99-2 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	微機電系統設計與分析	Serial No. / ID	1951 / MAI4020
Dept.	機械與自動化工程學系	School System / Class	大學日間部3年4班
Lecturer	王東安	Full or Part-time	兼任
Required / Credit	Optinal / 3	Graduate Class	No
Time / Place	(五)567 / H443	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
Microfludic devices
Micromixer
Wideband energy harvester

Prerequisite

Introduction to Microelectromechanical Systems