

**Republic of Iraq**  
**Ministry of Higher**  
**Education and Scientific**  
**Research**  
**Supervision and Scientific**  
**Evaluation Apparatus**



**College: Shatt Al-Arab University College**  
**Department: Civil Engineering**  
**Stage: 2<sup>nd</sup> stage**  
**Lecturer name: M.Sc. Qasim Mohammed**  
**Khudair**  
**Academic title: Assist. Lecturer**

## **Course Weekly Outline**

<b>Name</b>	M.Sc. Qasim Mohammed Khudair					
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<b>Course name</b>	Fluid Mechanics-1					
<b>General course objective</b>	1- To develop problem solving skills and understanding of Fluid Mechanics in civil engineering. 2- This course deals with the basic concepts of Fluid Mechanics. 3- This is the basic subject for all electrical and electronic circuits. 4- To understand viscous fluid flow problems.					
<b>Course description/ special objectives</b>	1- To understand the general principles of fluid mechanics 2- To understand the incompressible and compressible flow 3- To understand flow through pipes and open channel					
<b>References</b>	Fluid Mechanics, Streeter Fluid Mechanics, White, F.M., 2016					
<b>External sources</b>	Fluid Mechanics, Streeter Fluid Mechanics, White, F.M., 2016					
<b>Course assessment</b>	<b>Lab.</b>	<b>Quizzes</b>	<b>Assignments</b>	<b>Report</b>	<b>Midterm Exam</b>	<b>Final exam</b>
	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>50</b>
<b>General notes</b>						



## Course Weekly Outline

Week No.	Theoretical	Experimental	Aims
1	Fluid Properties, Units and Dimensions	Fluid Properties, Units and Dimensions	This module covers a wide range of topics of fluid mechanics in order to offer basic knowledge and foundations applicable to various civil engineering problems. This module introduces fundamental of conservation (mass, momentum and energy) laws of fluid flow, potential (ideal) flow, inviscid compressible flow and viscous flow. This module is also complemented by lab classes and tutorials
2	Fluid pressure and its measurements	Fluid pressure and its measurements	
3	Fluid pressure and its measurements	Fluid pressure and its measurements	
4	Hydrostatic forces on surfaces: plane Surfaces	Hydrostatic forces on surfaces: plane Surfaces	
5	Hydrostatic forces on surfaces: plane Surfaces	Hydrostatic forces on surfaces: plane Surfaces	
6	Hydrostatic forces on surfaces: plane Surfaces	Hydrostatic forces on surfaces: plane Surfaces	
7	Hydrostatic forces on surfaces: Non plane Surfaces	Hydrostatic forces on surfaces: Non plane Surfaces	
8	Hydrostatic forces on surfaces: Non plane Surfaces	Hydrostatic forces on surfaces: Non plane Surfaces	
9	Applications of Hydrostatic forces on surfaces	Applications of Hydrostatic forces on surfaces	
10	Buoyancy and floatation	Buoyancy and floatation	
11	Buoyancy and floatation	Buoyancy and floatation	
12	Kinematics and dynamics of fluid flow, Bernoulli's equation	Kinematics and dynamics of fluid flow, Bernoulli's equation	
13	Kinematics and dynamics of fluid flow, Bernoulli's equation	Kinematics and dynamics of fluid flow, Bernoulli's equation	
14	Fluids Subjected to constant acceleration	Fluids Subjected to constant acceleration	
15	Fluids Subjected to constant acceleration	Fluids Subjected to constant acceleration	