

Online short course **Water Quality Assessment**

Developed and implemented under the PoWER partnership with the following partners:

- UNESCO-IHE (The Netherlands)
- WaterNet, Zimbabwe/Eduardo Mondlane University, Mozambique

Objectives of the course

Over large parts of the world, rivers and lakes show increasing trends of water pollution. This holds especially for developing countries under economic expansion and increasing population sizes. Evaluation of the physical, chemical and biological water quality is essential for the abatement of freshwater pollution. For this, sound and sustainable water quality assessment programmes should be aimed at integrating the different steps in the monitoring cycle, from the information needs, monitoring network design, field and laboratory procedures up to data collection and processing. The resulting water quality data can then be evaluated together with the natural water quality, human effects and water quality usages. Optimization of the water quality monitoring programmes, amongst others with respect to cost, should ensure that these programmes are sound and sustainable, also in future.



After successful completion of the course, participants will be able to:

- Understand and apply concepts of water quality and pollution processes in rivers and lakes
- Understand and apply the different steps of the monitoring cycle in rivers and lakes
- Understand the basic concepts of groundwater quality and monitoring
- Apply common statistical techniques for water quality data evaluation
- Design sound and sustainable freshwater quality monitoring and assessment programmes under specified conditions.

Why take this online course?

- You can follow the course from your home or workplace, with ample opportunities for communication with trainers and other participants
- You will become part of an international network with participants from different regions, sectors and disciplinary backgrounds
- You will get access to up-to-date knowledge and expertise on water quality assessment that you can share with your fellow-participants and your colleagues.

Target group

The course is designed for professionals actively involved in water quality monitoring and management. They may be working e.g. for environmental agencies, consultants, as environmental or water management officers in local, regional or national governments, as staff of NGOs, or as junior university lecturers, and may not have the time to undertake a course that lasts several weeks abroad.

Course content and time schedule

online learning, 4 months, 8 hours per week (total study load 140 hours)

Currently, the Water Quality Assessment course is offered both in full distance learning mode, and as a regular short course in Delft (http://www.unesco-ihe.org/education/short_courses). Participants complete the course in a period of 4 months with a workload of 140 hours. A participant is expected to spend about 8 hours a week on average through reading, discussion and assignments. The course is sub-divided into 4 subjects and a written assignment. Within the course, each subject starts and ends on a specified day. Each subject takes 2-4 weeks. Within this period, the participant is free to study in his or her own time. Questions with regard to the subject can be posted on the discussion forum, eliciting responses from fellow participants. The teachers also regularly comment on the questions posted on this forum.

<i>Schedule of the online course on Water Quality Assessment</i>		
Subject	Key questions	Period
1. Introduction to this online course	Who are my lecturers and fellow participants? What is the purpose of this course? What can we do with it? How does the I-Learning Environment work?	Week 1-2
2. Water Quality	What are the main water quality and pollution characteristics in rivers and lakes; which main processes will affect these?	Week 3-5
3. Water Quality monitoring and assessment	How can we apply the different steps of the monitoring cycle in rivers and lakes? What are the main factors in groundwater pollution and monitoring?	Week 6-9
4. Data handling and presentation	How can we use statistical techniques in handling monitoring data? How can we present our monitoring results adequately?	Week 10-12
Individual paper; Conclusion	Design of a sustainable water quality monitoring programme for a specific region. Rounding off, evaluation and follow-up	Week 13-17

Each subject ends with a tutor assignment for which participants have to use their newly acquired knowledge and interact with the teacher and the other participants using the discussion platform of the I-learning Environment. The final mark for the course is based on tutor assignments, contribution to discussion assignments and the final paper. After completion, participants will receive a 'Certificate of attendance' issued by UNESCO-IHE.

Innovative learning

the best of traditional and distance-learning combined

- The course can be followed at any location, as long as participants have an Internet connection of reasonable speed (512 kilobits per second downstream internet connection or better)
- By means of the I-Learning Environment participants can download training materials and communicate with trainers and participants
- The course offers new learning methods; challenging lectures combined with group interaction and multi-point discussions
- The course focuses on life-long learning where professionals can combine these challenges with daily work and the possibility to directly apply acquired knowledge and skills.

Fee

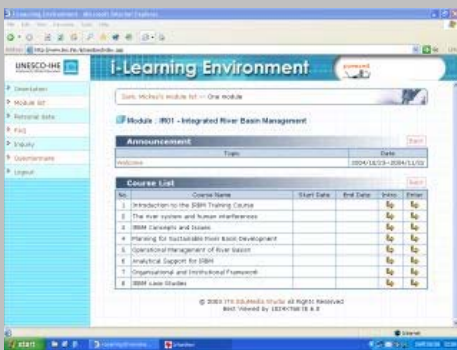
The online course fee is 550 Euro, which includes access to the I-Learning Environment and its training materials and training support. Group discounts are possible.

Entry requirements

Participants are expected to have an academic level of a bachelor's degree or equivalent in chemistry, biology, environmental science, natural resources management, sanitary engineering or a related discipline. Participants are expected to have sufficient English language skills.

More information and registration

For more information on the course, contact info@unesco-ihe.org or see UNESCO-IHE's website where you can also download registration forms and see information about the other online courses available (http://www.unesco-ihe.org/education/short_courses/online_courses).



See and feel the I-Learning Environment at www.lms.ihe.nl (login: irbmdemo; password: 2005)