a combination of lectures, hands-on projects, and case studies, students will develop the knowledge and skills needed to address the complex challenges facing the energy sector today.

Learning Objectives:

- Understand the different types of energy sources and their advantages and disadvantages
- Analyze and evaluate energy systems and technologies for efficiency and sustainability
- Identify the environmental and socio-economic impacts of energy production and consumption
- Apply engineering principles to design and optimize energy systems
- Collaborate with industry professionals and stakeholders to develop innovative solutions to energy challenges

Qualification Structure: The International Diploma in Energy Engineering in the construction Industry consists of 10 mandatory units for a combined total of 50 credits, 500 hours of Total Qualification Time (TQT), and 250 Guided Learning Hours (GLH) for the completed qualification.

Course Content:

Module 1. Introduction to Energy Engineering

- Overview of the global energy landscape.
- Principles of energy conversion and efficiency.

Module 2. Energy Sources and Technologies

- Fossil fuels and their alternatives.
- Renewable energy sources (solar, wind, hydro, geothermal).
- Energy storage and transmission technologies.

Module 3. Energy Systems and Management

- Power plant design and operation.
- Energy conservation and energy management systems.
- Smart grid technologies.

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Module 4. Environmental and Social Impacts of Energy

- Climate change and greenhouse gas emissions.
- Energy poverty and access to energy resources.
- Sustainable development and energy policy.

Module 5. Energy Engineering Projects

- Hands-on design projects related to energy production and consumption.
- Case studies of successful energy engineering solutions in different countries.
- Collaboration with industry partners to address real-world energy challenges.

Duration and Delivery: The qualification will be flexible in its delivery to accommodate part-time and distance learning. The International Diploma in Energy Engineering in the construction Industry program will typically span over 04 to 06 months, including classroom lectures, practical exercises, distance, and online.

Assessment and verification: All units within this qualification are internally assessed by the Fire Safety Management Institute. Learners must have a minimum of 50% marks in each unit to achieve a 'pass' grade for this qualification.