

Course Name	Code\No.	Number of Credits			
		Theo.	Lab.	Train.	Credit
Design of Urban Water Network	HWR 355	2	2	-	3
Pre-Requests	HWR 351				

Course Objectives:

The overall goal of this course is to introduce students to the fundamentals of urban water of software tools to analyze water networks

Course Contents:

1. Software: Types, limitation, suitability for local conditions.
2. Simulation: Procedure simulate existing conditions, , calibration, critical conditions.
3. Future scenarios: Expanding a network, rehabilitation.

Course Outcomes:

Graduates are expected to comprehend the following

- Urban water network modeling.
- Choice of suitable software.
- Ability to simulate existing network.
- Ability to envision critical cases.
- Ability to analyze results.
- Ability to suggest alternative solution and select the optimum one.

Evaluation Method:

Student can be evaluated upon two exams through the term, final exam and class homework.

References:

- Computer application in Hydraulic Engineering (2013), 8th Edition, Bentley Press.
- **Gribbin, J.E.** (2002). Introduction to hydraulics and hydrology with applications for storm water management. 2nd edition, Library of congress cataloging-in-publication data.
- **American Water Works Association** (2012) Computer Modeling of Water Distribution Systems, American Water Works Association, 3rd Edition.
- **Akan, O. and Houhtalen, R.J.** (2003). Urban hydrology, hydraulics, and storm water quality: engineering applications and computer modeling. John Wiley & Sons Inc.