



Laboratory Analysis of the Chemical and Physical Properties of Water

Course Introduction:

This course is designed to provide participants with a comprehensive overview of the methodologies, standards, and significance of analyzing water properties in laboratory settings. As water quality continues to be a critical concern worldwide, mastering these analytical techniques is crucial for professionals involved in environmental science, public health, and resource management.

Throughout the course, participants will explore key topics such as the fundamental properties of water, common analytical methods used for water testing, and the interpretation of results in the context of regulatory compliance and environmental impact. By examining case studies and industry standards, attendees will learn how to effectively assess the quality of water and make informed decisions based on analytical data. This course aims to equip professionals with the knowledge and skills necessary to conduct thorough analyses of water properties and contribute to sustainable water management practices.

Course Objectives:

By the end of the program, participants will be able to:

- Understand the fundamental chemical and physical properties of water.
- Explore various analytical methods for assessing water quality.
- Learn about regulatory standards and guidelines related to water analysis.
- Analyze the significance of water quality data in environmental and public health contexts.
- Gain insights into best practices for effective water sampling and analysis.

Who Should Attend?

This course is intended for Environmental scientists and researchers, Water quality analysts and laboratory technicians, Public health professionals and Regulatory compliance officers.

Course Outline:

Day 1: Introduction to Water Properties

- Overview of the importance of water analysis in environmental science
- Fundamental chemical properties of water: pH, conductivity, hardness, etc.
- Physical properties of water: temperature, turbidity, and color

Day 2: Analytical Methods for Water Testing

- Common analytical techniques: titration, spectrophotometry, chromatography
- Sample preparation and preservation methods for water analysis
- Overview of automated and manual water testing methods

Day 3: Regulatory Standards and Guidelines

- Introduction to regulatory frameworks governing water quality (EPA, WHO, etc.)
- Understanding permissible limits and standards for various contaminants
- Role of water quality monitoring in regulatory compliance

Day 4: Data Interpretation and Environmental Impact

- Techniques for interpreting and reporting water quality data
- Understanding the implications of water quality results for human health and the environment
- Case studies of water quality assessments and their outcomes

Day 5: Best Practices in Water Sampling and Analysis

- Developing effective sampling strategies for accurate water quality assessment
- Best practices for laboratory analysis and data management
- Future trends and advancements in water analysis technologies

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

Course Fees:

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

Course Certificate:

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

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