

## Online short course **Cleaner Production and the Water Cycle**

*“If we don’t manage to clean up our economies, the ongoing destruction of our environment will lead to the self-destruction of those economies”.*

However tough this may sound, a large number of signs in support of this statement can be seen in the form of such climate change phenomena as the rising sea level, the ozone hole, high levels of toxins in animals, etc. In order to reduce further environmental destruction, a rapid and sizeable reduction in environmental impacts from our economic activities is needed to ensure the future support of the environment to the functioning of our economies.



### **Goal and objectives of the course on Cleaner Production and the Water Cycle**

The goal is to introduce the student to modern thinking and practice of dealing with resources in general and water in particular in a more sustainable manner. The objectives are to:

- be familiar with the advantages and disadvantages of preventive environmental management,
- grasp the concepts of Life Cycle Analysis and its application in water management.
- be familiar with Environmental Management Systems and how these can be applied in industry.
- know the significance of eco-designing in the context of industrial and domestic water management.
- know the most common types of industrial water use, the required water quality, the common types of pollutants from industrial processes, and common methods of pollutant reduction at the source, in the process and after the process.

#### **Why take this online course?**

- because it exposes you to the concept and a package of tools to help introducing a cleaner approach to domestic and industrial activities
- because it helps you to become familiar with the most important sources of information for present and future reference
- because it allows you to study this important topic at your own time and location without the frequent need for environmentally damaging transport to locations of training
- because it brings you to know the environmental situation in your own area and to think of this in terms of remediation
- because it allows you to study this topic in an international context through fellow students and international experts and experience.

### **Target group**

This course on Cleaner Production and the Water Cycle is directed at engineers and scientists working in the urban or industrial water field and wanting to have a better grasp at the efficient dealing with water. As such the module is of interest to engineers and scientists in the fields of urban, municipal and industrial sanitation, water-related chemistry, biologists, water resources, process design and implementation, etc.

## Time schedule and work load and materials

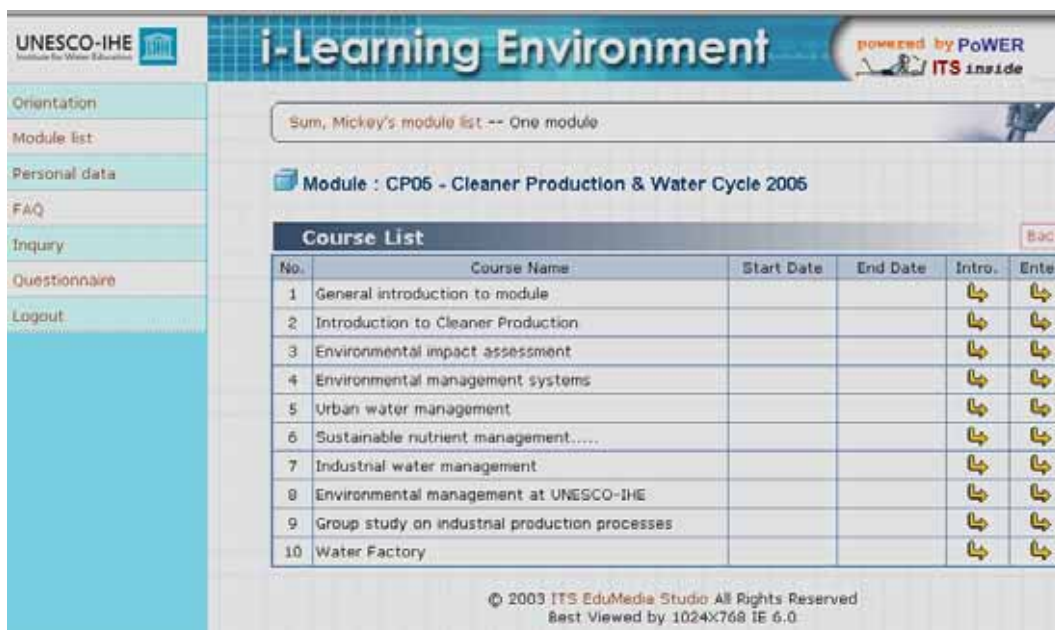
This online course formally starts on September 1, 2005, and is to be completed in 4 months at 8 study hours per week. The total study load is 140 credit points. The web-based I-Learning Environment is used for downloading training material and communication. In case of internet difficulties, materials can be obtained on DVD. Communication with fellow-students and course moderators can be posted on the 'Ask-the-trainer' page or on the discussion forum eliciting responses from fellow participants.

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

- Universidad Blas Pascal - Argentina
- UNESCO-IHE - The Netherlands

## Course contents

The course is sub-divided into various subjects and assignments.



The screenshot shows the 'i-Learning Environment' interface. On the left is a navigation menu with options: Orientation, Module list, Personal data, FAQ, Inquiry, Questionnaire, and Logout. The main content area displays 'Sum, Mickey's module list -- One module' and 'Module : CP05 - Cleaner Production & Water Cycle 2005'. Below this is a 'Course List' table with columns for No., Course Name, Start Date, End Date, Intro., and Enter. The table contains 10 rows of course details. At the bottom, there is a copyright notice: '© 2003 ITS EduMedia Studio All Rights Reserved Best Viewed by 1024x768 IE 6.0'.

No.	Course Name	Start Date	End Date	Intro.	Enter
1	General introduction to module			👉	👉
2	Introduction to Cleaner Production			👉	👉
3	Environmental impact assessment			👉	👉
4	Environmental management systems			👉	👉
5	Urban water management			👉	👉
6	Sustainable nutrient management.....			👉	👉
7	Industrial water management			👉	👉
8	Environmental management at UNESCO-IHE			👉	👉
9	Group study on industrial production processes			👉	👉
10	Water Factory			👉	👉

For each subject a set of self-study questions is available challenging the student to fully grasp the topic through tasks, questions and little assignments. Depending on the number of students simultaneously in the course at approximately the same point, an interactive group assignment may be organized. Otherwise the individual assignment will be used. All course materials are present in text format (Word), presentation format (PowerPoint) and in video format (Avi) showing the lecturer discussing the topic on the basis of his presentation. A self-guided instruction helps the student to find his or her way through the materials. The course will be evaluated based on the results from the assignments. After completion, participants will receive a certificate jointly issued by the University of Blas Pascal and UNESCO-IHE.

## Fee

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

## Entry requirements

Participants should

- have adequate English language proficiency (TOEFL > 550),
- dispose of a P-IV computer (or better) with 512 kbps download internet connection or better,
- a B.Sc. degree in engineering or science with feeling for water-related issues.

## More information and registration

For information and registration pls. visit our website (<http://www.unesco-ihe.org/education/illearning.htm>). For specific questions pls. mail with [info@unesco-ihe.org](mailto:info@unesco-ihe.org)