MOHAMMED SATHAK A J COLLEGE OF ENGINEERING

Siruseri IT park, OMR, Chennai - 603103

LESSON PLAN

Department of INFORMATION TECHNOLOGY

Name of the	COMPUTER GRAPHICS AND MULTIMEDIA	Name of the handling	
Subject Code	CS8092	Year / Sem	III/VI
Acad Year	2021-22	Batch	

Course Objective

1.To become familiar with various software programs used in the creation and

2.To gain knowledge about graphics hardware devices and software used.

3. To understand the two and three dimensional graphics and their transformations.

4.To become familiar with understand clipping techniques

5.To become familiar with Blender Graphics

Course Outcome

Upon completion of the course, the students will be able to:

1.Design two dimensional graphics.

2.Apply two dimensional transformations.

3.Design three dimensional graphics

4.Apply three dimensional transformations.

5.Apply Illumination and color models.

6.Apply clipping techniques to graphics.

7.Understood Different types of Multimedia File Format

8.Design Basic 3d Scenes using Blender

Sl. No.	Topic(s)	T / R* Book	Periods Required	Mode of Teaching (BB / PPT / NPTEL / MOOC / etc)	Blooms Level (L1-L6)	CO	PO
	UNIT-I ILLUMINATION AND COLOR MODELS						
1	Light sources	T1	1	BB	L1	CO1	PO1
2	basic illumination models	T1	1	BB	L2	CO1	PO1
3	Standard primaries and chromaticity diagram;	T1	1	PPT	L3	CO1	PO1
4	RGB colour model	T1	1	PPT	L3	CO1	PO2
5	YIQ colour mode	T1	1	PPT	L2	CO1	PO1-3
6	Output primitives	T1	1	PPT	L3	CO1	PO1-3
7	points and lines, line drawing algorithms	T1	1	BB	L3	CO1	PO1-3
8	loading the frame buffer	T1	1	BB	L3	CO1	PO1
9	circle and ellipse generating algorithms	T1	1	BB	L1	CO1	PO1
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Planned if any							
Evaluation method							
	UNIT II TWO-DIMENSIONAL GRAPHICS						
10	Two dimensional geometric transformations	T1	1	BB	L1	CO2	PO2
11	Matrix representations and homogeneous coordinates, composite transformations	T1	1	BB	L2	CO2	PO2
12	Two dimensional viewing – viewing pipeline	T1	1	BB	L2	CO2	PO2
13	Viewing coordinate reference frame	T1	1	BB	L3	CO2	PO1-3
14	window-to-viewport coordinate transformation	T1	1	BB	L3	CO2	PO1-3
15	Two dimensional viewing functions	T1	1	PPT	L2	CO2	PO1-3
16	clipping operations	T1	1	PPT	L3	CO2	PO1,2
17	point and line clipping algorithms.	T1	1	PPT	L3	CO2	PO1,2
18	polygon clipping algorithms.	T1	1	PPT	L1	CO2	PO1-3
Suggested Activity: Assignment / Case Studies / Tuorials/ Quiz / Mini Projects / Model Developed/others Planned if any							
Evaluation method							
	UNIT III THREE-DIMENSIONAL GRAPHICS						
19	Three dimensional object representations	T1	1	BB	L2	CO3	PO1
20	Polygon surfaces ,Polygon tables	T1	1	BB	L3	CO3	PO1-3
21	Plane equations - Polygon meshes	T1	1	BB	L2	CO3	PO1-3
22	Curved Lines and surfaces	T1	1	BB	L2	CO3	PO2
23	Spline representations – Bezier curves and surfaces	T1	1	BB	L3	CO3	PO1-3
24	Three dimensional geometric and modeling transformation	T1	1	PPT	L3	CO3	PO1
25	Translation, Rotation, Scaling,	T1	1	PPT	L1	CO3	PO1
26	composite transformations	T1	1	PPT	L2	CO3	PO1
27	viewing pipeline, viewing coordinates, Projections,	T1	1	BB	L2	CO3	PO1-3
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Planned if any							
Evaluation method							
	UNIT IV MULTIMEDIA SYSTEM DESIGN & MULTIMEDIA FILE HANDLING						
28	Multimedia applications	T2	1	BB	L1	CO4	PO2
29	Multimedia system architecture	T2	1	BB	L2	CO4	PO1-3
30	Evolving technologies for multimedia	T2	1	BB	L2	CO4	PO2
31	Defining objects for multimedia systems	T2	1	BB	L3	CO4	PO2
32	Multimedia databases. Compression and decompression	T2	1	BB	L2	CO4	PO1
33	Data and file format standards	T2	1	BB	L1	CO4	PO1-3
34	Multimedia I/O technologies	T2	1	PPT	L2	CO4	PO2
35	Digital voice and audio	T2	1	PPT	L1	CO4	PO2

