Bio-based and Compostable Packaging Solutions Training Course

Professional Development Training Course Outline

Category	Food processing and Technology	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Bio-based and Compostable Packaging Solutions Training Course provides participants with the latest knowledge and practical skills in developing, implementing, and evaluating sustainable packaging technologies. This course explores innovative packaging materials derived from renewable resources, including plant-based polymers, biodegradable plastics, and compostable composites. It aims to help professionals transition from conventional plastic packaging toward environmentally responsible alternatives that reduce waste, carbon footprint, and ecological harm.

Participants will gain comprehensive insights into life cycle assessment, regulatory frameworks, and technological advancements shaping the global packaging industry. Through interactive sessions and industry case studies, the course emphasizes designing eco-friendly packaging that supports circular economy principles, enhances brand reputation, and meets growing consumer and regulatory demands for sustainability. It equips participants to implement bio-based and compostable packaging systems that balance performance, cost-efficiency, and environmental stewardship.

Programme Curriculum

Bio-based and Compostable Packaging Solutions Training Course

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Course Objectives

1. Understand the principles of bio-based and compostable packaging.
2. Explore material science innovations in sustainable packaging.
3. Learn about renewable and biodegradable polymers.
4. Assess the environmental impact of packaging through life cycle assessment.
5. Examine regulatory and certification standards for compostable materials.
6. Identify market trends and global sustainability drivers.
7. Develop strategies to replace fossil-based packaging with green alternatives.
8. Evaluate performance, durability, and shelf-life of bio-based materials.
9. Understand composting processes and waste management systems.
10. Integrate circular economy concepts into packaging design.
11. Analyze case studies of successful bio-based packaging initiatives.
12. Promote sustainability in corporate packaging strategies.
13. Strengthen innovation capacity for sustainable product development.

Organizational Benefits

1. Enhanced corporate reputation through sustainable innovation.
2. Compliance with environmental packaging regulations.
3. Reduction of waste management and carbon footprint costs.
4. Improved brand image and consumer loyalty.
5. Strengthened alignment with ESG and circular economy goals.
6. Access to new markets focused on green packaging solutions.
7. Increased operational efficiency through material optimization.
8. Reduced dependency on petroleum-based packaging.
9. Contribution to global sustainability and SDG targets.
10. Competitive differentiation in environmentally conscious markets.

Target Audiences

1. Packaging engineers and designers
2. Sustainability and environmental officers
3. Research and development professionals
4. Manufacturing and production managers
5. Food and beverage industry professionals
6. Retail and consumer goods companies
7. Policy makers and regulatory bodies
8. Entrepreneurs in green product innovation

Course Duration: 5 days

Course Modules

Module 1: Introduction to Bio-based and Compostable Packaging

- Overview of packaging sustainability concepts
- Difference between bio-based, biodegradable, and compostable materials
- Environmental impacts of traditional packaging
- The role of packaging in circular economy systems
- Global challenges and future opportunities
- Case Study: Coca-Cola?ÇÖs PlantBottle Initiative

Module 2: Bio-based Materials and Renewable Polymers

- Types of bio-based polymers and their sources
- Material properties and applications
- Advances in polylactic acid (PLA) and PHA packaging
- Biomass feedstocks and conversion technologies
- Processing techniques for bio-packaging materials
- Case Study: NatureWorks and Ingeo PLA Solutions

Module 3: Compostable Packaging and Degradation Processes

- Understanding compostability and biodegradation
- Standards and certification (EN 13432, ASTM D6400)
- Industrial versus home composting systems
- Designing for disintegration and non-toxicity
- Challenges in composting infrastructure
- Case Study: BASF?ÇÖs Ecoflex and Ecovio Materials

Module 4: Life Cycle Assessment and Environmental Impact

- Conducting packaging life cycle assessments (LCA)
- Measuring carbon, water, and energy footprints
- Waste reduction and resource recovery approaches
- End-of-life management strategies
- Comparative LCA of plastic vs. compostable packaging
- Case Study: PepsiCo?ÇÖs LCA of Biodegradable Snack Packaging

Module 5: Regulatory Frameworks and Certification Standards

- Global policies driving sustainable packaging
- EU Packaging Waste Directive and Extended Producer Responsibility (EPR)
- Certification and labeling for compostable materials
- Food contact safety and performance standards
- Supply chain compliance and traceability requirements
- Case Study: EU Plastic Pact and Compliance Success Stories

Module 6: Packaging Design for Sustainability

- Eco-design principles for bio-based packaging
- Lightweighting and material efficiency
- Functional performance versus environmental trade-offs

- Aesthetic and branding considerations in green packaging
- Design tools and sustainability assessment software
- Case Study: Lush Cosmetics?ÇÖ Naked Packaging Design

Module 7: Market Trends and Business Opportunities

- Global market outlook for compostable packaging
- Consumer behavior and green purchasing trends
- Innovation in packaging startups and emerging technologies
- Financing sustainable packaging initiatives
- Public-private partnerships for green innovation
- Case Study: Danone?ÇÖs Transition to Renewable Packaging

Module 8: Implementation Strategies and Future Outlook

- Integrating sustainability into corporate strategy
- Building supplier and stakeholder collaboration
- Overcoming barriers to large-scale adoption
- Monitoring and evaluating sustainability performance
- Future innovations in smart and compostable packaging
- Case Study: Tetra Pak?ÇÖs Sustainable Packaging Roadmap

Training Methodology

1. Expert-led presentations and discussions
2. Case study reviews and best practice analysis
3. Group projects and problem-solving workshops
4. Practical demonstrations and technical exercises
5. Evaluation through applied assignments and reflection

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	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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