

# 102-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	微處理機	Serial No. / ID	2526 / EEI3009
Dept.	電機工程學系	School System / Class	大學日間部3年3班
Lecturer	黃登淵	Full or Part-time	專任
Required / Credit	Optinal / 3	Graduate Class	No
Time / Place	(二)234 / H371	Language	Chinese

## Introduction

The objective of this course is to teach students how to use a microprocessor or microcontroller to implement a system with specific functions. This course will introduce an 8-bit microcontroller PIC18F452 to students and teach them how to develop an industrial application on this microcontroller. As well known, PIC18F452 has many powerful built-in features, of which includes: (1) 10-bit A/D converter used for analog/digital signal conversion; (2) two sets of PWM modules used for motor velocity control; (3) one set of USART used for RS232 communication with PC; (4) two sets of 8-bit counters/timers and two set of 16-bit counter/timer used for interrupt purpose. Because all PIC-family microcontrollers adopt RISC architecture, it has smaller instruction set than that of CISC architecture but with a higher operation efficiency. This in turn makes this microcontroller to be very suit for learning to students. Additionally, the technology of this microcontroller is still constantly improved by Microchip. This turns into this microcontroller with a relatively new technology on it such as CAN bus, USB interface, PICDEM NET, LIN bus, and Keelog so on.

## Outline

Chapter 1 Introduction to uController and PIC18 series uController  
Chapter 2 Assembly language  
Chapter 3 Memory architecture  
Chapter 4 C language and C18 compiler  
Chapter 5 Introduction to PIC demo board  
Chapter 6 Input and output ports  
Chapter 7 Special functions and hardware settings for PIC18 uController  
Chapter 8 Interrupt and peripheral functions  
Chapter 9 Timers and counters  
Chapter 10 AD converter  
Chapter 11 CCP modules  
Chapter 12 Introduction to USART  
Chapter 13 EEPROM data memory  
Chapter 14 Introduction to LCD  
Chapter 15 Communication for the uController

## Prerequisite

