



In-house Training Course on  
**Selection, Design, Construction and Operation & Maintenance  
of Water Treatment Plants**

**November 8-9, 2021**

**Coordinators**

***Prof. Anurag Garg***

***Prof. V. S. Vamsi Botlaguduru***

***Prof. Tabish Nawaz***

Environmental Science and Engineering Department

Indian Institute of Technology Bombay

Powai, Mumbai – 400 076

<http://www.esed.iitb.ac.in/>

## **INTRODUCTION**

Water is a precious natural resource essential for human survival and progress. The availability of good quality water has always been an issue. However, this problem has been aggravated due to excessive extraction of water for domestic, industrial and agricultural activities. The indiscriminate extraction of water coupled with the discharge of untreated effluents result in the reduction of the waste assimilative capacity of the surface and sub-surface water resources. The organic and inorganic contaminants released from the partially/untreated waste streams leads to the degradation of the quality of aquatic systems. Some of these pollutants are persistent in nature and remain in the water bodies for a long time. Even the presence of a small concentration of such pollutants makes the water unfit for domestic and other purposes. Hence, significant scientific and engineering efforts are needed to improve the quality of India's water resources. This training program focuses on the *Selection, Design, Construction and Operation & Maintenance of Water Treatment Plants*, which can produce water of desirable quality. The training program aims to train the professionals involved in the design, operation and maintenance of Water Treatment Plants. The relevant case studies will also be discussed to provide exposure to the emerging trends in the area.

## **BROAD OBJECTIVES**

- To understand the major water quality parameters and software available for modeling of a water treatment plant
- To identify the suitable treatment strategies based on the source of water
- To familiarize the design considerations of a water treatment plant
- To explain the advanced treatment methods used in water treatment plants for the removal of specific pollutants
- To discuss decentralized systems for removal of arsenic and fluoride from groundwater
- To introduce different software available for modelling water treatment plant operation
- To discuss the construction, operation and maintenance issues pertaining to the water treatment plants

## **COURSE CONTENT**

- Selection of water treatment systems – Flow sheets based on water sources and quality
- Overview of the design of water treatment systems – Conventional unit operations
- Advanced water treatment processes for specific pollutants
- Decentralized systems for removal of arsenic and fluoride
- Introduction to Software for water treatment plants
- Operation & Maintenance in water treatment plants

## **TARGET AUDIENCE**

The training course is specially designed for middle level professionals working in water sector in various government agencies.

## **RESOURCE PERSONS**

The faculty constitutes experts from the Environmental Science and Engineering Department (ESED), IIT Bombay. An external expert may also be invited.

## **MODE OF DELIVERY**

The program will be conducted in online mode. The details of the web-platform will be shared in advance.

## **COURSE MATERIALS**

To fulfill the program objectives, the presentation slides and relevant references will be made available to the participants.

## **DATES & TIME OF THE COURSE**

November 8, 2021 – 9:45 am – 1 pm

November 9, 2021 – 10 am – 1 pm

*Completed Registration form (provided in the end) should be sent to Course coordinators:*

Prof. Anurag Garg

ESED, IIT Bombay

Powai, Mumbai

Ph. No.: 022-25767861

e-mail: [a.garg@iitb.ac.in](mailto:a.garg@iitb.ac.in)

Prof. V. S. Vamsi Botlaguduru

ESED, IIT Bombay

Powai, Mumbai

Ph. No.: 022-25769855

e-mail: [vamsi.vbs@iitb.ac.in](mailto:vamsi.vbs@iitb.ac.in)

Prof. Tabish Nawaz

ESED, IIT Bombay

Powai, Mumbai

Ph. No.: 022-25765854

e-mail: [tnawaz@iitb.ac.in](mailto:tnawaz@iitb.ac.in)

**Registration form**  
**In-house Training Course on**  
**“Selection, Design, Construction and Operation & Maintenance of**  
**Water Treatment Plants”**

*November 8-9, 2021*

Name (BLOCK LETTERS):	
Gender (M/F):	
Designation:	
Organization:	
Qualification:	
Experience (years):	
Mailing Address:	
Telephone:	(Office): (Mobile):
e-mail:	
Signature:	
Date:	