

Monitoring Water Operating Conditions

Course Description:

The course intends to prepare a student in acquiring skills on the art of water monitoring and quantitative analysis of critical water quality parameters. It also brings in those aspects of chemistry which are important for water quality management and pollution control.

Course Objectives:

To build understanding of water quality parameters, procedures for quantitative analysis, and their relation to public health and environment.

Learning Outcomes:

- Understand meaning of important parameters for measuring water quality.
- Water quality criteria and standards, and their relation to public health, environment and urban water cycle.
- Learn how to run accurate water quality tests and to determine how the parameters relate to each other.
- Plan water quality surveillance for a given aquatic environment and to understand what a test result means in terms of the health of the ecosystem.

Course Outline:

Day (1) Module 1 – Introduction:

- Sampling techniques
- Basic concept of quantitative techniques
- Instrument methods of analysis
- Standard solutions
- Water quality standards for different applications
- Monitoring devices

Module 2 - Acidity and Alkalinity:

- Sources and nature
- Environmental significance
- Methods of measurement
- Application of data
- Monitoring devices

Day (2) Module 3 – Hardness:

- General considerations
- Causes and source, environmental significance
- Methods of determination
- Application of data in environmental science
- Monitoring devices

Module 4 – Chlorides:

- General considerations
- Causes and source, environmental significance
- Methods of determination
- Application of data in environmental science
- Monitoring devices

Day (3) Module 5 – Residual chlorine and chlorine demand:

- Chemistry of chlorination
- Methods of measurement
- Monitoring devices

Module 6 - Dissolved Oxygen DO:

- General considerations
- Environmental significance of dissolved oxygen
- Collection of samples for determination of dissolved oxygen
- Methods of determination.
- Monitoring devices

Day (4) Module 7 – Biological chemical demand BOD:

- General consideration
- Nature of BOD reaction
- Method of measurement
- Application of data
- Monitoring devices

Module 8 – Chemical oxygen demand COD:

- General consideration
- Methods of measurement
- Application of data in environmental science
- Monitoring devices

Day (5) Module 9 – Sulphates:

- General considerations
- Causes and source, environmental
- Significance, methods of determination

EXPERT

EXPERT & PROFESSIONAL EXCELLENCE FOR TRAINING & CONSULTATIONS

- Application of data in environmental science
- Monitoring devices

Module 10 - Iron and Manganese:

- General considerations
- Causes and source
- Environmental significance, methods of determination
- Application of data in environmental science
- Monitoring devices
- Case study
- Quiz

Location	Fairmont Nile City Hotel
Start Date	08 Dec 2024
End Date	12 Dec 2024
Fees Before Discount	3500 \$
Special Discount	20% (To Nominate Four Participants)
Fees After Discount	2800 \$