Training Course on Sustainable Construction and Green Building Practices (LEED/EDGE)

Professional Development Training Course Outline

Category	Construction Institute	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The construction industry stands at a critical juncture, facing increasing pressure to mitigate its significant environmental impact. Training Course on Sustainable Construction and Green Building Practices (LEED/EDGE) equips professionals with the essential knowledge and skills to design, build, and manage environmentally responsible and resource-efficient structures. By focusing on globally recognized certifications such as **LEED (Leadership in Energy and Environmental Design)** and **EDGE (Excellence in Design for Greater Efficiencies)**, this program empowers participants to contribute to a more sustainable built environment. Through a dynamic training methodology incorporating interactive sessions, real-world case studies, and practical application exercises, learners will gain a deep understanding of **green building materials**, **energy efficiency**, **water conservation**, **indoor environmental quality**, and the principles of a **circular economy** within the construction sector.

This course delves into the intricacies of achieving **sustainable development** goals within the built environment. Participants will explore the economic, social, and environmental advantages of adopting **eco-friendly construction techniques** and **resource management strategies**. Mastering the requirements and processes for **LEED certification** and **EDGE certification** will enable graduates to lead and contribute to projects that meet stringent sustainability standards. The curriculum emphasizes the practical application of **sustainable design principles**, the selection of **low-impact materials**, and the implementation of innovative technologies to minimize the carbon footprint of buildings. By understanding the full lifecycle of construction projects, from material sourcing to demolition, participants will be equipped to drive meaningful change towards a more resilient and environmentally conscious industry.

Programme Curriculum

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Course Duration

10 days

Course Objectives

1. Understand the fundamental principles of **sustainable construction** and its importance in addressing environmental challenges.
2. Gain a comprehensive knowledge of **green building rating systems**, specifically **LEED** and **EDGE**.
3. Learn the process and requirements for achieving **LEED certification** for various building types.
4. Master the methodology and criteria for obtaining **EDGE certification** and its focus on resource efficiency.
5. Identify and evaluate **eco-friendly building materials** and their environmental impact.
6. Implement strategies for maximizing **energy efficiency in buildings** through design and technology.
7. Develop techniques for effective **water conservation in construction** and building operations.
8. Understand the principles of **indoor environmental quality** and its impact on occupant health and well-being.
9. Explore the concepts of **waste reduction and management** in construction and demolition processes.
10. Apply the principles of a **circular economy in construction** to promote resource reuse and recycling.
11. Analyze **life cycle assessment (LCA)** methodologies for evaluating the environmental impact of buildings.

12. Understand the economic and social benefits of **sustainable building practices**.
13. Develop the skills to integrate **sustainable design principles** into construction projects from inception to completion.

Organizational Benefits

- Demonstrates a commitment to sustainability, attracting environmentally conscious clients and stakeholders.
- Reduced operational costs through energy and water efficiency, and potentially lower material waste.
- Ensures adherence to increasingly stringent environmental regulations and building codes.
- Fosters a sense of purpose and pride among employees involved in sustainable projects.
- Positions the organization as a leader in sustainable construction practices.
- Reduces exposure to volatile energy prices and resource scarcity.
- Encourages the adoption of new technologies and efficient construction methods.
- Directly contributes to local, national, and global sustainability targets.

Target Audience

1. Architects
2. Engineers (Civil, Structural, Mechanical, Electrical)
3. Construction Managers
4. Project Developers
5. Sustainability Consultants
6. Building Owners and Facility Managers
7. Government Officials involved in building regulations
8. Real Estate Professionals

Course Outline

Module 1: Introduction to Sustainable Construction

- Defining Sustainable Development and its relevance to the construction industry.
- Understanding the environmental, economic, and social impacts of traditional construction.
- Exploring the principles of green building and its benefits.
- Overview of global and regional sustainability initiatives and regulations.
- Case Study: A project showcasing the environmental impact of conventional vs. sustainable construction methods.

Module 2: Green Building Rating Systems: LEED

- Detailed overview of the LEED rating system and its categories (BD+C, ID+C, O+M, ND, Homes).
- Understanding the prerequisites and credits within each LEED category.
- The LEED certification process: registration, documentation, and review.
- Strategies for achieving specific LEED credits related to energy, water, materials, and indoor environmental quality.
- Case Study: Analysis of a LEED-certified building and the strategies employed to achieve its rating.

Module 3: Green Building Rating Systems: EDGE

- Introduction to the EDGE rating system and its focus on resource efficiency.

