



HSE175

Solid Waste Management

Course Introduction:

This course in Solid Waste Management (SWM) is to enlighten the state of the art in technology, organizational and legislative developments and practices of handling solid wastes world-wide. The financial burdens and benefits as well as solutions are discussed in detail.

The material presented will help participants to make informed decisions in their professional activities; it will assist them in defining and implementing integrated solutions to the challenges posed by solid wastes in urban environment. The course will support participants to establish a solid waste management (SWM) system that is capable of functioning not only in situations where sufficient resources are available but also under the more challenging conditions usually prevailing in (large) cities in low-income countries.

Course Objectives:

Upon successful completion of this course, the delegates will be able to:

- Quantify and characterize MSW in a country and to understand properties commonly associated with MSW
- Describe the tasks and logistics of MSW collection, to analyze collection systems, and to understand the principals and theory behind the use of transfer stations
- Describe the components of a landfill and processes which take place in a landfill
- Perform the basic design calculations associated with landfills
- Describe the most common waste processing techniques and their application areas
- Identify concepts of reduction, reuse and recycle
- Develop a strategy to deal with special wastes

Who Should Attend?

This course is intended for environmental and civil engineers, officers and managers of municipal solid waste departments, operators of solid waste facilities and those who are seeking to improve their knowledge or intending to go into solid waste business.

Course Outline:

Day 1:

Pre-Test

- Introduction to Solid Waste Management
- Solid Waste Characterization:

- Quantity
- Quality
- Generation of waste per capita and region; composition of waste; small scale industry waste in domestic waste; organic agricultural waste (some specific cases as examples); industrial waste

Day 2:

- Waste Collection & Transport Mixed collection or Separation at Source; Logistics; Transfer stations; Machine park planning; Sub-contractors
- Treatment Technologies Treatment based on type of waste; Anaerobic Digestion; Composting; Recycling of plastics, batteries, e-waste; Incineration

Day 3:

- Financial, Social and Institutional aspects
- Costs of collection, separation, management; Equipment costs; Policy; Legislative aspects; Local Regulations; Law Enforcement; Global Organizations involved in SWM; Gender Issues; Health and SWM

Day 4:

- Land filling
- Present and Desired Composition; Planning (Site selection and EIA); Design; Biology; Leachate production and collection; Covering; Redesigning an existing dump site; Operational and maintenance aspects; Capacity Building of operators; methane production; Safety issues & public health; Post-closure phase

Day 5:

- Cleaner Productions: Reduce, Reuse, Recycle
- Hazardous, Health care and other Special Waste

Post Test

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Fees:

To be advised as per the course location. This rate includes participant's manual, Hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session