

Faculty of Engineering & Technology

Basic Electronic Circuits

Information :

Course Code : ELE 216

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Mechanical Engineering

Instructor Information :

Title	Name	Office hours
Professor	Saeed Hassan Ibrahim Saeed	4
Assistant Lecturer	Sara Ahmed Rashad Abdallah	

Description :

Semiconductor devices and switching characteristics, Logic gates and families, Memory elements and types, Timing circuits, Analog / digital and digital / analog converters.

Course outcomes :

a. Knowledge and Understanding: :

1 -	Identify basic applied and engineering science.
2 -	Identify principles in the of design of mechanical components, different materials, and manufacturing technologies in the field of mechanical power engineering and some other engineering disciplines.
3 -	Identify principles in the field of design of fluid flow, thermodynamics, gas dynamics, turbo-machinery, heat transfer engineering and fundamentals of thermal and fluid processes
4 -	Develop conceptual and detailed design of construction projects and fluid power systems..

b. Intellectual Skills: :

1 -	Define the mechanical power engineering problems and evaluate designs, processes, and performance and propose improvements.
2 -	Derive different solution alternatives for the engineering problems, analyze, interpret data and design experiments to obtain new data, and evaluate the power losses in the fluid transmission lines and networks
3 -	Analyze the performance of the basic types of internal combustion engines, hydraulic machines, fluid power systems, subsystems and various control valves and actuators.

c. Professional and Practical Skills: :

1 -	Use laboratory, workshop equipment and field devices competently and safely.
2 -	Analyze the record data in the laboratory.
3 -	Prepare engineering drawings, computer graphics, and write specialized technical reports.
4 -	Write computer programs pertaining to mechanical power and energy engineering to describe the basic thermal and fluid processes mathematically, and use the computer software for their simulation and analysis

d.General and Transferable Skills: :

1 -	Collaborate effectively within multidisciplinary team.
2 -	Share ideas, communicate effectively and work in stressful environment and within constraints.
3 -	Lead and motivate individuals and work with others according to the rules of the professional Ethics.

Teaching And Learning Methodologies :

Lectures
Tutorial
Class discussions and activities
Homework and self-study

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
1st Midterm	25.00	6	
2nd Midterm	25.00	11	
Assignments	10.00	15	
Final Exam	40.00	16	