



## COURSE PLAN

1. Course Outline			
Course Title	Graphics and Multimedia		
Course Code	CA723		
Department	Computer Applications	No. of Credits	3
Pre - Requisite Course	Data Structure and Applications	Faculty Name	A.Cynthia Devi
PAC Chairman	Dr. P.J.A. Alphonse		
Email	<a href="mailto:cynthia@nitt.edu">cynthia@nitt.edu</a>	Telephone no	9791957080
Course Type	Core Course	Office	Lyceum 308
Course Material	Donald Hearn, M. Pauline Baker, "Computer Graphics", 2nd Edition, 2000, PHI		

### 2. Course Overview

Graphics and multimedia design and development play an increasingly key role in the advertising and entertainment industries with an increasing corresponding demand for professionals with the skills and knowledge to develop appropriate solutions for the broad range of sectors. This course addresses these requirements by providing a structured curriculum that integrates and relates the key methodologies, techniques, and technologies of computer graphics, multimedia and animation design, production and workflow.

### 3. Course Objectives

To learn the principles of Graphics Algorithms and Multimedia Techniques

### 4. Course Outcomes

Students will be able to

- Explain, discuss and solve simple problems in the basic representation and handling of multimedia data (images, audio and animation), and the basic components of a 2D and 3D-environments.
- Work on two dimensional and three dimensional transformations
- Work on graphical elements using graphics software.

5.Course Outcome (CO)	Aligned Program Outcome (PO)											
	PO -1	PO- 2	PO -3	PO -4	PO -5	PO -6	PO -7	PO -8	PO -9	PO 10	PO 11	PO 12
CO1	H	H										
CO2	L		L	M								
CO3		H			M							

6. Course Teaching and Learning Activities			
Week	No. of Classes	Topic Covered	Mode of Delivery
1	Class I	Display Devices	Chalk and Talk
	Class II	Interactive Input devices	Chalk and Talk
	Class III	Graphics introduction with language	Chalk and Talk
2	Class I	Points and lines – line drawing algorithms	Chalk and Talk
	Class II	Slope Intercept & DDA	Chalk and Talk
	Class III	Bresenham Line Drawing	Chalk and Talk
3	Class I	Parallel line algorithm and line function	Chalk and Talk
	Class II	Circle drawing algorithm Properties of circle	Chalk and Talk
	Class III	Mid point circle drawing algorithm	Chalk and Talk
4	Class I	Two-dimensional Transformations	Chalk and Talk
	Class II	Scan Conversion Algorithms	Chalk and Talk
	Class III	Windowing	Chalk and Talk
5	Class I	Clipping	Chalk and Talk
	Class II	Clipping line	Chalk and Talk
	Class III	Clipping polygon and text	Chalk and Talk
6	Class I	Segmenting	Chalk and Talk
	Class II	Viewport Transformations	Chalk and Talk
	Class III	3D Concepts	Chalk and Talk
7	Class I	Projections – Parallel Projection - Perspective Projection	Chalk and Talk
	Class II	Visible Surface Detection Methods	Chalk and Talk
	Class III	Three-dimensional Transformations	Chalk and Talk
8	Class I	Visualization and polygon rendering	Chalk and Talk
	Class II	Hidden Surface Elimination Algorithms	Chalk and Talk
	Class III	Multimedia hardware & software	Chalk and Talk , PPT
9	Class I	Components of multimedia – Text, Image	Chalk and Talk, PPT
	Class II	Graphics , Audio , Video , Animation ,Authoring.	Chalk and Talk, PPT
	Class III	Color models – XYZ-RGB-YIQ-CMY-HSV Models	Chalk and Talk , PPT
10	Class I	Multimedia communication systems	Chalk and Talk , PPT
	Class II	Multimedia Information Retrieval	Chalk and Talk , PPT
	Class III	Video conferencing , Virtual reality	Chalk and Talk , PPT

7. Course Assessment Methods - Theory				
Sl. No.	Mode of Assessment	Week/	Duration	Weightage(%)
1.	Cycle Test -1	4 th week	60 mins	20
2.	Cycle Test -2	8 th week	60 mins	20
3.	Assignment/ Seminar	7 th to 10thweek	-	10
4.	End Semester Exam	-	180 mins	50

#### 8. Essential Readings (Textbooks, Reference books, Websites, Journals, etc.)

##### REFERENCES:

1. Hearn D and Baker M.P, "Computer graphics-C Version", 2ndEdition, Pearson Education, 2004.
2. Donald Hearn, M. Pauline Baker, "Computer Graphics", 2nd Edition, 2000, PHI.
3. Ralf Steinmetz, Klara Steinmetz, "Multimedia Computing, Communications and Applications", Pearson Education,2004.
4. Siamon J. Gibbs ,Dionysios C. Tsihrizis, "Multimedia programming", Addison Wesley,1995.
5. John Villamil, Casanova ,LeonyFernandez, Eliar, "Multimedia Graphics", PHI,1998.

#### 9. Course Exit Survey

1. The students through the class rep may give their feedback at any time to the course HOD which will be duly addressed.
2. The students may also give their feedback during Class Committee meeting.
3. Course Outcome Survey' form will be distributed on the last working day to all the students and the feedback on various rubrics will be analyzed.
4. The COs will be computed after arriving at the final marks


#### 10. Course Policy


1. Attendance 100% is a must. However, relaxation up to 25% will be given for leave on emergency requirements (medical, death, etc.) and representing institute events.
2. Academic Honesty
  - i) Possession of any electronic device, if any, found during the test or exam, the student will be debarred for 3 years from appearing for the exam and this will be printed in the Grade statement/Transcript.
  - ii) Tampering of MIS records, if any, found, then the results of the student will be withheld and the student will not be allowed to appear for the Placement interviews conducted by the Office of Training & Placement, besides (i)

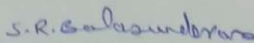
#### 11. Additional Course Information

The students can get their doubts clarified at any time with their faculty member.

#### For Senate's Consideration

  
(Mrs. A. Cynthia Devi)  
Course faculty Class

  
(Dr. P.J.A. Alphonse)  
Committee Chairperson

  
(Dr. S.R. Balasundaram)  
Head of the Department