Circular Economy in Construction Training Course

Professional Development Training Course Outline

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

Course Introduction

The Circular Economy in Construction is a transformative approach reshaping the global built environment by prioritizing resource efficiency, waste minimization, material reuse, and sustainable design innovation. Unlike the traditional linear “take–make–dispose” model, circular construction integrates closed-loop systems, low-carbon materials, regenerative design, and lifecycle thinking to reduce environmental impact while improving economic value. With rising global demand for green buildings, ESG compliance, net-zero carbon infrastructure, and sustainable urban development, circular construction has become a strategic priority for governments, developers, and engineering firms worldwide.

Circular Economy in Construction Training Course provides a comprehensive foundation in circular construction principles, sustainable materials management, digital construction technologies (BIM, IoT, AI), deconstruction strategies, and regenerative building systems. Participants will learn how to design and manage projects that align with climate resilience, carbon neutrality, zero-waste construction, and sustainable supply chains. The program equips professionals with actionable frameworks to implement circular economy strategies across the entire construction lifecycle from planning and design to demolition and material recovery.

Programme Curriculum

Circular Economy in Construction Training Course

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Course Duration

10 days

Course Objectives

1. Understand Circular Economy principles in construction ecosystems
2. Apply zero-waste construction and demolition strategies
3. Implement life cycle assessment (LCA) in building projects
4. Integrate sustainable building materials and green procurement
5. Develop net-zero carbon building strategies
6. Use Building Information Modelling (BIM) for circular design
7. Promote adaptive reuse and retrofit methodologies
8. Optimize construction waste management systems
9. Design for disassembly and modular construction
10. Enhance resource efficiency and material circularity
11. Align projects with ESG and sustainability reporting frameworks
12. Implement carbon footprint reduction in construction operations
13. Build expertise in regenerative and resilient urban development

Target Audience

1. Civil Engineers & Construction Managers
2. Architects & Urban Planners
3. Sustainability & ESG Consultants
4. Real Estate Developers
5. Infrastructure Project Managers
6. Government & Municipal Authorities
7. Environmental Engineers
8. Construction Procurement & Supply Chain Professionals

Course Modules

1. Introduction to Circular Economy in Construction

- Linear vs circular models
- Sustainability principles
- Global circular economy frameworks
- Industry transformation trends
- Economic & environmental impact

- **Case Study:** EU Circular Construction Strategy

2. Sustainable Construction Fundamentals

- Green building concepts
- Resource efficiency
- Environmental impact reduction
- Sustainable project lifecycle
- Climate-responsive construction
- **Case Study:** LEED-certified buildings in USA

3. Life Cycle Assessment (LCA)

- LCA methodologies
- Carbon footprint analysis
- Material impact evaluation
- Energy lifecycle mapping
- Data-driven sustainability
- **Case Study:** UK Embodied Carbon Reduction Projects

4. Circular Design Principles

- Design for reuse
- Design for adaptability
- Modular architecture
- Disassembly planning
- Material optimization
- **Case Study:** Dutch Circular Housing Projects

5. Sustainable Materials Management

- Low-carbon materials
- Recycled aggregates
- Bio-based materials
- Material passport systems
- Green procurement
- **Case Study:** Sweden Timber Construction Projects

6. Construction Waste Management

- Waste segregation systems
- Recycling technologies
- Landfill diversion strategies
- Material recovery facilities
- Circular waste loops
- **Case Study:** Singapore Zero Waste Construction Sites

7. Digital Technologies in Circular Construction

- BIM integration
- AI-driven optimization
- IoT-based monitoring

- Digital twins
- Smart construction analytics
- **Case Study:** Autodesk Circular BIM Projects

8. Adaptive Reuse & Retrofitting

- Building repurposing
- Structural adaptation
- Heritage conservation
- Energy retrofits
- Urban regeneration
- **Case Study:** London Industrial-to-Residential Conversions

9. Modular & Prefabricated Construction

- Offsite manufacturing
- Modular systems design
- Reduced construction waste
- Speed optimization
- Scalability benefits
- **Case Study:** IKEA modular housing initiatives

10. Zero Carbon Construction Strategies

- Carbon neutral design
- Renewable integration
- Energy efficiency systems
- Embodied carbon reduction
- Net-zero frameworks
- **Case Study:** Masdar City UAE

11. Circular Supply Chain Management

- Sustainable sourcing
- Supplier collaboration
- Logistics optimization
- Material traceability
- Ethical procurement
- **Case Study:** Skanska sustainable supply chain model

12. Policy, Regulations & ESG Compliance

- Global sustainability regulations
- ESG reporting standards
- Green certifications
- Compliance frameworks
- Policy-driven transformation
- **Case Study:** EU Green Deal Construction Policies

13. Smart Cities & Circular Urban Systems

- Urban resource loops

- Smart infrastructure
- Renewable urban systems
- Circular city models
- Data-driven urban planning
- **Case Study:** Amsterdam Circular City Initiative

14. Innovation in Regenerative Construction

- Nature-based solutions
- Regenerative design systems
- Ecosystem restoration
- Carbon-positive buildings
- Climate resilience strategies
- **Case Study:** Singapore Gardens by the Bay

15. Circular Economy Project Implementation

- Project lifecycle integration
- Stakeholder engagement
- KPI tracking systems
- Risk management
- Scalable deployment
- **Case Study:** Ellen MacArthur Foundation construction pilots

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

Ready to enroll or request a customized program? Book online or contact us:

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