Faculty of Engineering
Electrical Engineering Dept.

Spring Semester 2019

EELE 5355– Fundamentals of Renewable Energy
Course Syllabus

Instructor	Prof. Dr. Hala J. El-Khozondar Office: N519 Tel.: 2860700 Ext.: 2855 E-mail: hkhozondar@iugaza.edu Homepage: http://site.iugaza.edu.ps/hkhozondar
Course Description	This course presents an engineering introduction to renewable energy technologies and potentials. Renewable energy supplies are of ever increasing environmental and economic importance in all countries. World governments have large programs to encourage such innovative technology. In this semester, we stress the scientific understanding and analysis of renewable sources as sun radiations, wind movement, geothermal and biomass. What will be covered in this course are the basic engineering calculations for power and energy availability of renewable energy sources beside the main components of these systems with its sizes.
Prerequisite:	Physics I, Physics II, Calculus A, and Calculus B
Textbook	-Electric Energy an Introduction, 2nd Edition By Mohammed El-Sharkawi. - Renewable Energy Resources, 2nd Edition By John Twidell and Tony Weir. - Photovoltaic Systems Engineering By Roger Messenger and Jerry Ventre
References	-Sustainable Energy- without the hot air By David JC MacKay, 2009. - Renewable Energy, Power for a Sustainable future By Godfrey Boyle, 2004, Oxford University Press, in association with the Open University.
Laboratory	Manual
Course objectives	1. Get familiar with difference between renewable and nonrenewable 2. Get familiar with renewable sources of energy 3. Understand the work of energy sources 4. Get familiar with advantages and disadvantages of energy sourses
Office Hours	SMW 11:00
grades	Homework and Assignments 20 % Attendance 10 % Semester Project /lab 40% Midterm exam 10 % Final exam 20%

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COURSE OUTLINES:

Week	Contents
1	Environmental Impacts of Power Plants
2	Basics of Renewable Sources
3,4,5,6	Solar Energy
7,8,9,10	Wind Energy
11	Fuel Cells and Hydrogen Production
12	Nuclear Power Plants
13	Geothermal and Biomass Energy
14	Hydropower
15	Tidal Energy
16	Semester Project

اللهم لا سهل إلا ما جعلته سهلا و انت تجعل الحزن إذا شئت سهلا
وفقكم الله الي الطريق القويم