



**University of Basrah**  
**College of Engineering**  
**Department of Electrical Engineering**



**Syllabus Description for Renewable Energy Course**

- Characteristics of PV system.
- PV models and equivalent circuits.
- Sun tracking system.
- MPP techniques.
- Shading effect of PV cells.
- Power electronics interfaces for PV systems.
- Sizing the PV panel and battery pack for stand-alone PV applications.
- Introduction to wind energy.
- Introduction to Fuel Cells.

***Reference: Energy Harvesting: Solar, Wind, and Ocean Energy Conversion Systems***

by Alireza Khaligh