

**Faculty of Engineering & Technology**

**Industrial Automation (CAD/CAM)**

**Information :**

**Course Code :** MAN 350

**Level :** Undergraduate

**Course Hours :** 2.00- Hours

**Department :** Specialization of Mechatronics Engineering

**Instructor Information :**

Title	Name	Office hours
Associate Professor	Hussein Mohamed Abdelmoneam Hussein	1
Assistant Lecturer	Rana Mohamed Abdel Rahman Saleh	4
Teaching Assistant	Donia Waheed Mohamed Abdelmonem Saleem	

**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	