

Number of units 4	T 3	Pr 2	Th 1	Number of weekly hours	Annual System 30 weeks	Al-Esra'a University College Department: Engineering of Refrigeration and Air Conditioning Technologies
				Computer Application	Third stage	
<u>Course Objective</u>						
& 3-Ddevelop students' fundamental knowledge and insight into Drawing the modeling in 2D coordinates system.						

Week	Topic	Practical subject	Notes
1	Fasteners: - Nuts - Screws - Washer	Exercises of Assembly Drawing	
2			
3			
4			
5	Shaft generators		
6	Cylinder		
7	Wrench		
8	Thread		
9	Gears		
10	Chamfer		
11	Fillet		
12	Shaft Component		
13	Roller Bearing		
14	Key: Parallel , Woodruff Key		
15	Seals		
Half-year Break			
16	Drill Bushing: Assembly Drawing	Exercises of Assembly Drawing	
17	Springs: - Compression - Extension - Torsion		
18			
19			
20			
21			
22	Assembly Drawing		
23	Assembly Drawing		
24-25	Moment of Inertia		
26	Assembly Drawing		
27	Deflection Line		
28	Assembly Drawing		
29	Shaft Calculation		
30			