

Lesson Plan

Name of the Faculty : Ms. Priyanka Kalra
Discipline : Computer Science & Engineering
Semester : 8th
Subject : Interactive Computer Graphics
Lesson Plan duration : 15 weeks (from January, 2018 to April, 2018)

Work load (Lectures) per week (in hours) - 03

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1 st	<ul style="list-style-type: none"> • Introduction to the subject and related concepts
	2 nd	<ul style="list-style-type: none"> • Line and point plotting systems • Raster, Vector, pixel and point plotters • Continual refresh and storage displays
	3 rd	<ul style="list-style-type: none"> • Digital frame buffer
2 nd	4 th	<ul style="list-style-type: none"> • Plasma panel display
	5 th	<ul style="list-style-type: none"> • Very high resolution devices • Display processors
	6 th	<ul style="list-style-type: none"> • Character generators
3 rd	7 th	<ul style="list-style-type: none"> • Color Display techniques • Shadow mask and penetration CRT
	8 th	<ul style="list-style-type: none"> • Color look-up tables • Analog false colors
	9 th	<ul style="list-style-type: none"> • Hard copy color printers
4 th	10 th	<ul style="list-style-type: none"> • Screen co-ordinates, user co-ordinates • Compressed incremental list, vector list, use of homogeneous coordinates
	11 th	<ul style="list-style-type: none"> • the view algorithm • Window to Viewport co-ordinate transformation
	12 th	<ul style="list-style-type: none"> • 2 D Transformation – Translation
5 th	13 th	<ul style="list-style-type: none"> • Rotation
	14 th	<ul style="list-style-type: none"> • Scaling
	15 th	<ul style="list-style-type: none"> • Line drawing Algo – DDA and numericals
6 th	16 th	<ul style="list-style-type: none"> • Line drawing Algo- Bresenhem's and numerical
	17 th	<ul style="list-style-type: none"> • Circle drawing algorithms - Bresenhem's and numerical

	18 th	<ul style="list-style-type: none"> • Circle drawing algorithms – Mid Point and numerical • Assignment 1
7 th	19 th	<ul style="list-style-type: none"> • Interactive graphics – Introduction • Pointing and positing devices – Cursor
	20 th	<ul style="list-style-type: none"> • Pointing and positing devices - lightpen, digitizing tablet • Pointing and positing devices - mouse, track balls
	21 st	<ul style="list-style-type: none"> • Positioning Techniques • Elastic or Rubber Bank lines
8 th	22 nd	<ul style="list-style-type: none"> • Zooming & Panning • Windowing & Scissoring
	23 rd	<ul style="list-style-type: none"> • Clipping – Point, Line Clipping – Cohen Sutherland
	24 th	<ul style="list-style-type: none"> • Mid Point subdivision Line Clipping
9 th	25 th	<ul style="list-style-type: none"> • Liang Barsky Line Clipping
	26 th	<ul style="list-style-type: none"> • Polygon Clipping – Sutherland Hodgeman Algo
	27 th	<ul style="list-style-type: none"> • Weiler Atherton Algo
10 th	28 th	<ul style="list-style-type: none"> • Curve Clipping • Text Clipping
	29 th	<ul style="list-style-type: none"> • Mouse Programming
	30 th	<ul style="list-style-type: none"> • Display 3D Objects • Modelling • Simple Generation Forms
11 th	31 st	<ul style="list-style-type: none"> • Wireframe Models
	32 nd	<ul style="list-style-type: none"> • 3-dimesional Transformations- Translation
	33 rd	<ul style="list-style-type: none"> • Scaling
12 th	34 th	<ul style="list-style-type: none"> • Rotation
	35 th	<ul style="list-style-type: none"> • Projections • Parallel Projections • Orthographic Projections
	36 th	<ul style="list-style-type: none"> • Perspective Projection • Assignment 2
13 th	37 th	<ul style="list-style-type: none"> • Shading • Interpolated Shading
	38 th	<ul style="list-style-type: none"> • Gourand Shading • Phong Shading
	39 th	<ul style="list-style-type: none"> • Hidden Surface and Line Removal
14 th	40 th	<ul style="list-style-type: none"> • Z buffer Algo
	41 st	<ul style="list-style-type: none"> • The Painter's Algo
	42 nd	<ul style="list-style-type: none"> • Scan Line Algo
15 th	43 rd	<ul style="list-style-type: none"> • Area Subdivision Algo
	44 th	<ul style="list-style-type: none"> • Transparent Solids
	45 th	<ul style="list-style-type: none"> • Perspective Depth