

## Lesson Plan

Name of Institute : Ambala College of Engineering and Applied Research  
 Name of the Faculty member : Dr. S.K. Jain  
 Discipline : All  
 Semester : 2<sup>nd</sup> Sem  
 Subject : Engineering Graphics& Design (B24-ESC-102)  
 Lesson Plan Duration : 15 weeks (from Jan 2026 to May 2026)  
 Work Load : L 1 T 2 P 3

Week	Theory		Week	Practical
	Lecture day	Topic (including assignment/ test)		
1 <sup>st</sup>	1st	Principles of Engineering Graphics and their significance	1st	Demonstrating Knowledge of the theory of CAD software [such as: The Menu System, Toolbars (Standard, Object Properties, Draw, Modify and Dimension), Drawing Area (Background, Crosshairs, Coordinate System)
	2nd	usage of Drawing instruments		
	3rd	Lettering, Type of Lines, Dimensioning		
2 <sup>nd</sup>	4th	Projection of points	2nd	Dialog boxes and windows Shortcut menus(Button Bars), The Command Line(where applicable)
	5th	Projection of points		
	6th	Projection of points		
3 <sup>rd</sup>	7th	Projection of Lines inclined to one plane	3rd	The Status Bar Different methods of zoom as used in CAD, Select and erase objects
	8th	Projection of Lines inclined to one plane		
	9th	Projection of Lines inclined to one plane		
4 <sup>th</sup>	10th	Projection of Lines inclined to both plane	4th	Setup of the drawing page and the printer ,including scale settings
	11th	Projection of Lines inclined to both plane		
	12th	Projection of Lines inclined to both plane		
5 <sup>th</sup>	13th	Sessional 1	5th	Setting up of units and drawing limits ISO standards ANSI standards for coordinate dimensioning and tolerancing
	14th	Sessional 1		
	15th	Sessional 1		
6 <sup>th</sup>	16th	Projection of planes	6th	Orthographic constraints Snap to objects manually Snap to objects automatically
	17th	Projection of planes		
	18th	Projection of inclined planes		
7 <sup>th</sup>	19th	Projection of solids	7th	Producing drawings by using various coordinate input entry methods to draw straight lines Applying various ways of drawing circles
	20th	Projection of solids inclined to one planes		
	21st	Projection of solids inclined to one planes		
8 <sup>th</sup>	22th	Projection of solids inclined to both planes	8th	applying annotations to drawings Setting up and use of Layers Layers to create drawings
	23rd	Projection of solids inclined to both planes		
	24th	Projection of solids inclined to both planes		
9 <sup>th</sup>	25th	Section of Solids	9th	Create ,edit and use customized layers Changing line lengths through modifying existing lines (extend/lengthen) Printing documents to paper using the print command
	26th	Section of Solids		
	27th	Section of Solids		
10 <sup>th</sup>	28th	Development of surfaces	10th	orthographic projection techniques Drawing sectional views of composite right regular geometric solids and project the true shape of the sectioned Surface Drawing annotation
	29th	Development of surfaces		
	30th	Development of surfaces		
11 <sup>th</sup>	31st	Sessional 2	11th	Parametric and non-parametric solid, surface, and wire frame models. Part editing and two-dimensional documentation of models. Planar projection theory including sketching of perspective isometric, multi view, auxiliary, and section views.
	32nd	Sessional 2		
	33rd	Sessional 2		

12 <sup>th</sup>	34th	Conversion of Isometric Views to Orthographic Views	12th	Spatial visualization exercises . Dimensioning guidelines Tolerance techniques
	35th	Conversion of Isometric Views to Orthographic Views		
	36th	Conversion of Isometric Views to Orthographic Views		
13 <sup>th</sup>	37th	Isometric projection	13th	Geometry and topology of engineered components: creation of engineering models and their presentation in standard 2D blue print form and as 3D wire-frame and shaded solids meshed topologies for engineering analysis and tool-path generation for component manufacture.
	38th	Isometric projection		
	39th	Isometric projection		
14 <sup>th</sup>	40th	Basic CAD commands	14th	Use of solid modeling software for creating associative models at the component and assembly levels floor plans that include: windows ,doors ,and fixtures such as WC, bath ,sink ,shower ,etc
	41st	Basic CAD commands		
	42nd	Basic CAD commands		
15 <sup>th</sup>	43rd	Sessional 3	15th	Applying colour coding according to building drawing practice Drawing sectional elevation showing foundation to ceiling Introduction to Building Information Modeling (BIM).
	44th	Sessional 3		
	45th	Sessional 3		

Dr S K Jain

5-1-2026

(Signature of the teacher concerned with date)