

## Faculty of Engineering & Technology

### Mechanical Engineering Drawing

#### Information :

**Course Code :** MAN 241

**Level :** Undergraduate

**Course Hours :** 2.00- Hours

**Department :** Department of Mechanical Engineering

#### Area Of Study :

The Main Goals of this course are:

- Understand the fundamental of engineering drawing using computer software.
- Identify various technical drawings with necessary views and dimensions using computer software.
- Recognize the rules of drawing engineering metal sections and details.
- Recognize the rules of different mechanical drawing and assembling parts

#### Description :

Computer aided drafting, detailed working drawing, Dimensioning and geometrical tolerance symbols, Permanent joints details (riveting, welding, soldering & fasteners, Threading, Drawing of standardized parts; bearings, gears, springs, Different assembly drawings (simple gear box, fixtures, vices, valves & etc).

#### Course outcomes :

##### a. Knowledge and Understanding: :

- |     |                                              |
|-----|----------------------------------------------|
| 1 - | Estimate suitable standardized parts.        |
| 2 - | Identify suitable welding symbols.           |
| 3 - | Identify the principles of AUTOCAD.          |
| 4 - | Define the fundamental of assembly drawings. |

##### b. Intellectual Skills: :

- |     |                                                                         |
|-----|-------------------------------------------------------------------------|
| 1 - | Create own design ideas expressed in mechanical assembly drawings       |
| 2 - | Develop skills in visualizing the various mechanical assembly drawings. |

##### c. Professional and Practical Skills: :

- |     |                                                  |
|-----|--------------------------------------------------|
| 1 - | Construct mechanical parts and assembly drawing. |
| 2 - | Select standardized parts.                       |
| 3 - | Gain skills of drawing using AUTOCAD.            |

##### d. General and Transferable Skills: :

- |     |                                                                                                         |
|-----|---------------------------------------------------------------------------------------------------------|
| 1 - | Effectively manage tasks, times and resources.                                                          |
| 2 - | Develop skills related to creative thinking, imagination, oral and written communications and teamwork. |

### **Course Topic And Contents :**

<b>Topic</b>	<b>No. of hours</b>	<b>Lecture</b>	<b>Tutorial / Practical</b>
Introduction to the fundamental of assembly drawing	4	1	3
Types of bolts and its represented drawing	8	2	6
Transmission shaft assembly	8	2	6
Bearing assembly (sliding bearing)	8	2	6
Valves assembly (non-return valves)	4	1	3
Valves assembly (Safety valves)	8	2	6
Power screw assembly (Screw Jack)	4	1	3
Coupling assembly (Rigid flange) and flexible	8	2	6
Machine vise assembly	8	2	6

### **Teaching And Learning Methodologies :**

Interactive Lecture  
Discussion  
Problem-based Learning  
Experiential Learning

### **Course Assessment :**

<b>Methods of assessment</b>	<b>Relative weight %</b>	<b>Week No</b>	<b>Assess What</b>
Assignment	20.00		Written Exam
Final Exam	40.00		
Mid-Exams I	15.00		Written Exam
Mid-Exams II	15.00		Reports follow up during tut. /lab work, & written exam.
Participation	10.00		

### **Recommended books :**

- Thomas, E.F., % Fundamentals of Engineering Drawing - McGraw-Hill 2004
- Thomas, E.F. and Vierck, C.J., % Engineering Drawing and Graphic Technology - McGrawHill 2001
- Hart, K.R., % Engineering Drawing - The English Universities Press Ltd 2003
- Dobrovolsky, Machine elements, MIR Publisher Co. 2007.

### **Web Sites :**

[www.prenhall.com/giesecke](http://www.prenhall.com/giesecke)