Ramgarhia Polytechnic College, Phagwara

Computer Science Engineering Department

Head of Department: Er. Poonam Rana

Name of the Faulty: Er. Sangita Salhan

Discipline: Computer Science Engineering Department

Semester: 3rd

Subject: Multimedia and Animation Technology

Lesson Plan Duration: 16 Weeks

RATIONALE

This subject aims to develop a clear understanding of what is multimedia? And how it can be used for enhancing teaching instruction methodologies, business and personal communications. It will help the students in understanding technical aspects of multimedia content creation, the processes and tools used for designing multimedia systems. This will make the students proficient in designing and developing a multimedia application.

Course Outcomes

After undergoing the subject, the students will be able to:

CO1.   Define and describe multimedia function

CO2.   Identify and explain the devices, hardware and software system.

CO3.   Operate and design in graphics.

CO4.   Use photo-shop software for drawing and editing photos.

CO5.   Identify the tools to create animations,

CO6.   Reduce the size of various file formats i.e. audio, video and text.

PO ⟹ CO ⇩	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	—						
CO2		✔					
CO3			✔				
CO4			✔	✔			
CO5		✔		✔			
CO6				✔			

Syllabus

Units	Details	Hours
1.	**Introduction to Multimedia Systems** What is Multimedia?, History of Multimedia, Quality criteria and specifications of different capturing devices, Communication devices, Storage devices, Display devices, Elements of Multimedia and different multimedia file formats, Applications of multimedia – benefits and problems.	(06 hrs)
2.	**Multimedia Hardware and Software Essentials** Classes of Multimedia Systems, Components of a Multimedia System: Quality Criteria and specifications of different Capturing Devices, Communication Devices, Storage Devices, Display Devices.	(08 hrs)
3.	Content and Project Planning, Designing and development Planning steps and process, Concept of data compression, Text encoding, Audio encoding techniques, Types of images, Capturing images using camera/scanner, coding techniques for Moving Images, Editing , Editing of images audio, text, video and graphics, navigation and user interface designing.	(08 hrs)
4.	**Using Image Processing Tools** Photo-shop workshop, image editing tools, specifying and adjusting colors, using gradient tools, selection and move tools, transforming path drawing and editing tools, using channels, layers, filters and actions	(08 hrs)
5.	**Multimedia Authoring Tools** Types of Authoring programmes – Icon based, Time based, Story boarding/scripting and object oriented working in macromedia flash, exploring interface using selection pf PEN tools. Working with drawing and painting tools, applying colour viewing and manipulating time line, animating, processing, guiding layers, importing and editing sound and video clips in flash	(12 hrs)
6.	**Animation Technology** Definition, History of Animation, Types of animation- 2D and	(06 hrs)

| 3D, Basic principles of animation, Various Terms-Animation Drawings/Cels, Rough Drawings , Clean ups, Color reference drawings, Layout, Model Sheet, Key Drawings and in Betweens, Master Background, Concept Piece, Character drawing , Story Board. | |

LISTOFPRACTICALS

1. Installation of various multimedia software like Photoshop, Flash, Director or any open source software
2. Installing and use of various multimedia devices

    -   Scanner

    -   Digital camera, web camera

    -   Mike and speakers

    -   Touch screen

    -   Plotter and printers

    -   DVD

    -   Audio CD and Video CD

3. Reading and writing of different format on CD/DVD

4. Transporting audio and video files

5. Using various features of Flash

6. Using various features of Photo-shop/GIMP

7. Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations.

8. Flip Books: Capture a series of images using your camera's continuous mode. Design your Flipbook, Printing the flipbook, Lay out the Flipbook pages, and arrange the pictures, holding the end of the stack.

9. Stop Motion Animation: using characters in stop motion animation.

Reference Books:

1. Principles of Multimedia by Parikh, Tata McGraw Hill Education Pvt Ltd , New Delhi

2. Multimedia Technologies by Banerji,Tata McGraw Hill Education Pvt Ltd , New Delhi

3. Multimedia An Introduction by Villam Casanova and Molina; Prentice Hall of India, New Delhi

4. Photo-shop for Windows Bible by Deke Maclelland IDG Books India Pvt. Ltd., New Delhi

5. The complete animation course by Chris Patmore Pub.-Baron's Educational Series.(New York)

6. Animation Unleashed by Ellen Bessen, Michael Weise Productions,2008(U.S.A)

Delivery/Instructional Methodologies

Sr.No.	Description
1.	Chalk and Talk
2.	PowerPoint Presentation

Assessment Methodologies

Sr. No.	Description	Type
1.	Student Assignment	Direct
2.	Test	Direct
3.	Board Examination	Direct
4.	Student Feedback	Direct

Gaps in the syllabus - to meet industry/profession requirements

S.NO.	DESCRIPTION	PROPOSED ACTIONS	PO MAPPING
	N/A	N/A	N/A

Topics beyond syllabus/advanced topics

Units	Details	Hours
N/A	N/A	N/A

Web Source References

Sr. No.	URL
1.	

