Republic of Iraq

The Ministry Of Higher Education

& Scientific Research

بسم الله الرحمن الرحيم

Ministry of Higher Education & Scientific Research

University: Diyala

College: Engineering

Department: Civil Engineering

Stage: second year

Lecturer name: Dr. Qassem H. Jalut

Qualification: Assistance Professor

Place of work : Diyala, Baquba

Flow up of implementation celli pass play

Course Instructor	Qassem Hamed Jalut
E-mail	Qjalut@gmail.com
Title	Fluid Mechanics
Course Coordinator	4 hrs weekly
Course Objective	Every civil engineering graduate needs to have 1. A thorough understanding of fluids in order to design and be involve in construction of several infrastructure projects 2. the broad knowledge and capability to understand the behavior of fluid at rest and in motion
Course Description	The course is consist of several chapters which deals with fluid (mainly water) as follows: Ch1. Fluid properties Ch2. Fluid Statics Ch3. Fluid Flow Concepts and Equations Ch4. Viscous Effects and Flow Resistances Ch5. Ideal Fluid Flow Ch6. Flow in pipes and Open Channels
Textbook	**Fluid Mechanics by R.K.Rajput (2010) S. Chand & company LTD** **Extra references:** 1. Fluid Mechanics with Engineering application by Robert L 1. Daugherty and others. (1989) 2. Fluid Mechanics for Civil Engineers by Webber 3. Fluid Mechanics by Streeter

Course Assessments	Term Tests	Laboratory	Quizzes and homeworks	Project	Final Exam
	20%	(10%)	10%	10%	(50%)

Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	23-9-2014	introduction	Lab. Experiment general Lecture	
2	14-10-2014	Fluid properties.	Hydraulic Bench	
3	21-10-2014	Fluid properties	Calibration of Gauge pressure	
4	28-10-2014	Fluid pressure and measurement.	Hydrostatic force on a submerge surface	
5	4-11-2014	Fluid pressure and measurement	Hydrostatic force on a submerge surface	
6	11-11-2014	Fluid pressure and measurement	Bernoulli's theorem I.	
7	18-11-2014	Hydraulic force on submerged bodies	Bernoulli's theorem II.	
8	25-11-2014	hydrostatic forces on plane surface.	Flow through an orifrce Exp .I	
9	2-12-2014	hydrostatic forces on curved surfaces.	Flow through an orifrce Exp.II	
10	9-12-2014	hydrostatic forces on curved surfaces.	Characteristics of flow over a notch Exp.I	
11	16-12-2014	Review and solved problems	Characteristics of flow over a notch Exp.II	
12	23-12-2014	Classification of fluid flow.	Forced vortex Exp.I	

13	30-12-2014	Continuity equation (mass conservation)./application	Forced vortex Exp.II	
14	6-1-2015	Bernoulli equation (energy conservation). /application	Application of a venture I	
15	13-1-2015	Bernoulli equation (energy conservation). /application	Application of a venture II	
16	24-2-2015	Bernoulli equation (energy conservation). /application	Impact of a jet. I	
17	3-3-2015	Momentum equation /application	Impact of a jet. II	
18	10-3-2015	Momentum equation /application	Friction loss in pipes I	
19	17-3-2015	Real fluid flow in pipes	Friction loss in pipes II	
20	24-3-2015	Real fluid flow in pipes	Reynolds's number	
21	31-3-2015	Pipes connection – in series.	Hydraulic jump in horizontal and rectangular channel I	
22	7-4-2015	Pipes connection –in parallel.	Hydraulic jump in horizontal and rectangular channel II	
23	14-4-2015	Branches .	The discharge beneath a sluice gate I	
24	21-4-2014	Pipe net works.	The discharge beneath a sluice gate II	
25	28-4-2015	.Pipe net works	Application of an orifice plate in the measurement of flow rate I	
26	5-5-2015	Measurement of fluid flow	Application of an orifice plate in the measurement of flow rate II	
27	12-5-2015	Open channel flow /introduction.	Parshall flume I	
28	19-5-2015	Open channel flow /application	Parshall flume II	
29	26—5-2015	Similitude.	Water hammer I	
30	2-6-2015	.Similitude	Water Hammer II	

INSTRUCTOR Signature: **Dean Signature:**