- Understanding the EDGE standard for energy, water, and embodied energy in materials.
- The EDGE certification process and online assessment tool.
- Cost-effective strategies for achieving EDGE certification in residential and commercial buildings.
- Case Study: Examination of an EDGE-certified project and the technologies used to meet the standard.

Module 4: Sustainable Site Planning and Development

- Site selection and analysis for minimizing environmental impact.
- Strategies for erosion and sedimentation control during construction.
- Heat island reduction and landscape design for water efficiency.
- Promoting biodiversity and creating accessible green spaces.
- Case Study: A project demonstrating sustainable site development practices and their ecological benefits.

Module 5: Water Efficiency in Buildings

- Understanding water consumption in buildings and opportunities for reduction.
- Implementing water-efficient plumbing fixtures and irrigation systems.
- Strategies for rainwater harvesting and greywater reuse.
- Water metering and monitoring for efficient water management.
- Case Study: An example of a building implementing innovative water conservation technologies.

Module 6: Energy Efficiency and Renewable Energy

- Principles of building science and energy-efficient design.
- Optimizing building envelope performance (insulation, windows, air sealing).
- Efficient HVAC and lighting systems and controls.
- Integration of renewable energy sources (solar, wind) in buildings.
- Case Study: Analysis of a net-zero energy building and the technologies employed.

Module 7: Sustainable Materials and Resources

- Identifying and evaluating the environmental impact of building materials.
- Strategies for selecting low-impact materials (recycled content, locally sourced, low VOC).
- Material reuse and recycling in construction and demolition.
- Understanding material transparency and environmental product declarations (EPDs).
- Case Study: A project that prioritized the use of sustainable and locally sourced materials.

Module 8: Indoor Environmental Quality (IEQ)

- The impact of IEQ on occupant health, comfort, and productivity.
- Strategies for improving ventilation and air quality.
- Daylighting and views to the outdoors.
- Acoustic comfort and thermal comfort design.
- Case Study: A building designed to optimize indoor environmental quality and occupant well-being.

Module 9: Waste Management in Construction and Demolition

- Understanding the lifecycle of construction waste and its environmental impact.
- Developing waste management plans for construction and demolition projects.

- Strategies for waste reduction, reuse, and recycling on construction sites.
- Exploring innovative technologies for waste processing and upcycling.
- Case Study: A construction project that implemented a successful waste management program.

Module 10: Life Cycle Assessment (LCA) in Construction

- Introduction to Life Cycle Assessment methodology and its application in the built environment.
- Understanding the different stages of LCA (cradle-to-grave).
- Using LCA tools to evaluate the environmental impact of building materials and designs.
- Interpreting LCA results for informed decision-making.
- Case Study: An LCA analysis comparing the environmental impact of different building material choices.

Module 11: The Circular Economy in Construction

- Understanding the principles of the circular economy and its application to the construction sector.
- Strategies for designing for disassembly and material recovery.
- Exploring business models for material reuse and recycling in construction.
- Overcoming barriers to the adoption of circular economy principles.
- Case Study: An example of a building designed with circular economy principles in mind.

Module 12: Economic and Social Benefits of Sustainable Construction

- Analyzing the cost savings associated with green building practices.
- Understanding the impact of sustainable buildings on property value and market demand.
- Exploring the social benefits of green buildings, such as improved health and well-being.
- The role of sustainable construction in creating green jobs and fostering economic development.
- Case Study: An analysis of the economic and social benefits realized by a sustainable building project.

Module 13: Integrating Sustainable Design Principles

- Strategies for incorporating sustainability considerations throughout the project lifecycle.
- Collaborative design processes for integrated sustainable solutions.
- Overcoming challenges and barriers to implementing sustainable design.
- The role of building codes and standards in promoting sustainability.
- Case Study: A project that successfully integrated sustainable design principles from the initial concept to completion.

Module 14: Green Building Technologies and Innovations

- Overview of emerging green building technologies (e.g., smart buildings, advanced materials).
- Exploring the potential of digital tools and data analytics for sustainable building management.
- Understanding the role of automation and robotics in sustainable construction.
- Future trends and innovations in the field of sustainable construction.
- Case Study: An example of a building utilizing cutting-edge green building technologies.

Module 15: Project Implementation and Management for Sustainability

- Developing sustainability goals and metrics for construction projects.
- Integrating sustainability requirements into project specifications and contracts.
- Managing construction processes to minimize environmental impact.
- Commissioning and performance monitoring of green buildings.
- Case Study: A successful sustainable construction project highlighting effective implementation and management strategies.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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