



Department of Electrical and Control Eng.



## Lab 042-A

# Renewable Energy Systems

Capacity: 20 Students

It presents the essential need to prepare students with a comprehensive background in renewable energies. These lab experiments help the students understanding the main concepts regarding renewable energy, energy measurement and energy storage. The three main resources are Solar, Wind and Fuel cell.

### LABORATORY EQUIPMENTS

- Fuel Cell/ PV/ Wind Hybrid Systems.
- PV/ Fuel Cell Hybrid Systems.
- PV Trainers.
- Multimeters.
- Oscilloscopes.



### MAJOR EXPERIMENTS

- ✓ Studying the deferent Characteristics of Solar module.
- ✓ Studying the deferent Characteristics of Fuel Cells.
- ✓ Studying the deferent Characteristics of Wind generator.
- ✓ Production of hydrogen from Renewable energy sources.
- ✓ Optimal adaptation of Renewable energy sources.
- ✓ MPPT using clean trainer software.



### The Laboratory Serves the Following Courses

Course No.	Course Title	Semester
NE467	Management of Energy Resources	9,10