SRM UNIVERSITY
FACULTY OF ENGINEERING AND TECHNOLOGY
SCHOOL OF COMPUTING
DEPARTMENT OF SOFTWARE ENGINEERING
COURSE PLAN

SUBJECT CODE : **SE1122** **SUBJECT TITLE** : MULTIMEDIA SYSTEMS
SEMESTER/YEAR : **V / III** **SEMESTER DURATION** : **FEB- APRIL 2016**

DAY ORDER	HOUR	TIMING

VENUE : SRM University Block –UB1204

FACULTY DETAILS:

NAME OF THE FACULTY	OFFICE	OFFICE HOUR	EMAIL ID
S.Karthik	**UB1204**	**Mon –Fri**	**karthik.sa@ktr.srmuniv.ac.in**

TEXT BOOKS

1. Ranjan Parekh, *"Principles Of Multimedia"*, The McGraw - Hills Company, Twelfth Reprint 2011.
2. Prabhat K. Andleigh, Kiran Thakrar, *"Multimedia System Design"*, PHI.

REFERENCES

Ralf Steinmetz, Klara Nahrstedt, *"Multimedia Systems"*, Springer, 2009.

INSTRUCTIONAL OBJECTIVES

1. To provide a solid background knowledge of Multimedia.
2. To educate Different Medias and Technologies.
3. To emphasize the importance of Networks and Operating System.
4. To provide a modest experience to handle Multimedia Application Development.

Assessment

S.No	ASSESSMENT ITEM	Execution Plan	WEIGHTAGE
1	Assignments / Surprise Test	Session- 7,8,17,18, 26, 27,36, 41	10
2	Cycle Test – I	7th Week	10
3	Cycle Test – II	12th Week	10
4	Model Exam	15th Week	20
	Total		**50**

Test Schedule

S.No.	DATE	TEST	TOPICS	DURATION
1		**Cycle Test – I**	**Unit I & II**	**2 periods**
2		**Cycle Test – II**	**Unit III & IV**	**2 periods**
3		**Model Exam**	**All 5 units**	**3 Hrs**

Outcomes

Students who have successfully completed this course will have full understanding of the following concepts

Detailed Session Plan

UNIT 1 FOUNDATIONS 9

Multimedia an overview – Digital representation – Visual Display Systems – Multimedia Input and output Technologies.

Session No.	Topics to be covered	EXECUTION METHOD	Text Book/Ref Book Details	ASSIGNMENT TOPIC	PRESENTATION/ SUBMISSION DUE DATE
1	Introduction to multimedia	**BB & PPT**	T1: **Ranjan Parekh**, *"Principles Of Multimedia"*, The McGraw - Hills Company, Twelfth Reprint 2011		
2	Multiple Media	**BB & PPT**	T1		
3	Utilities of multisensory perception	**BB & PPT**	T1		
4	Digital Representation	**BB & PPT**	T1		
5	Visual Display Systems	**BB & PPT**	T1		
6	Multimedia Input/ Output Technologies	**BB & PPT**	T1		
7	Video and Image Display Systems	**BB & PPT**	T1		
8	Video Images and Animation	**BB & PPT**	T1		Assignment1 Review
9	Full motion Video Controllers	**BB & PPT**	T1		Assignment1 Review

UNIT 2 Text, Image and Graphics 9

Text: Introduction- Types of Text – Unicode Standard – Font – Insertion of Text – Text compression – File Formats. Image: Image types – Seeing color – Color Models – Basic Steps for image processing – Scanner –Digital Camera – Interface standards – Specifications of digital images – Color Management Systems – Image processing Software - File Formats – Image output on monitor – Image output on printer, Graphics

10	Introduction to Types of Text	**BB & PPT**	T1		
11	Text Compression	**BB & PPT**	T1		
12	Image Types- Digital Camera	**BB & PPT**	T1		
13	Color Management System	**BB & PPT**	T1		
14	File Formats	**BB & PPT**	T1		
15	Graphics- Drawing algorithms	**BB & PPT**	T1		
16	Line, Circle, Filling, Clipping algorithms	**BB & PPT**	T1		
17	3D Graphics and Modelling	**BB & PPT**	T1		Assignment2 Review
18		**BB & PPT**	T1		Assignment2 Review

UNIT 3 Audio, Video and Animation **9**

Audio: Introduction – Acoustics – Nature of sound waves – Characteristics of Sound – Elements of Audio Systems- Microphone – Amplifier – Loud Speaker – Audio Mixer – Digital Audio – Synthesizer – MIDI – Audio Transmission – Audio recording Devices – File Formats, Video, animation

