هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	Engineering Drawing
Course Code:	111 MMET
Program:	Mechanical Maintenance Engineering Technology (MMET)
Department:	Mechanical Engineering Technology (MET)
College:	College of Applied Industrial Technology (CAIT)
Institution:	Jazan University
Version:	T-104 - 2022
Last Revision Date:	2023

Table of Contents:

A. General Information about the Course

Course Identification								
1. Credit Hours: 1								
2. Course Type:								
a. University		College		Department	☑	Track		Others
b. Required	☑	Elective						
3. Level/year at which this course is offered:	5th Level		2nd Year					

4. Course General Description

This course includes-

- Recalling/ revising the knowledge of basic geometry that student has acquire in his school.
- Introduction to AutoCAD features
- Creation of basic 2D drawing
- Object properties
- Creating/editing geometric construction and modification
- Dimensioning & Plotting
- Create, edit & modify text object.

5. Pre-requirements for this course (if any): Not Exist

6. Co- requirements for this course (if any): -------

7. Course Main Objective(s):

After completing this course, the student will be able to do the following:

- Learn about different type of lines and their uses
- Sketch basic geometry using hand tools (drawing instruments)
- Use AutoCAD's precision drawing tools and methods to construct accurate 2D drawings.
- Create and manage drawing layers, and control object colors and line types.
- Create, edit, and modify text styles and text objects in AutoCAD.
- Control the drawing display and utilize named drawing views.
- Converting 3-D object into 2-D orthographic (free hand sketch & Finished AutoCAD drawing)

1. Teaching Mode: (Mark all that apply)

No	Mode of Instruction	Contact Hours	Percentages
1	Traditional classrooms	44	100.0%
2	E-learning	0	0.0%
3	Hybride * Traditional classrooms * E-learning	0	0.0%
4	Distance learning	0	0.0%

2. **Contact Hours (based on the academic semester)**

No	Activity	Contact Hours
1	Lectures	0
2	Laboratory/Studio	0
3	Field	0
4	Tutorial	44
5	Others (specify)	0
	Total	**44**

Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes (CLOs)	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Recall engineering drawing tools and use drawing principles and basic shapes (Lines, Lettering, Curves etc.) for adequate representation of engineering drawing.	K1.2	Structured Lectures Worked Examples	Quizzes Exams
2.0	**Skills**			
2.1	Recognise AutoCAD Commands (Draw, Modify, Annotation tools) used to represent 2D geometry	S1.2	Structured Lectures Worked Examples	Quizzes Exams
2.2	Illustrate Orthographic Projection (2-D views) of Isometric Projection (3-D model) using drawing instruments/ AutoCAD.	S1.2	Structured Lectures Worked Examples	Quizzes Exams
2.3	Produce complete 2-D machine drawing with dimension and Layouting using drawing sketches in AutoCAD.	S3.1	Structured Lectures Worked Examples	Quizzes Exams
2.4	Construct 2-D views and Sectioning of Machine Components (3-D) using AutoCAD.	S3.1	Structured Lectures Worked Examples	Quizzes Exams
3.0	**Values, autonomy, and responsibility**			
3.1	Participate in Team work, Timely completion of task, Showing eagerness towards self improvement.	V1.3	Questioning Feedback	Oral Presentation

C. Course Content

No	List of Topics	Contact Hours
1	Introduction : What is Engineering Drawing? Role of Engineering Drawing. Drawing Instruments.	2
2	Lines and Lettering : Introduction, Types of Lines and its uses, Lettering, Parallel and Perpendicular Lines	2
3	Geometric Construction : Introduction, Angles, Circles. Tangent and Arcs. Geometric constructions	6
4	Introduction to AutoCAD: Introduction, Getting Started, AutoCAD User Interface, Workspace in AutoCAD, Drafting and Annotation Workspace, Application Menu, Quick	2
5	Drawing Aids (AutoCAD) : Introduction, Setting Grid and Snap, Ortho Mode and Polar Tracking, Object Snap, Zoon Tool, Layers	2
6	Draw and Properties Panels: Introduction, Drawing Circle. Drawing Arc, Drawing Polygon, Drawing Ellipse, Redrawing of Mechanical components drawing	6
7	Editing Tools (Modify Panel): Trim, Extend, Offset, Fillet, Chamfer, Array, Erase, Move, Copy, Rotate, Mirror	4
8	Dimensioning & Text (Annotation Panel): Introduction, Basics of Dimension, Creating Dimension Style, Text, Creating Text Style	2
9	Projections and Sections: Introduction, Projection, Orthographic Projection, Projection of Line & Surface, Angle of Projection, Converting Solid (Pictorial) to 2D views.	12
10	Practice and Revision	6
	Total	**44**

D. Students Assessment Activities

No	Assessment Activities	Assessment Timing (In Week No)	Percentage of Total Assessment Score
1	Class Work/ Quiz 1	Week 2	3%
2	Class Work/ Quiz 2	Week 4	3%
3	Class Work/ Quiz 3	Week 6	3%
4	Class Work/ Quiz 4	Week 8	3%
5	Class Work/ Quiz 5	Week 10	3%
6	Group Activity 1	Week 5	5%
7	Group Activity 2	Week 9	5%
8	Formative Assessment	Week 7	20%
9	Self Study/Project Report	Week 10	15%
10	Final Exam	As Scheduled	40%

* Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1 References and Learning Resources

Essential References	1	• K.L. Narayana, P. Kannaiah & K. Venkata Reddy "Machine Drawing" Third Edition, Published by New Age International (P) Ltd. New Delhi. 2006.
	2	• Autodesk manual "An Introduction to AutoCAD for Beginners".
Supportive References	1	Class Notes
Electronic Materials	1	Audio/Video
Other Learning Materials	1	None

2 Required Facilities and Equipment

Items	Resources
	Suitable Lab
Facilities (Classrooms, Laboratories, Exhibition rooms, Simulation Room, etc.)	
	Suitable Software
Technology Equipment (Projector, Smart Board, Software)	
	Computer with Latest version operating system required
Other Equipment (Depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Method
Effectiveness of Teaching	Course Coordinator	Direct
	Course Instructor (Faculty)	Direct/Indirect
	Program Coordinator	Indirect
Quality of Learning Resources	Course Coordinator	Direct
	Course Instructor (Faculty)	Direct
	Head of Department	Direct/Indirect
The extent to which CLOs have been achieved	Course Coordinator	Direct
	Course Instructor (Faculty)	Direct
	Program Coordinator	Direct/Indirect
Other		

G. Specification Approval Data

Council/Committee	Mechanical Engineering Technology (MET)
Reference Number	
Date	