University of Diyala
College of Engineering
Department of Computer
Engineering

Fourth Year

CSE 402	Computer Control - Lab	Time	3 Hrs/w

List of Experiments

	Experiments	Weeks
1	**PID controller**: Applied examples in MATLAB package	1
2	**Open-loop and closed-loop pulse Transfer functions:** Applied examples in MATLAB package	1
3	**Digital Control Systems**: Applied examples in MATLAB package	1
4	**Root Locus in the Z-Plane:** Applied examples in MATLAB package	1
5	**Digital PID Controller:** Applied examples in MATLAB package	1
6	**Tustin's Rule:** Applied examples in MATLAB package	1
7	**Digital Compensator Design using Pole Placement**: Applied examples in MATLAB package	1
8	**Dead-Beat Controller Design:** Applied examples in MATLAB package	1
9	**HUMIDITY SENSOR**	1
10	**AD590 TEMPERATURE TRANSDUCER**	1

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11	Pressure sensor	1
12	Motor Speed Control Practice by Light Brightness	1
13	Bi-Direction Module Control Practice by using the Electronic Compass Module	1
14	Practice for Control of DC Motor, using RFID Reader Module	1
15	Infrared Sensor and Step motor Direction Control Motor	1
16	Practice for Control of Touch Sensor and DC Motor	1
17	DC Motor Moving Distance Control Practice by using the Ultrasonic Sensor Module	1
18	Practice for Control of Voice Recognition and Synthesis Module	1

Instructions:

- MATLAB package.
- Robot Assembly Kit Trainer.

Textbook:

- Roland S. Burns, " *Advance Control Engineering*", Butterworth-Heinemann, 2001.
- Robot Assembly Kit Trainer, User's Manual.

References:

- Chi-Tsong Chen , " *Analog And Digital Control System Design* ", Saunders College Publishing, 2005.
- Katsuhiko Ogata , " *Modern Control Engineering* ", Fifth edition, Printic Hall, 2010.