



# **HYDROAID**

## **Water for Development Management Institute**

### **DISTANCE LEARNING PROGRAM**

#### **Technical Course on**

## **WASTEWATER TREATMENT**

**2024**

### **Call for applications**

*This edition of the distance learning course on “Wastewater Treatment” is implemented by Hydroaid in collaboration with Politecnico di Torino, a leading Italian university in the field of environmental resources.*

*It is carried out in the framework of SO-WOP initiative between Italy and India (WOPs are Water Operators exchange and knowledge sharing projects promoted by UN Habitat).*



## BACKGROUND

Established in Turin in 2001 as an initiative of the Italian Ministry of Foreign Affairs and Public, Financial and Academic Authorities of the Piedmont Region, Hydroaid – Water for Development Management Institute – is a non-profit Association entitled to operate both in Italy and abroad dedicated to pursuing objectives of solidarity, protection and improved governance of water resources through training and capacity development activities.

The mission of Hydroaid is to transfer technical knowledge on sustainable water resources management to managers and technicians from developing and emerging countries by providing them with a free school that operates also as a network connecting professionals in the fields of water and sanitation from all over the world. To say it with the words of a course participant, Hydroaid is “like a large office spread across the world that can activate at any time”.

In its years of activity, Hydroaid has grown a network of over 2800 former participants – specialized operators, prominent engineers and trained technicians working in more than 90 countries affected by water criticalities. Thanks to its composition, Hydroaid operates as a platform of action with a highly integrated profile and varied approaches for the different levels of governance: urban, regional, national and international. Among the Associated Partners of Hydroaid are the Metropolitan City of Turin, the Municipality of Turin, Piedmont Region, SMAT (Turin Water Utility), ATO3 (the Turin Water Authority), Hydrodata (a company providing research, engineering and economic consulting services) and Politecnico di Torino (the technical and engineering University of Turin).

A number of specialized academic, administrative and technical institutions collaborate to the training activities promoted by Hydroaid.

To date, the portfolio of Hydroaid includes 4 editions of the Master on Integrated Sanitation Management in Brasilia and several editions of the Training Program on Planning and Management of Water Resources in Turin, as well as a Distance Learning Program with modules on Waste Recycling, Planning for Sustainability, Wastewater Treatment, Management of Urban Solid Waste, Urban Water Supply Systems, Economic Regulation of Water Services, Climate Change, Local Governance and Water Governance.

Hydroaid strives to improve the quality and efficiency of the water and sanitation services and to bring a concrete contribution to the promotion of sustainable development processes, in the framework of UN Agenda for Sustainable Development 2030. This edition of the distance learning course on “Wastewater Treatment” is implemented in collaboration with **Politecnico di Torino**, a leading Italian technical university.

This edition of the Wastewater Treatment e-learning course is carried out in the framework of **SO-WOP project**, an UN-Habitat - European Union 3 years (2022-2025) initiative of exchange and knowledge sharing between the Water&Sanitation Operators of Turin (Italy) SMAT and of the State of Odisha (India) OWSSB, with the participation of WaterLinks (Philippines), Politecnico di Torino and Hydroaid (Italy).

## DESCRIPTION OF THE COURSE

### Beneficiaries

This is a distance learning program accessible through the web platform Moodle and it is addressed to managers, mid-level decision makers, professionals and technicians interested and operating in the field of wastewater treatment from developing and emerging countries.



The course is open to a **limited number of 80 participants**.

The goal of the course is to transfer practical and technical knowledge for the design and management of wastewater treatment plants. With this course Hydroaid wishes to offer to the participants updated know-how in order to improve the management of their resources and to contribute to raise the quality of their services, with special attention to wastewater treatment.

### Fee

The participation to the module is **free of charge** and it is meant as a tool for providing a concrete support in pursuing sustainable development processes.

### Schedule

**The course will take place from May 6<sup>th</sup> to July 11<sup>th</sup>, 2024 (9 weeks)**. Hereafter is an indicative schedule, to be confirmed at the end of selection process. Prior to the start of the didactic activities, admitted participants will also receive a detailed calendar with indication of all deadlines for the submission of their works.

Activity	Date
Submission of applications	12 <sup>th</sup> April – 1 <sup>st</sup> May 2024
Selection process	2 <sup>th</sup> May 2024
Communications to admitted candidates	3 <sup>th</sup> May 2024
Familiarization week	6 – 10 <sup>th</sup> May 2024
Online meeting (introduction to the course)	8 <sup>th</sup> May 2024
Didactic Module (8 weeks)	13 <sup>th</sup> May – 1 <sup>st</sup> July 2024
Conclusion of didactic activities	11 <sup>th</sup> July 2024
Delivery of Certificates to qualified participants	22 <sup>nd</sup> – 26 <sup>th</sup> July 2024

### Language

**All didactic material will be available only in English.** Technical communications and assistance will be held in English too. **For this reason a good knowledge of English language is a compulsory requirement for the attendance of the program.**

### Activities

In addition to the didactic material, the course features a number of activities for evaluating the understanding of the contents and the attendance of the participants. These include:

- **Online streaming** presentation meetings: some meetings will be held to present the contents of the different units of the course and to answer to specific questions by participants: the specific calendar of these meetings will be communicated to the participants;
- **Exercises:** multiple choice quizzes and/or written assignments;
- **Forums:** forum discussions are designed as an extension of the learning program to produce a useful and interactive environment for debating the topics of the course, exchanging information and sharing experiences. An assistance forum and technical guides are also available on the platform to facilitate the use of all the functions.

### Tutoring

**Tutors** will be available on the web platform to monitor the activities, support the participants in the learning process and provide technical assistance. The web platform can also be used for communications with fellow participants and the teachers.

In this course two level of tutoring will be activated:



- **I level tutors** will help participants with technical and organization issues
- **II level tutors**, as experts of content, will be available for answering content questions

## **COURSE CONTENTS**

This course will provide methods and technical elements for the strengthening of technical, scientific and management skills related to integrated water services, treatment and reuse of water, with particular reference to urban areas, as well as an introduction to methods for the management and start-up of wastewater plants.

The aim is providing technical and practical tools for design, sizing, management and maintenance of plants used for wastewater treatment and water reuse in industrial, agricultural and domestic purposes.

### **Units**

The contents are divided into **Units**, each focused on a specific topic and containing the following elements:

- **Lecture material:** compulsory readings on the main Unit topic
- **Further reading:** optional materials on additional issues connected to the Unit topic
- **Exercise:** a quiz or assignment testing the understanding of the Unit contents

A list of references, including useful links and sources, is provided at the end of each unit for further assistance.

The following Units compose this module:

- **Unit 1:** *Features of the municipal wastewater*
- **Unit 2:** *Wastewater treatment plants: physical operations*
- **Unit 3:** *Biological treatment*
- **Unit 4:** *Treatment methods for developing countries*
- **Unit 5:** *The management of wastewater treatment plants*
- **Unit 6:** *Sludge formation and management in treatment plants*
- **Unit 7:** *Reuse of treated wastewater, water saving*
- **Unit 8:** *Compatibility criteria and planning of treatment plants*

### **Calendar**

Units will become available according to a calendar announced at the beginning of the course in order to allow enough time for studying the material and participating in all the required activities (thematic forums, quizzes, etc.).

### **Copyright**

All the resources mentioned can be downloaded from the web platform and used in compliance with the **copyright conditions** explained in the application form.

## **MINIMUM INFORMATIC REQUIREMENTS**

Before applying, please make sure that the computer you will use to attend this e-learning course matches the following minimum informatics requirements. This is a mandatory condition for the attendance of the course.



### Internet connection

An Internet connection of at least 56kbps is necessary for accessing the learning platform.

### Hardware requirements

*Operating system:* compatibility is ensured with all the main operating systems, including Windows, Linux and Macintosh.

*Browser:* compatibility is ensured with: Microsoft Edge, Mozilla Firefox, and Google Chrome.

*Video resolution:* 1024x768 (or superior)

### Software Requirements

For the correct display of the contents of the course area, Adobe Acrobat must be installed. Adobe Acrobat can be downloaded for free at the link: <https://get.adobe.com/reader>

## HOW TO APPLY

Applications for this course will be considered until Wednesday **May 1st, 2024**.

To apply for this course please fill and send the **Application form**, using the online module ([CLICK HERE](#)). In addition, you must send the following mandatory documents to [tutor.sanitation@hydroaid.it](mailto:tutor.sanitation@hydroaid.it) :

1. **Copy of your ID card or passport**
2. **Copy of your highest education certificate**
3. **Updated Curriculum Vitae**

Only complete applications (application form + mandatory documents) will qualify for the selection process. A confirmation of acknowledgement of your application will follow. Applications sent by other means will not be considered. All candidates will be informed about the results of the selection.

**The final deadline for applying is Wednesday May 1<sup>st</sup>, 2024.**

## SELECTION CRITERIA

The applicants who cannot guarantee the minimum requirements of the course described above (computer access, Internet connection, good knowledge of English) will not be considered. The applicants who qualify for the selection and submit a complete application before the deadline will be evaluated on the basis of merit criteria.

Women's applications are welcome and will be taken into due consideration.

The selection committee will consider the following elements as preference criteria:

- at least first level degree in Environmental and Land Engineering, Water Resources Engineering, related and/or equivalent academic subjects
- relevant professional experiences
- current position in water services



## CERTIFICATE OF ATTENDANCE AND EVALUATION CRITERIA

A Certificate of Attendance, signed by the course teachers, will be issued at the end of the course for the participants who achieve a total score of **at least 60%**.

The final score is composed by the performance of each participant in the **4 components** of the course (*attendance, merit and participation*). Points are assigned to performances above the minimum requirements, as detailed in the table below:

Requirements	Requirements for maximum grade	
Course components	Performance (max)	Equivalent to
<b>Attendance</b> <i>Download/visualization of lecture material</i>	8/8 units	10%
<b>Merit</b> <i>Average final grade in all the exercises (quizzes/assignments)</i>	Grade 10/10	80%
<b>Participation</b> <i>Relevant forum posts in the thematic forums</i>	10 posts	10%
<b>Total score</b>	<b>100%</b>	

Certificates will be sent via e-mail and will contain a brief description of the course and the total amount of hours required for its attendance.

### NOTE

*We ask for a serious commitment when enrolling the course so that your participation does not exclude the one of another potential candidate. Please evaluate carefully your interest and your availability to attend the on line activities (time, requirements, etc).*

### CONTACTS

For further information, please contact:

Phone: + 39 011 01134600  
 Website: [www.hydroaid.org](http://www.hydroaid.org)  
 E-mail: [tutor.sanitation@hydroaid.it](mailto:tutor.sanitation@hydroaid.it)

Connect with our network to stay in touch with candidates, course participants, teachers and other professionals, and for more information.

