

COURSE CODE	COURSE TITLE	L	T	P	C
1152CS111	MULTIMEDIA SYSTEMS	3	0	0	3

**Course Category: Program Elective**

**A. Preamble :**

This course provides adequate knowledge in multimedia applications and usage of tools used in multimedia environment.

**B. Prerequisite Courses:**

SI No	Course Code	Course Name
1	1150CS201	Problem solving using C

**C. Related Courses:**

SI No	Course Code	Course Name
1	1156CS601	Minor Project
2	1156CS701	Major Project

**D. Course Educational Objectives :**

Students undergoing this course are exposed to

- Multimedia concepts and various I/O technologies.
- Develop their creativity in multimedia
- Basic in multimedia operating system

**E. Course Outcomes :**

Upon the successful completion of the course, students will be able to:

CO Nos.	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Discuss the characteristics of different media, multimedia data, data formats and multimedia system designs.	K2
CO2	Demonstrate various Multimedia tools and compression techniques.	K3
CO3	Apply the basic operations of Multimedia operating systems.	K3
CO4	Discuss the various reference models needed for synchronization.	K2
CO5	Model the multimedia systems according to the requirements of multimedia applications.	K3

**F. Correlation of Cos with Pos :**

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	L												L		L
CO2	L				H			H	M				L		L
CO3	L										H		L	H	L
CO4	L									M			L		L
CO5	L		M	H	H			H	H	L	H		L	H	L

H- High; M-Medium; L-Low

**G.Course Content :**

**UNIT I** **9**

**INTRODUCTION:** Elements of multimedia system – Need and aspects of multimedia – Information units.

**MULTIMEDIA:** Sound – Audio file formats – MIDI – Images – Computer Image Processing – Principles of animation – Animation techniques – Creating animated scenes – Video – Basic concepts – Video Capture – Recording format – Storage for multimedia – CD Technologies – Multimedia Workstations

**UNIT II** **9**

**MULTIMEDIA TOOLS:** Basic tools – Image-editing tool – Painting and drawing tools – Sound editing programs – Video formats – Linking multimedia objects – OLE –presentation tools – authoring tools. **DATA COMPRESSION:** Source entropy and hybrid coding – JPEG – MPEG – H.261 – DVI

**UNIT III** **9**

**MULTIMEDIA OPERATING SYSTEMS:** Introduction – Real Time – Resource Management – Process Management – File Systems – Database Systems – Multimedia Database Management System – Characteristics of an MDBMS – Data Analysis – Data Structure – Operations on Data – Integration in a Database Model

**UNIT IV** **9**

**MULTIMEDIA COMMUNICATION SYSTEMS:** Application Subsystem – Transport Subsystem – Synchronization –Introduction – Notion of Synchronization – Presentation Requirements – A Reference Model for Multimedia Synchronization – Synchronization in distributed environment

**UNIT V** **9**

**MULTIMEDIA APPLICATIONS:** Video conferencing – Tele conferencing – Tele services – messaging services – retrieval services – Tele action services

**TOTAL: 45**  
**Hours**

**G. Learning Resources**

**i. Text Books :**

1. Ralf Steinmetz, KlaraNahrstedt, “Multimedia: Computing, Communications and Applications”, Pearson Education Asia, New Delhi, 2009.

**ii. Reference:**

1. Tay Vaughan, “Multimedia: Making it work”, sixth edition, Tata McGraw Hill, New Delhi, 2006.
1. Fred Halsall, “Multimedia Communication, Application Networks, Protocols and Standard”, fourth edition, Addison Wesley, New Delhi, 2009.
2. John F.Koegal Buford, “Multimedia Systems”, Pearson Educational Asia, New Delhi, 2009.
3. Ron, Goldberg, “Multimedia Producer’s Bible”, fifth edition, Comdex Computer Publishing, New Delhi, 1996.

**1. Online resources**

1. [surendar.chandrabrown.org/teach/spr09/cse40373/lecture.html](http://surendar.chandrabrown.org/teach/spr09/cse40373/lecture.html)
2. [www.cs.bc.edu/~hjiang/c335/notes/index.html](http://www.cs.bc.edu/~hjiang/c335/notes/index.html)