Lesson Plan

Week	Theory		Practical	
	Lecture Day		Practical Day	
1st	1st	Introduction to Multimedia Systems What is Multimedia?	1.	1. Installation of various multimedia software like Photoshop or any open source software
	2nd	History of Multimedia		
	3rd	Quality criteria and specifications of different capturing devices		
2nd	4th	Communication devices, Storage devices, Display devices	2.	Installation of various multimedia software like Flash, Director or any open source software
	5th	Elements of Multimedia and different multimedia file formats Applications of multimedia – benefits and problems.		
	6th			
3rd	7th	Multimedia Hardware and Software Essentials,	3.	2. Installing and use of various multimedia devices • Scanner
	8th	Classes of Multimedia Systems,		
	9th	Components of a		

		Multimedia System Quality Criteria and specifications of different Capturing Devices		
4th	10th	Communication Devices, Storage Devices, Display Devices.	4.	Installing and use of various multimedia devices
	11th			
	12th			• Digital camera, web camera
5th	13th	**SEMINAR**	5.	Installing and use of various multimedia devices.
	14th			• Mike and speakers
	15th	Content and Project Planning, Designing and development, Planning steps and process		• Touch screen
6th	16th	**REVISION**	6.	Installing and use of various multimedia devices
	17th	**PTM**		
	18th	**1st Sessional Test (Tentative)**		Plotter and printers
7TH	19th	Concept of data compression, Text encoding, Audio encoding techniques, Types of images, Capturing images using camera/scanner	7.	Installing and use of various multimedia devices
				• DVD
				• Audio CD and Video CD
	20th	coding techniques for Moving ImagesEditing , Editing of images audio, text, video and		

	21th	graphics, navigation and user interface designing.		
8th	22th	**SEMINAR**	8.	3. Reading and writing of different format on CD/DVD
	23th	Using Image Processing Tools		
	24th	Photo-shop workshop, image editing tools ,specifying and adjusting colors, using gradient tools		
9th	25th	selection and move tools transforming path drawing	9.	Reading and writing of different format on CD/DVD
	26th			
	27th			
10th	28th	editing tools, using channels, layers, filters and actions	10.	4. Transporting audio and video files
	29th			
	30th			
11th	31st	Multimedia Authoring Tools,Types of Authoring programmes . Icon based, Time based, Story boarding/scripting and object oriented working in macromedia flash	11.	5. Using various features of Flash
	32nd			
	33th			

12th	34th	**REVISION**		6. Using various features of Photo-shop/GIMP
	35th	**PTM** **2nd Sessional Test (Tentative)**	12.	
	36th			
13th	37th	Exploring interface using selection pf PEN toolsWorking with drawing and painting tools, applying colour viewing and manipulating time line, animating, processing, guiding layers Importing and editing sound and video clips in flash	13.	7. Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations
	38th			
	39th			
14th	40th	Animation Technology, Definition. 2D and 3D, Basic principles of animation, History of Animation, Types of animation	14	Making multimedia presentations combining, Flash, Photo-shop, such as department profile, lesson presentation, games and project presentations
	41st			
	42nd			
15th	43rd	Various Terms-Animation Drawings/Cels, Rough Drawings Clean ups, Color reference drawings Layout, Model Sheet, Key Drawings and in Betweens Master Background, Concept PieceCharacter drawing , Story Board.	15.	8. Flip Books : Capture a series of images using your camera's continuous mode. Design your Flipbook , Printing the flipbook ,Lay out the Flipbook pages, Arrange the pictures, Holding the end of the stack.
	44th			
	45th			

	46th	**REVISION**		9. Stop Motion Animation using characters in stop motion animation.
16th	47th	**PTM**	16.	
	48th	**3rd Sessional Test (Tentative)**		

NBA has defined the following seven POs for an Engineering diploma graduate:

i) **Basic and Discipline specific knowledge**: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

ii) **Problem analysis:** Identify and analyze well-defined engineering problems using codified standard methods.

iii**)** **Design/ development of solutions**: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

iv) **Engineering Tools, Experimentation and Testing**: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

v) **Engineering practices for society, sustainability and environment**: Apply appropriate technology in context of society, sustainability, environment and ethical practices.

vi)   **Project Management**: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

vii)   **Life-long learning**: Ability to analyze individual needs and engage in updating in the context of technological changes.

Program Specific Outcomes (PSOs)

PSOs are a statement that describes what students are expected to know and be able to do in a specialized area of discipline upon graduation from a program. Program may specify 2-4 program specific outcomes, if required.

These are the statements, which are specific to the particular 11 program. They are beyond POs. Program Curriculum and other activities during the program must help in the achievement of PSOs along with POs.