



Fire Safety Management Institute

Course Name: Diploma in carbon footprint management in the construction Industry.

Course Overview: The Diploma in Carbon Footprint Management in the Construction Industry is designed to equip professionals with the knowledge and skills necessary to assess, manage, and reduce carbon emissions associated with construction projects. Participants will learn about the environmental impact of construction activities and explore strategies for achieving sustainability goals while optimizing project outcomes.

Learning Objectives:

- Understand the concept of carbon footprint and its significance in the construction industry.
- Identify sources of carbon emissions throughout the construction project lifecycle, from design and materials procurement to construction and operation.
- Learn techniques for measuring, quantifying, and analyzing carbon emissions associated with construction activities.
- Explore best practices and innovative technologies for reducing carbon footprint in construction projects.
- Develop skills for implementing carbon reduction strategies, including sustainable design principles, material selection, and energy-efficient construction methods.
- Gain insights into regulatory frameworks, industry standards, and certification schemes related to carbon footprint management in construction.
- Collaborate with stakeholders to integrate carbon reduction initiatives into project planning, execution, and evaluation processes.

Qualification Structure: The Diploma in carbon footprint management in the construction Industry consists of 8 mandatory units for a combined total of 12 credits, 120 hours of Total Qualification Time (TQT), and 60 Guided Learning Hours (GLH) for the completed qualification.

Course Content:

Module 1: Introduction to Carbon Footprint Management

- Definition and importance of carbon footprint.
- Overview of carbon emissions in the construction industry.
- Global and regional perspectives on carbon footprint reduction goals.

Module 2: Carbon Footprint Assessment Tools and Methodologies

- Measurement and quantification techniques for carbon emissions.
- Life cycle assessment (LCA) principles and applications in construction.



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- Selection of appropriate tools and software for carbon footprint analysis.

Module 3: Carbon Reduction Strategies in Construction

- Sustainable design principles and green building certifications.
- Energy-efficient construction techniques and renewable energy integration.
- Waste reduction and recycling practices.

Module 4: Low-Carbon Materials and Technologies

- Evaluation of construction materials based on carbon intensity.
- Use of alternative materials and recycled content.
- Adoption of innovative technologies for carbon reduction.

Module 5: Carbon Management in Project Planning and Execution

- Incorporating carbon reduction goals into project specifications and contracts.
- Collaboration with architects, engineers, and contractors to optimize project design and construction processes.
- Monitoring and reporting of carbon emissions throughout the project lifecycle.

Module 6: Regulatory Compliance and Industry Standards

- Overview of environmental regulations and policies related to carbon footprint management.
- Compliance with industry standards and certification schemes (e.g., LEED, BREEAM, ISO 14001).
- Case studies of successful carbon reduction initiatives in construction projects.

Module 7: Stakeholder Engagement and Communication

- Engaging with clients, investors, and community stakeholders on carbon reduction goals.
- Communicating the environmental benefits of low-carbon construction practices.
- Building partnerships and alliances to advance sustainability objectives in the construction industry.

Module 8: Capstone Project

- Applying knowledge and skills acquired throughout the course to develop a comprehensive carbon footprint management plan for a construction project.
- Presenting findings and recommendations to industry stakeholders.



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- Reflecting on lessons learned and identifying opportunities for further research and professional development.

Duration and Delivery: The qualification will be flexible in its delivery to accommodate part-time and distance learning. The Diploma in carbon footprint management in the construction Industry program will typically span over 02 to 03 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.