MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF ELECTRONICS, TELECOMM. & BIOMEDICAL ENGINEERING
FRM-001/01/QSP-004
Dec. 01, 2001

TENTATIVE TEACHING PLAN

Name of Teacher: **Engr. Imtiaz Hussain Kalwar**

Subject: **Control engineering-II** Batch: **04ES** Year: **1st Term**: Final year

Term Starting Date: **08-01-2007** Term Suspension date: **----------**

Sr.#	Topic	No. of Lectures required
1	Construction of Root loci	02
2	Analysis and design of control System using root loci	02
3	Introduction to compensation	01
4	Lead compensation	02
5	Lag compensation	02
6	Lead-lag compensation	02
7	Proportional controller	01
8	Proportional + integral controller (PI)	01
9	Proportional + derivative controller (PD)	01
10	Proportional + integral + Derivative Controller (PID)	01
11	Ziegelr – Nichol's Tuning rules, Class Test#01	02
12	Introduction to digital control systems, Sample data signals, sampling theorem	01
13	Zero order hold (ZOH), approximation of ZOH by pure time delay.	02
14	Review of Z-transform and inverse Z-transform	02
15	Relationship b/w S-plane and Z-plane	01
16	Stability of discrete time systems and difference equations	01
17	Discrete time equivalent of continuous time plant	01
18	Design methods of digital controllers	02
19	Direct digital design in Z-plane	01
20	Design in W-plane	01
21	An introduction to implementation issues	01
22	Introduction to state space design	01
23	Pole placement design, Class Test#02	03
24	Design of full order state observer	02
25	Design of minimum order state observer	02
26	Introduction to optimal control theory	01
27	Quadratic optimal control of continuous time and discrete time systems	02
28	Minimum energy control problem	01
29	Linearization of non-linear systems	02
30	Common physical non-linearties	02

31	Describing Function method	01
32	Plane analysis	02
33	Liapunov stability analysis, Class Test#03	03
	Total lectures	**52**

Signature of Teacher: Dated:

Remarks of DMRC:

Signature of Chairman: Dated: