ME 151 - Engineering Drawings & Projection

CREDIT HOURS
3 Hours

CONTACT HOURS (Hours/week)
Lecture: 2; Section: 2

COURSE COORDINATOR
Dr Mostafa Rostom

TEXT BOOK:
Engineering Drawing Book prepared and edited from several related books.

COURSE DESCRIPTION:
Drawing practices and techniques – Geometrical constructions – Dimensioning and free hand sketching – Methods of projection – Orthogonal projection — Sectioning and conventions – Intersection of geometrical surfaces and development – Standard metal sections and metal structures – Pictorial projection (Isometry) – Surface intersections – Perspective projection – An introduction to Computer Aided Drafting using AutoCAD.

PREREQUISITE:
None

RELATION OF COURSE TO PROGRAM:
Required

COURSE INSTRUCTION OUTCOMES:
The student is able to communicate by means of engineering drawing and to relate the applications of drawing techniques to mechanical engineering practice.

TOPICS COVERED:

- Drawing practices and techniques
- Methods of object projection
- Orthogonal projection Missing views, dimensioning and free hand sketching
- Sectioning and conventions
- Intersection of geometrical surfaces and development
- Standard metal sections and metal structures
- Compound metal sections and welds
- Isometric projection & Surface intersections
- Perspective projection
- Computer Aided drafting using AutoCAD (General Introduction)

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.	