BA114- Physics (2)

Hour: Lecture: 2 Hrs.   Tutorial: 2 Hrs.   Credit: 3.

Coordinator: Hany Kaldas

Text Book:

T. D. Eastop and A. Mcconkey, *Applied Thermodynamics for Engineering Technologists*, Prentice Hall, latest edition.

Specific course information:

a. This course is concerned with the investigation of the behavior of the fluid under different conditions to calculate the net work done on or by the system. It is also concerned with standing the first and second law of thermodynamics. Heat, work and internal energy of the fluids (liquid and gas) should be calculated for different processes under different condition. Heat transfer is also studied through this course.

b. Prerequisite: BA113.

c. Designation: Required.

Specific goals for the course:

- An ability to apply knowledge of mathematics, science, and engineering.
- An ability to design and conduct experiments, analyze and interpret data.
- An ability to identify, formulate, and solve engineering problems.
- Recognition of the need for, and an ability to engage in life-long learning.

Course instruction outcomes:

- The students will be able to understand the relation between heat, work and the conservation of energy through thermodynamic cycle.
- The studenst will be able to know the relation between the different units used through this Course.

Student outcomes:

A, B, G, I

Topics Covered:

Introduction to thermodynamics - Reversibility and reversible work - First law of thermodynamics' Non-flow equation - Steady flow equation - Working Fluid (steam, perfect gas) - Reversible processes.(constant volume, constant pressure, constant temperature, adiabatic) - Reversible process (polytropic) - Second law of thermodynamics - Heat transfer.

Course / credit hours	Math & Basic Sciences	Engineering Topics	General Education
Physics (BA114)/3	3		