



Department of Electrical and Control Eng.

Lab 103-A



Measurements

Capacity: 20 Students

In this Laboratory, students are introduced to number of sensors and measurement equipment. Characteristics of these sensors are illustrated altogether with experiments covering their operation as well as their application's practice.

LABORATORY EQUIPMENTS

- Load Cell.
- Semiconductor-Style Pressure Sensor.
- Acceleration Sensor.
- Flow Rate Sensor.
- Thermistor.
- Thermocouple.
- Pt100 (Pt Resistance Temperature Sensor).
- Pyroelectric Sensor.
- Lacteal Gland-Style Proximity Sensor (M18).
- Lacteal Gland-Style Proximity Sensor (M12).
- Capacity-Style Proximity Sensor.
- Heating unit (Temperature Conversion Device).
- Amplifier Module.
- Lamp & Buzzer Module.
- Application Module A (Lighting Control).
- Application Module B (Air Pressure Automatic Door).
- Application Module C (Temperature Control).
- Application Module D (Motor Control).
- Allocator.
- Push Button Valve Switch.
- Low Pressure Regulating Valve.
- Storage Tank Unit.
- Air Service Unit
- Pneumatic Cylinder.
- Slide Unit.
- Test Set.
- DC Power Supply.
- Digital Multimeters.
- Load Set.
- Circuit Connection Cable & Operational Profile.



MAJOR EXPERIMENTS

- ✓ Load Cell characteristics with Load.
- ✓ Load Cell characteristics with Pressure.
- ✓ Load Cell application Practice.
- ✓ Semi-conductor Pressure Sensor operation.
- ✓ Flow Sensor principles with Flux.
- ✓ Flow Sensor application Practice.
- ✓ Acceleration Sensor operation.
- ✓ Thermistor Sensor operation.
- ✓ Thermistor Sensor application Practices.
- ✓ Thermocouple Sensor operation.
- ✓ Thermocouple application Practice.
- ✓ Resistance Temp. Detector operation.
- ✓ Resistance Temp. Application Practice.
- ✓ Pyroelectric Sensor principles with human body.
- ✓ Capacitive Proximity Sensor operation.
- ✓ Capacitive Proximity Sensor application Practices.
- ✓ Lacteal Gland-Style Proximity Sensor operation.
- ✓ Lacteal Gland-Style Proximity Sensor application Practices.

The Laboratory Serves the Following Courses

Course No.	Course Title	Semester
EE211	Electric Measurements & Instrumentation 1	4
EE312	Electric Measurements & Instrumentation 2	5
EE512	Automated Industrial System 1	9