



SECOND-YEAR DIPLOMA ENGINEERING SYLLABUS

Semester: 4th

Course Code: 002205402

Type of Course: PCC-LC-9

Course Name: Computer Graphics-LAB

Course Prerequisites: Basic knowledge about Computer Graphics.

COURSE OBJECTIVE(S):

The Computer Graphics course prepares students for activities involving the design and development of graphics and animations found in media, entertainment, sciences and engineering. The students need to learn the basic elements of graphics, perform operation of translation, scaling, rotation of two/three dimensional pictures, develop interactive graphics user interface and prepare media elements for the above applications.

In this course the students will be able to learn basics of Computer Graphics, Output Primitives, 2/3-Dimensional Geometry and Viewing, and Application of Computer graphics in Image Processing. For some students this course may lead to a career in the area of graphics and animations.

TEACHING & EXAMINATION SCHEME:

Teaching Scheme (Hrs/Week)				Examination Scheme				
Theory	Tutorial	Practical	Credit	SEE		CA		
				Th	Pr	MSE	PLE	LA
0	0	4	2	00	25	00	00	25
							Total	
							50	

SEE: Semester End Examination; CA: Continuous Assessment; Th: Theory; Pr: Practical; MSE: Mid Semester Examination; PLE: Participatory Learning Experience; LA: Laboratory Assessment

TOTAL Practical Hours: No. of Practical Hrs/Week*15 = 60

LIST OF PRACTICALS: (sample for 2 hrs/week)*15 weeks

Sr. No.	Content	Unit No.	Time Duration
1	Demonstrate working of different input devices.	1	4
2	Demonstrate working of different output devices.	1	2
3	Implement the algorithm to draw line using different line style	2	2
4	Implement the DDA algorithm to draw the line. Generalize it for co-ordinates.	2	4
5	Implement the Bresenham's algorithm to draw the line. Generalize it for co-ordinates.	2	2
6	Implement the midpoint circle generation algorithm to draw circle.	2	4
7	Implement the ellipse generation algorithm to draw Ellipse using	2	4



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8	Implement the algorithm to Draw the polygon using filling technique.	2	4
9	Perform the Line Clipping Algorithm.	2	2
10	Perform the Polygon clipping algorithm.	2	2
11	Perform the operation of scaling for two dimensional pictures.	3	4
12	Perform the operation of translation for two dimensional pictures	3	4
13	Perform the operation of Rotation for two dimensional pictures.	3	2
14	Perform the operation of windowing and clipping techniques	3	4
15	Perform the operation of translation for three dimensional pictures.	4	2
16	Perform the operation of scaling for three dimensional pictures.	4	4
17	Perform the operation of Rotation for three dimensional pictures.	4	2
18	Develop an application to implement animations using built in functions in C.	4	4
19	Perform the Resizing and cropping of different images	5	2
20	Perform the application of quantisation levels on different digital images	5	2
	TOTAL		60

Text Book(s):

Title of the Book	Author(s)	Publication
Computer Graphics	Sindhe B B	ATUL PRAKASHAN

Reference Book(s):

Title of the Book	Author(s)	Publication
ComputerGraphics- CVersion	D.Hearn, P. Baker	D.Hearn, P. Baker
ComputerGraphics	Foley,vanDam	PearsonEducation
ComputerGraphics	Sinha,Udai	TMH

Web Material Link(s):

- <https://boonsuen.com/process-scheduling-solver>
- <http://cpuburst.com/ganttcharts.html>
- <https://codepen.io/faso/pen/zqWGQW>
- <https://www.tutorialspoint.com>



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- e) www.w3schools.com
- f) <https://nptel.ac.in/courses/106106144>
- g) <https://nptel.ac.in/courses/106105214>
- h) <https://nptel.ac.in/courses/106102132>
- i) <https://nptel.ac.in/courses/106106090/>

Equivalent/Corresponding Course on NPTEL (SWAYAM):

NPTEL course on

https://onlinecourses.nptel.ac.in/noc21_cs02/preview

<https://nptel.ac.in/courses/106/105/106105151/>

PRACTICAL EVALUATION:

Sr. No.	Activity	Marks	Weightage
1	Semester End Examination (External Practical)	30	60%
2	Continuous Assessment Practical (CAP)	20	40%
	Semester End Examination (External Practical)		
1(a)	Lab Experiment/Exercise		30%
1(b)	Viva-voce		20%
1(c)	Certified Record		10%
	Continuous Assessment Practical (CAP)		
2(a)	Day to day Laboratory Work & Attendance		15%
2(b)	Submission of Laboratory Work/Journal		10%
2(c)	Exam		15%

* For 4 Credit Subjects

1 Credit = 25 Marks

Theory: 3 Credits = 75 Marks

Practicals: 1 Credit = 25 Marks

SEE Evaluation will be of 100 marks and converted to 50 Marks (75 Th + 25 Pr)

CA Evaluation will be of 100 Marks and converted to 50 Marks. (75 Th + 25 Pr)

Distribution of Marks for Theory Evaluation as per Bloom's Taxonomy Level:

Level	Remember	Understand	Apply	Analyse	Evaluate	Create
% Weightage	19%	23%	28%	20%	-	-

COURSE OUTCOMES:

CO-1	Introduction of computer graphics.
CO-2	Test and Implement Line drawing Algorithm
CO-3	Explain Basic 2-Dimensional Transformations.



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CO-4	Describe the types of Projections.
CO-5	Explain Importance of Image Processing.