36	Video image and animation	T2	1	PPT	L2	CO4	PO2
Suggested Activity: Assignment / Case Studies / Tutorials/ Quiz / Mini Projects / Model Developed/others Planned if any							
Evaluation method							
UNIT V	HYPERMEDIA						
37	Multimedia authoring and user interface	T2	1	BB	L1	CO5	PO2
38	Hypermedia messaging	T3	1	BB	L2	CO5	PO1,2
39	Mobile messaging	T4	1	BB	L2	CO5	PO1-3
40	Hypermedia message component	T5	1	BB	L4	CO5	PO1-3
41	Creating hypermedia message	T6	1	PPT	L2	CO5	PO2
42	Integrated multimedia message standards	T7	1	PPT	L4	CO3	PO1-3
43	Integrated document management	W1	1	BB	L4	CO4	PO1-3
44	BLENDER GRAPHICS	W1	1	BB	L2	CO5	PO1-3
45	Shading & Textures	W1	1	BB	L3	CO5	PO2
Suggested Activity: Tutorials							
Evaluation method :Class discussion about various Graphics Design packages							
Content Beyond the Syllabus Planned							
1	Multimedia project given to the students						
2	Graphics Designing given to the students						

Text Books

1	Donald Hearn and Pauline Baker M, —Computer Graphics", Prentice Hall, New Delhi, 2007 [UNIT I – III]
2	Andleigh, P. K and Kiran Thakrar, —Multimedia Systems and Design‖, PHI, 2003. [UNIT IV,V]

Reference Books

1	Judith Jeffcoate, —Multimedia in practice: Technology and Applications‖, PHI, 1998
2	Foley, Vandam, Feiner and Hughes, —Computer Graphics: Principles and Practice‖, 2nd Edition, Pearson Education, 2003
3	Jeffrey McConnell, —Computer Graphics: Theory into Practice‖, Jones and Bartlett Publishers,2006
4	Hill F S Jr., "Computer Graphics", Maxwell Macmillan , 1990

Website / URL References

1	w1 : https://www.blender.org/support/tutorials
2	
3	

Blooms Level

Level 1 (L1) : Remembering	Lower Order Thinking	Fixed Hour Exams	Level 4 (L4) : Analysing		Higher Order Thinking	Projects / Mini Projects
Level 2 (L2) : Understanding			Level 5 (L5) : Evaluating			
Level 3 (L3) : Applying			Level 6 (L6) : Creating			

Mapping syllabus with Bloom's Taxonomy LOT and HOT

Unit No	Unit Name	L1	L2	L3	L4	L5	L6	LOT	HOT	Total
Unit 1	LLUMINATION AND COLOR MODEL	2	2	5	0	0	0	9	0	9
Unit 2	TWO-DIMENSIONAL GRAPHICS	3	4	4	0	0	0	11	0	11
Unit 3	THREE-DIMENSIONAL GRAPHICS	2	4	4	0	0	0	10	0	10
Unit 4	SYSTEM DESIGN & MULTIMEDIA FI	4	5	1	0	0	0	10	0	10
Unit 5	HYPERMEDIA	5	4	1	3	0	0	10	3	13
Total		7	19	15	3	0	0	50	3	53
Total Percentage		13.2075	35.8491	28.3019	5.660377358	0	0	94.3396	5.66038	100

CO PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	0	0	0	0	0	0	0	0	0	3	2
CO2	3	2	1	0	0	0	0	0	0	0	0	0	3	2
CO3	3	2	2	0	0	0	0	0	0	0	0	0	3	2
CO4	3	2	2	0	0	0	0	0	1	0	0	0	3	2
CO5	3	2	1	0	0	1	0	0	0	0	0	0	3	2
Avg	3	2	1.4	0	0	0.2	0	0	0.2	0	0	0	3	2

Justification for CO-PO mapping	
CO1	Design two dimensional graphics
CO2	Apply two dimensional transformations
CO3	Design three dimensional graphics
CO4	Understood Different types of Multimedia File Format
CO5	Design Basic 3d Scenes using Blender

3	High level	2	Moderate level	1	Low level

Name & Sign of Subject Expert	:
Head of the Department	:CSE

Format No :231