NE467- Management of Energy Resources

CREDIT HOURS
3 Hours

CONTACT HOURS (Hours/week)
Lecture: 2

COURSE COORDINATOR
Prof. Samir Youssef

TEXT BOOK:
Energy Resources and Environmental Management (Handouts and ppt).

COURSE DESCRIPTION:
Energy for sustainable development; Metal and corrosive Environments; Strategic components of sustainable energy; Renewable energy technologies; Energy audit process and maintenance management; Lighting; Power factor correction; Control system and computers; Combustion processes and the use of industrial wastes; Heating, ventilating and air conditioning (HVAC).

PREREQUISITE:
None

RELATION OF COURSE TO PROGRAM:
Elective

COURSE INSTRUCTION OUTCOMES:
The student gains knowledge on energy sustainability, strategic components of sustainable energy, energy audit processes & Maintenance management and control systems and computers.

TOPICS COVERED:
Energy for sustainable development - Metal and corrosive Environments - Strategic components of sustainable energy - Renewable energy technologies - Energy audit process and maintenance management – Lighting - Power factor correction - Control system and computers - Combustion processes and the use of industrial wastes - Heating, ventilating and air conditioning (HVAC).

CONTRIBUTION OF COURSE TO MEET THE REQUIREMSNTS OF CRITERION 5:

Professional Component Content			
Math and Basic Sciences	**Engineering Topics**	**General Education**	**Engineering Design**
		✓	

RELATIONSHIP OF COURSE TO STUDENT OUTCOMES:

Student Outcomes		Course Outcomes
a.	An ability to apply knowledge of mathematics, science, and engineering.	
b.	An ability to design and conduct experiments, analyze and interpret data.	
c.	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	
d.	An ability to function on multi-disciplinary teams.	
e.	An ability to identify, formulate, and solve engineering problems.	
f.	An understanding of professional and ethical responsibility.	√
g.	An ability to communicate effectively.	√
h.	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal content	√
i.	A recognition of the need for, and an ability to engage in life-long learning.	√
j.	A knowledge of contemporary issues within and outside the electrical engineering profession.	
k.	An ability to use the techniques, skills, and modern engineering tools necessary for electrical engineering practice.	