

Course: Principles of Waste Reduction, Recycling, and Solid Waste Management

Contact Hours: 36

Pre-requisite: None

Abstract

This course provides an overview of the fundamentals of waste reduction, recycling, and solid waste management. Topics are covered within the overall context of life cycle analysis as well as environmental sustainability and climate change. The course references international best practices as well as local programs and initiatives.

Target Audience

This course is suited for managers and supervisors with a responsibility for waste management as well as those pursuing a career in environmental sustainability and recycling/solid waste management.

Learning outcomes

On Completion of this course, learners will be able to:

1. Understand the fundamentals of waste reduction, recycling and waste management within the context of environmental sustainability and climate change.
2. Recognize the types of treatment systems required for proper waste management.
3. Design waste recycling and material recovery facilities
4. Appreciate the support mechanisms required for successful recycling and waste management programs.

Course Content



NO	TRAINING MODULE	LEARNING OBJECTIVES
1	Fundamentals of Waste Reduction, Recycling and Solid Waste Management	1.1 Context of Waste Management and Sustainability, Waste Management Hierarchy, Waste Management and Climate Change 1.2 Laws and Regulations governing waste management, recycling and litter prevention 1.3 Data Collection, Monitoring and Evaluation Programs for Waste Management
2	Waste Treatment Systems	2.1 Fundamentals of Landfill Design, Operations and Maintenance 2.2 Energy Recovery from Waste: Waste To Energy, Anerobic Digesters, Landfill Gas to Energy 2.3 Material Recovery and Recycling Processes: Material Recovery Facilities, Transfer Stations, Recycling Plants
3	Design and Operations of Recycling Facilities	3.1 Development and Implementation of Recycling Programs. 3.2 Facility Design and Layout, Equipment Selection and Plant Operations. 3.3 Understanding Material Specifications, Quality Control and Market Requirements
4	Support Mechanisms for Ensuring a Successful Recycling Program	4.1 Sustainable Financing for Recycling and Waste Management Programs 4.2 Health and Safety Systems and Procedures in the Recycling Industry 4.3 Community Involvement and Public Education Programs

Resources

Learners will be sensitized to a range of various resources (textbooks and websites) relating to the subject matter. The participant will be advised/directed to any supplementary resource material that would be relevant during the delivery of this course. A manual will also be provided.