

5 -	b5- Solve problems regarding water hummer
6 -	b6- Analyze the system of pumps
c. Professional and Practical Skills: :	
1 -	c1- Draw neat details of pipes network
2 -	c2- Prepare technical reports for pumps
d. General and Transferable Skills: :	
1 -	d1- Work under stress

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
open channel	12	6	6
specific energy	12	6	6
rapidly and gradually flow	18	9	9
Pipes Network	18	9	9
Water Hummer	12	6	6
Pumps	12	6	6
Revision	6	3	3

Teaching And Learning Methodologies :

Interactive Lec.
Discussion
Problem Solving
Report / Presentation

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Examination	40.00		
Mid- Exam I, II	30.00		
Quizzes / Assig.	15.00		
Report / Present	15.00		

Course Notes :

Lecture Notes

Recommended books :

Water Hwang, N. H. C.; "Fundamentals of Hydraulic Engineering Systems". Prentice Hall, 1981
 French R.H.; "Open Channel Hydraulics"; McGraw Hill, 1984
 Chow V.T.; "Open Channel Hydraulics"; McGraw Hill, 1977
 Ray Linsley, Joseph Franzini, David Freyberg, George Tchobanoglous; "Water Resources Engineering", 1988

