

Course Name	Code\No.	Number of Credits			
		Theo.	Lab.	Train.	Credit
Hydraulic Structure	HWR 424	3	-	-	3
Pre-Requests	HWR 324				

Course Objectives:

The overall goal of this course is to introduce students to the fundamentals of hydraulic design of various hydraulic structures.

Course Contents:

1. Introduction to hydraulic structures:- Overview of other related topics that are required to fully design a hydraulic structure.
2. Types of hydraulic structures:- Dams, reservoirs, crossing structures, control structures and some special structures.
3. Design procedures:- hydraulic equations and design limitations.
4. Tendering:- types of tenders, evaluation of tender conditions and specifications.

Course outcomes:

Graduates are expected to comprehend the following

- Identify hydraulic structure types and functions.
- Select the suitable structure.
- Understand and apply design methods.
- Ability to evaluate existing structures.
- Select between alternatives.

Evaluation Method:

Student can be evaluated upon monthly exams, final exam and class homework, class discussions as well as lab experiments and lab reports.

References:

- **Novak, P. and Moffat, A.I.B.** (2017) Hydraulic Structures, CRC Press, 4th edition.
- **Chen, S.H.**, (2015) Hydraulic Structures, Springer.
- **James C.** (2019) Hydraulic structures, Springer.
- **FAO Irrigation and Drainage** (1975) Small hydraulic structures, paper 2611& 2612, Rome, FAO Press.