101-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	電力轉換與電機控制實驗	Serial No. / ID	1742 / EEI4244
Dept.	電機工程學系	School System / Class	大學日間部4年1班
Lecturer	陳盛基	Full or Part-time	專任
Required / Credit	Required / 1	Graduate Class	Yes
Time / Place	(二)789 / H227	Language	Chinese

Introduction

1. Study of the characteristics of a Brushless D.C motor.
2. Speed control of a D.C Brushless motor.
3. Measurement of the speed of a D.C Brushless motor as a function of load torque.
4. Brushless DC motor driver circuit design, layout, and implementation.
5. Microchip DSPIC 16F877 Introduction.
6. Control Algorithm.
7. C Language
8. Study of the equivalent circuit of three-phase induction motor by No-Load & Blocked-Rotor tests.
9. Study of the performance of three-phase Squirrel-Cage induction Motor-Determination of Iron-Loss, Friction & Windage Losses.

Outline

Ch1 C Language: Program Instructions
Ch2 C Language: Control Logic
Ch3 Microchip PIC30F4011: I/O Experiment
Ch4 Microchip PIC30F4011:Timer and Interrupt
Ch5 Microchip PIC30F4011: PWM Experiment
Ch6 Stepping Motor Control Experiment
Ch7 DC Servo Motor Control Experiment(1), Driving Circuit
Ch8 DC Servo Motor Control Experiment(2),Speed Control and Waveform Measurement
Midterm testing
Ch9 DC Brushless Motor Control Experiment(1):Electronic Commutator
Ch10 DC Brushless Motor Control Experiment(2):Driving Circuit and Speed Control
Ch11 AC Induction Motor Control Experiment(1):Induction Motor Principle and Rotating Field
Ch12 AC Induction Motor Control Experiment(2):Driving Circuit and Speed Control
Ch13 AC PM Synchronous Servo Motor Control Experiment (1)
Ch14 AC PM Synchronous Servo Motor Control Experiment (2): Speed Control and Waveform Measurement
Final Report and Case Study

Prerequisite
Electric Circuit; C Language