



Technical college\Mosul	30 Weeks	No. of week hours		
Department: Medical Instrumentation Engineering		Th.	App.	Unit
		2	2	6
Fourth Year		Subject: Control System.		

أهداف المادة: يعتبر التعرف على مكونات دوائر السيطرة و أنواع المغيرات و استخداماتها و دوائرها التطبيقية .

Week	Syllabus
1 st	Introduction to linear control engineering .
2 nd , 3 rd	Mathematical background ; lap lace transform , complex variable , matrices .
4 th , 5 th , 6 th	Transfer function , block diagram representation and reduction , signal flow diagram .
7 th , 8 th , 9 th	Time domain analysis , steady–state transient analysis .
10 th , 11 th	Stability analysis ; Routh , Nyquist .
12 th , 13 th	Root locus technique.
14 th , 15 th , 16 th	Frequency domain analysis , Eainmargin , phase margin and bode plot .
17 th , 18 th	Frequency domain synthesis , phase lead .
19 th , 20 th	Compensation , phase–lag compensation lag–lead compensation .
21 st , 22 nd , 23 rd , 24 th	PID controllers design .
25 th , 26 th , 27 th	State space representation and analysis .
28 th , 29 th	State diagram ; analogue computer .
30 th	Block diagram representation .