

Number of units 8	T 5	Pr 2	Th 3	Number of weekly hours	Annual System 30 weeks	Al-Esra'a University College Department: Engineering of Refrigeration and Air Conditioning Technologies
				Fluid Mechanics		Second stage
<u>Course Objective</u>						
To study the mechanics of fluids in its two branches: statics and dynamics and their effects on mechanical parts interacting with it.						

Week	Topic	Practical subject	Notes
1	Physical fluid properties	Experiments curves	
2	Physical fluid properties	Density ,Viscosity	
3	Fluid pressure at static	Density, Viscosity	
4	Fluid pressure Instruments	Fluid pressure	
5	Fluid flow types and pattern	Fluid pressure	
6	Fluid Velocity , acceleration	Center of gravity	
7	Fluid velocity, acceleration	Center of gravity	
8	Continuity equation	Mass flow rate	
9	Continuity equation	Mass flow rate	
10	Energy equation	Type of flow	
11	Energy equation	Type of flow	
12	Flow losses of pipe	Pump head, flow	
13	Flow losses with energy eq.	Pump head, flow	
14	Flow losses with energy eq.	Pump head, flow	
15	Flow losses with energy eq.	Two pumps (H,Q)	

Half-year Break

16	Flow losses with energy eq.	Flow losses with energy eq.	
17	Pumps types and properties	Orifice flow meter	
18	Pumps types and properties	Orifice flow meter	
19	Operational point of pump	Venture flow meter	
20	Fluid flow meters	Venture flow meter	
21	Fluid flow meters	Weir flow meter	
22	Fluid flow meters	Weir flow meter	
23	Impact-momentum fluid flow		
24	Impact-momentum fluid flow		
25	Impact-momentum on blade		
26	Impact-momentum on pipes		
27	Impact-momentum on pipes		
28	Dimensional analysis		
29	Dimensional analysis		
30	Dimensional analysis , applications		