

(3) Fundamental of Electrical Engineering

Technical college	30 Weeks	No. of week hours		
Department: Medical Instrumentation Engineering		Th.	Pr.	Unit
First Year		2	3	7
		Subject: Fundamental of Electrical Engineering.		

أهداف المادة : تهيئة الطالب لدراسة الحسابات المختلفة في الدوائر ذات التيار المتناوب و التيار المستمر و التعرف على مختلف النظريات لدراسة تلك الحسابات .

Week	Syllabus
1 st , 2 nd	Symbols and abbreviations, Units, Electric circuits and its elements.
3 rd , 4 th	The direct – current network (Kirchoff's law & their use in network).
5 th , 6 th	Conversion of delta – connected resistance into an equivalent Wye connection & Vic versa.
7 th	Power sources connected in parallel, Node voltage method.
8 th , 9 th	Loop current method.
10 th , 11 th	Super position method.
12 th , 13 th	Non- linear direct current circuit.
14 th , 15 th	RL transient circuit.
16 th , 17 th	RC transient circuit.
18 th	Generation of alternating current, Sinusoidal current.
19 th , 20 th	The mean values of current and voltage.
21 st	The effective values of current and voltage.
22 nd	The vector diagrams.
23 rd	The instantaneous power and mean power of A.C, relative and apparent power.
24 th , 25 th	3-Phase system, Wye connection.
26 th , 27 th	Delta connection.
28 th , 29 th	The power in balance phase circuit.
30 th	Unbalanced Wye & delta connected load, the rotating magnetic filed.