

# € TRAINING

Advanced Environmental Monitoring and  
Modelling



3 - 14 November 2024  
Cairo (Egypt)



# Advanced Environmental Monitoring and Modelling

REF: S1609 DATE: 3 - 14 November 2024 Venue: Cairo (Egypt) - Fee: 6965 Euro

## Introduction:

This training program offers specialized instruction in advanced techniques and methodologies for monitoring and modeling environmental parameters. Through it, participants are equipped to tackle complex environmental challenges, make informed decisions, and develop effective mitigation strategies in various contexts.

## Program Objectives:

At the end of this program, participants will be able to:

- Understand the various types of environmental aspects and their corresponding impacts.
- Comprehend the requirements outlined in the newly revised ISO 14001:2018 standard.
- Identify different types of waste streams and explore opportunities to reduce waste-related costs.
- Gain a thorough understanding of environmental management system EMS definitions, concepts, and guidelines, including those specified in ISO 14001:2018.
- Grasp the implementation phases of an Environmental Management System EMS, acquire best-practice methodologies, evaluate useful tools, and integrate the EMS with other environmental programs effectively.
- Apply environmental management principles to foster continuous improvement within the Environmental Management System EMS.

## Targeted Audience:

- Production and Process Engineers.
- Maintenance Engineers.
- Personnel involved in the managing and purchasing of hazardous substances.
- Managers, Supervisors, and Consultants who will be part of an Environmental Management Systems Implementation Team.
- Personnel involved in the implementation, maintenance or supervising of an ISO 14001.

## Program Outlines:

### Unit 1:

#### Introduction to Environmental Management:

- Benefits of Good Environmental Management.
- Key Environmental Management System EMS Elements.
- Document Framework for an Environmental Management System.
- Environmental Management System as a Process Plan / Do / Check / Act.
- ISO 14001:2018 Environmental Management System Benefits.
- ISO 14001:2018 Requirements.
- Understanding Organisation's Activities and Interested Parties.

## Unit 2:

### Environmental modeling - applications:

- Air quality modeling: the box model, the Gaussian plume model point sources, line sources, area sources; special topics; Gaussian puff model.
- Water quality modeling: surface water quality modeling.
- Climate change modeling Habitat models/ Ecosystem modeling.

## Unit 3:

### Environmental Management Systems / Leadership and Planning:

- Initial Environmental Review IER.
- Developing and Communicating an Environmental Policy.
- Assigning Organisational Roles, Responsibilities, and Authorities.
- Determining the Organisation's Compliance Obligations.
- Selecting Risk Control Measures for Managing Significant Impacts.
- Setting Environmental Objectives and Programs to Achieve Them.

## Unit 4:

### Environmental Aspects & Impacts:

- Identifying and Analysing Environmental Aspects and Impact Risks.
- Understanding Environmental Impacts.

- Understanding Global, Regional and Local Environmental Issues.
- How to Determine Significant Environmental Aspects.
- Analysis of Impacts, Carrying out an EIA.
- Identifying Applicable Regulatory and Standards Requirements.

## Unit 5:

### Support and Operations:

- Awareness.
- Communication.
- Documented Information.
- Operational Control.
- Contractor & Supplier Controls.
- Emergency Preparedness and Response.

## Unit 6:

### Performance Evaluation:

- Carrying Out an Environmental Audit .
- EMS Performance Monitoring, Measurement, Analysis, and Evaluation.
- Checking and Evaluation of Compliance Obligations.
- Management Review Process.
- Summary of Course Key Points and Assessment.

## Unit 7:

### Environmental Management Systems:

- Environmental Policy.
- Concepts of the Environmental Standard ISO 14001:2004.
- Initial Environmental Review IER.
- What are Environmental Aspects and Impacts?

- Environmental Disasters.
- Producing an EMS Document Framework.

## Unit 8:

### Environmental Aspects & Impacts:

- Understanding Environmental Impacts.
- Understanding Global, Regional and Local Environmental Issues.
- How to Determine Significant Environmental Aspects?
- Identifying Applicable Regulatory and Standards Requirements.
- Preparing an Environmental Impact Assessment Checklist.

## Unit 9:

### Environmental Impact Assessment EIA:

- Elements of the EIA Process.
- Carrying out an EIA.
- Analysis of Impacts.
- Environmental Disaster.
- List the Steps of an EIA Process.

## Unit 10:

### Internal Environmental Auditing:

- Carrying Out an Environmental Audit.
- Management Review Process.
- Checking and Evaluation of Compliance Obligations.
- EMS Performance Monitoring, Measurement, Analysis and Evaluation.