

# 102-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	電力轉換與電機控制實驗	Serial No. / ID	2003 / EEI4244
Dept.	電機工程學系	School System / Class	大學日間部4年2班
Lecturer	陳盛基	Full or Part-time	專任
Required / Credit	Required / 1	Graduate Class	Yes
Time / Place	(四)567 / H227	Language	Chinese

Introduction
<ol style="list-style-type: none"> <li>1. Study of the characteristics of a Brushless D.C motor.</li> <li>2. Speed control of a D.C Brushless motor.</li> <li>3. Measurement of the speed of a D.C Brushless motor as a function of load torque.</li> <li>4. Brushless DC motor driver circuit design, layout, and implementation.</li> <li>5. Microchip DSPIC 16F877 Introduction.</li> <li>6. Control Algorithm.</li> <li>7. C Language</li> <li>8. Study of the equivalent circuit of three-phase induction motor by No-Load &amp; Blocked-Rotor tests.</li> <li>9. Study of the performance of three-phase Squirrel-Cage induction Motor-Determination of Iron-Loss, Friction &amp; Windage Losses.</li> </ol>

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

Prerequisite

Electric Circuit; C Language