KRISHNASAMY
College of
ENGINEERING & TECHNOLOGY
Approved by AICTE & Affiliated to Anna University
Anand Nagar, Nellikuppam Main Road, S. Kumarapuram, Cuddalore - 607 109, Tamil Nadu.
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DEPARTMENT OF CSE

18.07.2022

CIRCULAR

Ref.: KCET/CSE/VAC/CIRCULAR/2022-23/01.

The following Value Added Course will be conducted during the academic year 2022-2023. The course will be conducted from 02.08.2022 to 06.08.2022. Students are instructed to register their names in the course allotted to them.

Note: Students are instructed to attend the program without fail.

S.No.	Course Code	Name of the Course	Year	No. of Period	Course Coordinator
1	CS-VAC2201	FREE & OPEN SOURCE SOFTWARE	III & IV	30	Ms.C.Reikha ,AsP - CSE
2	CS-VAC2202	COMPUTER GRAPHICS	II	30	Mrs.P.M.Kamatchi, AP - CSE

C.Reikha 11/7/22
HOD/CSE

Copy to:

Class Room

Class In charge

Department File

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SYLLABUS

Subject Code/ Subject Name: CS-VAC2202- COMPUTER GRAPHICS

Duration: 30 Hours

COURSE OBJECTIVES:

- To understand the basic objectives and scope of computer graphics.
- To identify computer graphics applications and common graphics APIs.
- To know the basic structures of 2D and 3D graphics systems.

MODULE I INTRODUCTION 7

Overview of Computer Graphics System: Video Display Devices – Raster Scan Systems – Random – Scan Systems - Graphics Monitors and Workstations – Input Devices – Hardcopy Devices – Graphics Software.

MODULE II LINE DRAWING ALGORITHM 7

Output Primitives: Line Drawing Algorithms – Loading the Frame Buffer – Line Function – Circle – Generating Algorithms. Attributes of Output Primitives: Line Attributes – Curve Attributes – Color and Grayscale levels– Area fill Attributes – Character Attributes – Bundled Attributes – Inquiry Functions.

MODULE III 2D GEOMETRIC TRANSFORMATIONS 8

2D Geometric Transformations: Basic Transformation – Matrix Representations – Composite Transformations – Window to View port Co-Ordinate Transformations. Clipping: Point Clipping – Line Clipping – Cohen-Sutherland Line Clipping – Liang Barsky Line Clipping – Polygon Clipping – Sutherland – Hodgman Polygon Clipping – Curve Clipping – Text Clipping.

MODULE IV 3D GEOMETRIC AND MODELLING TRANSFORMATIONS 8

3D Geometric and Modelling Transformations: Translation – Scaling – Rotation – Other Transformations. Visible Surface Detection Methods: Classification of Visible Surface Detection Algorithm –Blackface Detection – Depth-Buffer Method – A-Buffer Method – Scan-Line Method –Applications of Computer Graphics.

TOTAL : 30 PERIODS

COURSE OUTCOMES:

Upon successful completion of this course the students would be able to:

- Understand the basics of Computer Graphics, Different Graphics Systems and Applications of Computer Graphics.
- Learn Algorithms for Scan Conversion and filling of Basic Objects and their Comparative Analysis.
- Use of Geometric Transformations on Graphical Objects and their Application in Composite form.
- Apply 2D Geometric Transformations
- Use 3D Geometric and Modelling Transformations.

TEXT BOOKS:

1. Donald Hearn M. Pauline Baker, Computer Graphics C Version, Pearson Education, 2014.

2. Alexey Boreskov, Evgeniy Shikin, "Computer Graphics From Pixels to Programmable Graphics Hardware", CRC Press, 2013.

REFERENCES:

1.. Branislav Sobota, "Computer Graphics and Imaging", Intech Open Publication, 2019.

2. Dr. Deepali A. Godse, Atul P. Godse, "Computer Graphics", UNICORN Publishing Group, 2020.

3. Gabriel Gambetta, "Computer Graphics from Scratch A Programmer's Introduction to 3D Rendering", No Starch Press, 2021.

18/7/22
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