

Course Name	Code\No.	Number of Credits			
		Theo.	Lab.	Train.	Credit
Integrated Water Resources Management	HWR 462	3	-	-	3
Pre-Requests	HWR 221 – HWR 231				

Course Objectives:

This course is an introduction to the concepts and practice of Integrated Water Resource Management. Integrated Water Resources Management (IWRM) is the leading conceptual framework for managing water worldwide. IWRM integrates policies and management activities to ensure sustainable supplies of freshwater. The core principles emphasize the finite nature of freshwater resources, equitable participation of stakeholders in water planning, consideration of gender roles in water management, and recognition of the economic value of water

Course Contents:

1. The problem of water and the need for integrated management.
2. Integrated management concepts: definitions – principles.
3. Integrated management of water resources: history and development.
4. Integration and its dimensions? What needs to be integrated?
5. Capacity-building for integrated water resources management.
6. Knowledge base in iwrn.
7. The approach of governance in integrated water resources management.
8. Community base participation and gender approach.
9. Trans-boundary water and conflict resolution.
10. Planning and management cycle for water resources management.
11. Implementation of integrated water management: the main pillars for the implementation of integrated management.
12. Practical examples of the integrated management of water resources.
13. Application of integrated management of water resources in dry areas.

Course outcomes:

Student is expected to become familiar with the following knowledge and skills.

- Definitions of the integrated management of water resources.
- The principles of integrated water resources management.
- How to implement the integrated management of water resources.
- The economic value of water and its role in the integrated management of water.
- Knowledge base and capacity development for those involved in the integrated management of water.
- Regulatory framework for the integrated management.
- Equal participation of stakeholders in the planning and management of water resources and grades, and how.
- Concept of planning and management cycle.
- How to integrate and manage water in the Dry Areas.

Evaluation Method:

The evaluation will accomplish through periodic and final examinations in addition to Quizzes, homework and discussion.

References:

- Dietrich Borchardt • Janos J. Bogardi Ralf B. Ibsch (2016) Integrated Water Resources Management: Concept, Research and Implementation, Springer International Publishing Switzerland 2016
- **Griqq, N.S.** (1996). Water resources management: principles, regulation and cases. McGraw-Hill.
- **Jain, S.K. and Singh, V.P.** (2003) Water resources systems planning management, Elsevier Science.
- **Loucks, D.P. , Stedinger, J.R. and Haith, D.A.** (1981) Water resources systems planning and analysis. Prentice. Hill, Inc.
- **Loucks, D.P., Steiner, J.R. and Hath, D.A.** (1981) Water resources system planning and management, Prentice – Hall, Inc.
- **Mays, L.W.** (2005) Water resources engineering. John Wiley & Sons Inc.
- **Merret, S.** (1997) Introduction to the economics of water resources ,UCL Press.