

Fundamentals of Multimedia (IC)

Course Code	L:T:P:S	Credits	Exam marks	Exam Duration	Course Type
18CSI352	3:0:2:0	4	CIE:50 SEE:50	3 Hours	FE

Course Objectives:

This course will enable students to:

- Understand the fundamental elements in multimedia.
- Learning the representations, perceptions and applications of multimedia.
- Software skills and hands on work on digital media will also be emphasized.

Syllabus

Module - I

Introduction : What is multimedia, Components of multimedia, Web and Internet multimedia applications, Transition from conventional media to digital media, Usage of text in Multimedia, Families and faces of fonts, outline fonts, bitmap fonts International character sets and hypertext, Digital fonts techniques.

08 Hours

Module - II

Sound in Multimedia: Importance of sound in Multimedia, Sound and its Attributes – tone, intensity, frequency, wavelength, pitch etc. Mono V/ S Stereo Sound, Sound Channels, Effects in Sound, Analog V/ S Digital Sound, Overview of Various Sound File Formats on PC WAV, MP3, Concept of MIDI, Software for sound editing and mixing 3D sound.

07 Hours

Module - III

Graphics in Multimedia: Importance of Graphics in Multimedia, Vector and Raster Graphics, Image Capturing Methods Scanner, Digital Camera Etc. Various Attributes of Images- Size, Color, Bit Depth, Resolution etc, Various Image File Format BMP, DIB, EPS, PIC, and TIF Format Their Features and limitations .

07 Hours

Module - IV

Video in Multimedia: Animation in Multimedia, Impact of Video in Multimedia, Basics of Analog Video, Digital Video, How to use video on PC, Brief note on various video standards PAL, NTSC, Different file formats and their use in Multimedia, MPEG, AVI, MJPG, Name of video editing software, Basics of Animation, Types of Animation and use of Animation, Cell Animation, Computer Animation, Morphing Animation, Software for Creating Animations.

07 Hours

Module - V

Applications of Multimedia and its Future: [Application of multimedia in different industries- Education, Entertainment, Journalism etc. Future of Multimedia](#), Career in Multimedia Production, Virtual Reality as new technology in multimedia, Applications of VR, Introduction to HMD, Boom cave, Introduction to various type:- Authoring Tools.

07 Hours

Experiments

1. Create an application in HTML to design the following page :

The application should allow the user to display information that lets the students to know about :

Nagarjuna College of Engineering and Technology	
• NCET Courses	NCET is an autonomous body under VTU
• Syllabus	
• Duration	
• Examinations	
• Minimum Qualifications	
• New Batches	
• Feedbacks	

- a) Apply unordered list with hyperlinks
 - b) Font type : Monotype Corsiva c) Font Size : 18, Font Color :Red
2. Create an application in HTML using forms that lets the users to fill-in their personal information/resume and submit the same.
3. Create a simple animation (for eg: an animated face showing the movements of eyes and a smiling face) by using Macromedia Flash. Use the various Flash techniques
4. Create a scene to show the effects of morphing by changing a running tiger into the image of a motor bike. Use different key frames to show the image of a tiger in the first frame and a motor bike in the last frame.
5. A mask is a special type of layer that lets you reveal selected parts of another layer, Create a mask to show the following features :
- a) people walking around inside a house,
 - b) they should be visible when they pass by a window, but invisible otherwise.
 - c) Use masking techniques to create a spotlight or showing pictures behind images.
6. Create an application to create an animated scene where
- a) A person is being chased by some animal
 - b) Use the concept of layers consisting of
 - i) a background image,
 - ii) a series of images of a running man and
 - iii) a series of images of a running animal.
 - c) Integrate the layers to generate the effect of an animated scene.

Course Outcomes:

On completion of this course, the students are able to:

- Understand the technologies behind multimedia applications
- Master the skills for developing multimedia projects.
- Summarize the key concepts in current multimedia technology.
- Create quality multimedia software titles.

Text Book:

1. Tay Vaughan, "Multimedia making it work", Tata McGraw-Hill, 2008.
2. Rajneesh Aggarwal & B. B Tiwari, "Multimedia Systems", Excel Publication, New Delhi, 2007.
3. Li & Drew, "Fundamentals of Multimedia", Pearson Education, 2009.

Reference Books:

1. Parekh Ranjan, "Principles of Multimedia", Tata McGraw-Hill, 2007
2. Anirban Mukhopadhyay and Arup Chattopadhyay, "Introduction to Computer Graphics and Multimedia", Second Edition, Vikas Publishing House.