

97-2 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	微機電系統設計與分析	Serial No. / ID	2048 / MAV3020
Dept.	機械與自動化工程學系	School System / Class	四技部3年1班
Lecturer	王東安	Full or Part-time	兼任
Required / Credit	Optinal / 3	Graduate Class	NO
Time / Place	(五)567 / H439	Language	Chinese

Introduction
Study of physics and operational principles for microelectromechanical devices and systems and their applications. Emphasize on design and simulation of microactuators and microsensors. Analytical and numerical methods for design and simulation will be taught in this course. Students are required to learn and familiar with Matlab and finite element methods.

Outline
Course introduction Sensor Ultrasonic actuator Force sensor Thermoelectric energy harvester Magnetoelectric energy harvester Magnetic sensor Magnetic actuator Thermal actuator Displacement amplification CMOS piezoelectric device Electromagnetic energy harvester Microfluidic devices Micromixer Wideband energy harvester

Prerequisite
Introduction to Microelectromechanical Systems