



Course Weekly Outline

Name	Dr. NOOR Alhuda Sami		
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Course name	Hydraulic Structure		
General course objective	1- Discuss the types of hydraulic structures according to its purposes. 2- Discuss the causes of failure of hydraulic structures . 3- Explain the different methods of floor design of the hydraulic structures. 4- Define and explain of the energy dissipation structures. 5- Define and design of stilling basins. 6- Explain and design of different types of culvert. 7- Discuss and design of pipe aqueduct and flume. 8- Define and design of siphon. 9- Study and design a steel vertical gates.		
Course description / special objectives	1- Types the hydraulic structures , causes of failure and design of floor . 2- Design of regulator and stilling basin with hydraulic jump . 3- Design of crossing hydraulic structures . 4- Study the sliding gates and its design. 5- Revision problem classes.		
References	1- Irrigation , water power and water resources engineering. By Arora (2007) 2- Hydraulic structures by (Novak) (2007)		
External sources	Theory and design of Irrigation structures . By (Gupta).		
Course assessment	Assignments and quizzes	Midterm Exam	Final exam
	40	10	50
General notes			



Course Weekly Outline

Week No.	Theoretical	Unit-chapter	Aims
1	Introduction, types of hydraulic structures.		1- To study and design the different types of hydraulic structures. 2- Understand the causes of failure of the hydraulic structures and its solutions. 3- To choose a suitable hydraulic structures in the project.
2	Steps for design of hydraulic structures , site conditions.		
3	Causes of failure of hydraulic structures, Bligh's creep theory.		
4	Lane's weighted creep theory.		
5	Khosla 's theory.		
6	Solved problems of pervious methods.		
7	Hydraulic design of regulators.		
8	Solved problems about design of the regulators.		
9	Hydraulic jump and solved problems.		
10	Design of vertical drop.		
11	Design of stilling basins.		
12	Design of pipes and box culverts.		
13	Design of pipe aqueduct and flume.		
14	Design of siphon		
15	Design of sliding steel gates		