

Mechatronics and Application(메카트로닉스 개론 및 실습)

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Lecture / Lab : Mon, Wed 16:00 – 17:50 at 301-306 and Laboratory

### Abstract

This course is to provide basic techniques for mechatronics application and electronic circuit design for mechanical engineers. This course begins with basic circuit design such as DC circuit, capacitors, RC circuits, filters, diode circuits, transistors, OP amplifiers. The micro processor system is introduced such as 8086/8088 and commercial micro processors, structure architecture, I/O. For mechatronics application, DC motors, photo sensors, step motors are introduced with micro processor based control. Finally, the term project using the micro processor application is assigned, and demonstration is scheduled for contest.

### Contents

DC Circuit

Capacitors and RC circuits

Filters

Diode Circuits

Transistors

OP Amps

A/D, D/A converters

Overview of microprocessor system

Data representation

Commercial microprocessor architecture

Language Programming

System bus structure

I/O Interface

Mechatronics application

Demonstration and Contest

### Evaluation

Attendance(10%), Mid Exam (20%), Final Exam (20%), Lab Reports (10%),

Term Project (40%)

Text : Handout ('Mechatronics and Applications')

References :

1. Y.Liu, G.Gibson, Micro computer system, "The 8086/8088 family", Prentice Hall
2. M. Thorne, "Programming the 8086/8088", Benjamin/Cummings