19	Introduction to Audio File Formats	**BB & PPT**	T1		
20	Characteristics of Sound	**BB & PPT**	T1		

21	Elements of Audio Systems	**BB & PPT**	T1		
22	Microphone- Amplifier	**BB & PPT**	T1		
23	Loud Speaker	**BB & PPT**	T1		
24	Audio Mixer & Digital Audio	**BB & PPT**	T1		
25	MIDI, Audio Transmission	**BB & PPT**	T1		
26	Audio Recording Devices	**BB & PPT**	T1		Assignment 3 Review
27	File Formats, video, Animation	**BB & PPT**	T1		Assignment 3 Review
UNIT 4 MULTIMEDIA OPERATING SYSTEMS AND MEDIA SERVER **9** Multimedia operating System: Process management – Memory Management – Device Management. Media Server: Architecture – Storage Devices – Disk Controller – File System					
28	Introduction to Multimedia operating System	**BB & PPT**	T1		
29	Process management	**BB & PPT**	T1		
30	Memory Management	**BB & PPT**	T1		
31	Device Management	**BB & PPT**	T1		
32	Media Server Architecture	**BB & PPT**			
33	Storage Devices	**BB & PPT**	T1		
34	Disk Controller	**BB & PPT**	T1		
35	Multimedia File System	**BB & PPT**	T1		Assignment 4 Review
36		**BB & PPT**	T1		Assignment 4 Review
UNIT 5 COMMUNICATION AND DOCUMENTS **9** Compression – Network essentials – Multimedia Documents – Multimedia Application Development.					
37	Compression	**BB & PPT**	T1		
38	Lossless and Lossy compression	**BB & PPT**	T1		
39	Network Essentials	**BB & PPT**	T1		
40	TCP/IP overview	**BB & PPT**	T1		
41	DHCP	**BB & PPT**	T1		Final Assignment Review
42	Multimedia Documents- ODA, OMF, SGML	**BB & PPT**	T1		
43	Multimedia Application Development- Content collection and Processing, Testing and Feedback, Final Delivery	**BB & PPT**	T1		
44		**BB & PPT**	T1		
45		**BB & PPT**	T1		Submission of Assignment

Signature of Faculty Member

Head of the Department

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SE 1122- MULTIMEDIA SYSTEM

Assignment Topics:-

The class will be divided in to groups and assigned with the following topics and evaluation will be done through presentation of group members

Units	Topics assigned	Device/Method Used	Application Name	Groups assigned	Evaluation through
I	1. AD/DA conversion. 2. Visual display units 3. Display system technologies 4. Sample for Still image processing Comment your System by comparing with an application which satisfies the following ➢ What are the current innovations done in Multimedia Technology ➢ How Multimedia is supporting Virtual Reality Systems. Study and Analyze any 3D Graphics, 3D Modelling using a tool which satisfies the following points ➢ Types of Input and Output Devices available for 3D interaction ➢ Explain about the Architecture of your model	Discussion and Comments about the device chosen which matches with the Topics assigned unit wise with any one of following tools -like Splashup/ Dreamweaver-Kompozer/ iMovie/ JayCut/ Audacity/ GarageBand/ PhotoPeach/ Flash/ Final cut pro/ UMapper/ Map Builder/ Dipity/ iPhone/ Twitter / LinkedIn/ Skype/ Meograph/ Animoto		Students must do Individually	Presentation and Q&A session by other students

Unit	Topics assigned	Device Used	Application Name	Groups assigned	Evaluation through
II	1. Take an application which will satisfy the following ➢ Text compression ➢ Digital camera- Images with color models compared ➢ Transforming the Images using an algorithm ➢	Discussion and Comments about the device chosen which matches with the Topics assigned unit wise with any one of following tools - like Splashup/ Dreamweaver-Kompozer/ iMovie/ JayCut/ Audacity/ GarageBand/ PhotoPeach/ Flash/ Final cut pro/ UMapper/ Map Builder/ Dipity/ iPhone/ Twitter / LinkedIn/ Skype/ Meograph/ Animoto		Students must do Individually	Presentation and Q&A session by other students
III	For the following compare with your application give the comments ➢ Nature of Sound waves in your application ➢ Musical Note and pitch ➢ Usage of MIDI Files			Students must do Individually	Presentation and Q&A session by other students
IV	Comment your system with the following ➢ What Multimedia O.S is used in the system ➢ Give the Process Management used in the system ➢ Comments on Disk Storage and File system	Discussion and Comments about the device chosen which matches with the Topics assigned unit wise with any one of		Students must do Individually	Presentation and Q&A session by other students

		following tools - like Splashup/ Dreamweaver- Kompozer/ iMovie/ JayCut/ Audacity/ GarageBand/ PhotoPeach/ Flash/ Final cut pro/ UMapper/ Map Builder/ Dipity/ iPhone/ Twitter / LinkedIn/ Skype/ Meograph/ Animoto			

Units	Topics assigned	Device/Method Used	Application Name	Individual assignment	Evaluation through
V	Discuss about your application with Media Compression and Quality of it after compression	Discussion and Comments about the device chosen which matches with the Topics assigned unit wise with any one of following tools - like Splashup/ Dreamweaver- Kompozer/ iMovie/ JayCut/ Audacity/ GarageBand/ PhotoPeach/ Flash/ Final cut pro/ UMapper/ Map Builder/ Dipity/ iPhone/ Twitter / LinkedIn/ Skype/ Meograph/ Animoto		Students must do Individually	Presentation and Q&A session by other students

Staff Signature HOD/SWE