

€ TRAINING

Environmental Monitoring and Modelling -
Environmental Management Systems



Environmental Monitoring and Modelling - Environmental Management Systems

Introduction:

This course is designed for professionals in the environmental field who want to gain a comprehensive understanding of the tools and techniques used in environmental monitoring, modeling, and the implementation of environmental management systems EMS. Participants will learn about the latest methods and technologies for monitoring and assessing environmental conditions, as well as the principles and best practices of an effective EMS. By the end of the course, participants will have the skills and knowledge to effectively manage environmental risks and impacts and ensure compliance with relevant regulations and standards.

Course Objectives:

At the end of this course, the participants will learn about:

- Understand the principles and practices of environmental monitoring and modelling
- Learn how to collect, analyze, and interpret environmental data
- Understand the components and requirements of an EMS and how to implement one
- Learn how to use an EMS to identify and manage environmental impacts
- Understand how to measure and report on the performance of an EMS

Targeted Audience:

- Environmental professionals, including engineers, scientists, and managers, who want to improve their understanding of environmental monitoring, modelling, and environmental management systems.

Outlines:

Unit 1: Introduction to Environmental Monitoring

- Overview of environmental monitoring
- Types of environmental monitoring
- Importance of environmental monitoring
- Environmental monitoring equipment
- Environmental data collection, analysis, and interpretation

Unit 2: Environmental Modelling Techniques and Applications

- Overview of different types of environmental models, such as mathematical, conceptual and statistical models
- Understanding the physics and chemistry behind different environmental processes and how they are modeled
- Hands-on experience in using popular environmental modeling software e.g. GIS, R, MATLAB
- Case studies of environmental modeling applications in water resources, air quality, climate change, and waste management

- Best practices in model selection, calibration and validation, and uncertainty analysis in environmental modeling.

Unit 3: Introduction to Environmental Management Systems

- Overview of environmental management systems EMS
- International standards for environmental management systems ISO 14001
- Components of an EMS
- Implementing and maintaining an EMS
- Best practices in environmental management

Unit 4: Environmental Impact Assessment and Auditing

- Environmental Impact Assessment EIA
- Environmental auditing
- Auditing process and standards
- Environmental performance indicators
- Environmental reporting and communication

Unit 5: Final Review and Assessment

- Review of key concepts and course wrap-up
- Q&A session
- Group discussion