

Savitribai Phule Pune University

Ad-hoc Board of Studies in Sustainable Development

Certificate Course in Integrated Water Utilisation

Eligibility : 12th and above in any stream.

Objectives : (1) To learn about the water usage and long term Presentation.
(2) To understand techniques of water purification and cycling.
(3) To learn planning process for demand and supply management.

Duration of the Course : 15 hours

Students Intake : 30 students

Course Fees : Rs. 4,000/-

Admission process : If the course is run for employees of an institute all the persons as selected by the institute authorities can appear. If the course is run by teaching institute for students. The admission will be first come first serve basis following UoP norms.

Course Structure : The course is equivalent of one credit. The course can run full time or part time.

Syllabus :

Unit 1: The Big Concept (L2)

The Water Cycle, Nutrient Cycle, Integrated approach in water management and linking up water, sanitation and agriculture. Water and health. (L2)

Unit 2: Understand your System

Group work: 2

Assessment of local water and nutrient cycle. Outlining of Your area, the sources of water, How is water purified? How is water distributed?, How is water used?, How is wastewater collected? How is wastewater treated? How is wastewater reused? What sources of fertiliser are used?

Unit 2: Integrated Water Management

(L2)

Definition of IWRM, IWRM Principles, How to Implement IWRM, Legislative and Organizational Framework, Types and Forms of Private Sector Involvement.

Unit 3: Implementation Tools for Water Resource management

(L4)

Water harvesting techniques, Software and hardware solutions to optimise local water management and wastewater management and make it more sustainable? Techniques to reuse and recycle water

Unit 4: Planning and Process tools for Sustainable Water Management Projects

(L3)

Group Work: 2

Step-by-step participatory programming and planning frameworks for the sustainable water management projects for long term sustainability, programming and planning

frameworks, exploring, demand creation, decision making, Implementation and ensuring sustainability

L-Lectures

Methodology : Lectures supplemented with demonstration or case study related visits.

Assessment : Final assessment by oral (50 marks) and group discussion performance (50 marks), worth 100 marks. It will be converted to grades as per UoP Norms.

Certification : All the students passing the examination will be given certificate with grade. Those failing will be given certificate of attendance.

Reference Book list:

- 1) GWP (Editor) (2000): Integrated Water Resources Management (IWRM). Stockholm: Global Water Partnership.
- 2) INFORESOURCES FOCUS (Editor) (2003): Integrated Water Resources Management. Inforesources Focus
- 3) CORCORAN, E. (Editor); NELLEMAN, C. (Editor); BAKER, E. (Editor); BOS, R. (Editor); OSBORN, D. (Editor); SAVELLI, H. (Editor) (2010): Sick Water? The central role of wastewater management in sustainable development. A Rapid Response Assessment. United Nations Environment Programme (UNEP), UN-HABITAT, GRID-Arendal.
- 4) CHASE,V(2012),Integrated water Resource Management planning approach for small island developing states, United Nations Environment Programme (UNEP), Kenya

- 5) THOMAS,V(2003), Principles of water resources: history, development, management and policy. John Wiley and Sons Inc., New York.
- 6) MOLLINGA .P. etal(2006), Integrated Water Resources Management, Water in South Asia Volume I, Sage Publications, 2006
- 7) RIETBERGEN-McCRACKEN, J.; NARAYAN, D. ; WORLD BANK (Editor) (1998): Participation and Social Assessment: Tools and Techniques. Washington: World Bank
- 8) UNESCO (Editor); WMO (Editor) (1997): Water Resources Assessment. Handbook for Review of National Capabilities. Geneva and Paris: World Meteorological Organisation (WMO) and United Nations Educational Scientific Cultural Organisation (UNESCO).
- 9) GDRC (Editor) (n.y.): Rainwater Harvesting and Utilisation: An Environmentally Sound Approach for Sustainable Urban Water Management: An Introductory Guide for Decision-Makers. Kobe: Global Development Research Centre (GDRC).
- 10) SCHAAP, W.; STEENBERGEN, F. van (2001): Ideas for Water Awareness Campaigns. Stockholm: The Global Water Partnership.
- 11) WHO (Editor) (2006): Guidelines for the safe use of wastewater excreta and greywater. Volume I. Policy and Regulatory Aspects. Geneva: World Health Organisation.
- 12) WHO (Editor) (2011): Guidelines for Drinking-water Quality, Fourth Edition. Geneva: World Health Organization (WHO)
- 13) GWP (Editor) (2008): GWP Toolbox. Integrated Water Resources Management.

Important Web links:

- 1) www.sswm.info[Accessed: 10.05.2010]

The free online SSWM Toolbox is a new educational software application that can answer (almost) all questions on the topic of sustainable water and wastewater management.

- 2) <http://www.gwpforum.org> [Accessed: 10.05.2010]

The Global Water Partnership's vision is for a water secure world. Its mission is to support the sustainable development and management of water resources at all levels. The website contains numerous publications on sustainable water management, and, amongst others, also the "IWRM Toolbox".