

Devi Ahilya University, Indore, India Institute of Engineering & Technology			IV Year B.E. (Electronics & Instrumentation Engg.)				
Subject Code & Name	Instructions Hours per Week			Credits			
EIR6E2	L	T	P	L	T	P	Total
MULTIMEDIA COMMUNICATION	3	1	2	3	1	2	5
Duration of Theory Paper: 3 Hours							

Rationale: This course introduces technologies for multimedia processing, coding, and communications. We will address how to efficiently represent multimedia data and how to deliver them over a variety of networks. In the coding aspect, state-of-the-art compression technologies will be presented. Emphasis will be given to state-of-the-art multimedia coding standards, including JPEG/JPEG-2000, H.26x, MPEG, and scalable video coding (SVC). Besides, considerations for constructing a video codec system will also be discussed. In the aspect of multimedia networking, special considerations for sending multimedia over the Internet and wireless networks, such as video adaptation, error resilience, error concealment, and quality of service will be discussed.

Prerequisites: Basic knowledge of Wireless communication and Networks.

Course Contents

Unit-I

Multimedia Communications: Introduction, Multimedia information representation, multimedia networks, multimedia applications, Application and networking terminology.

Unit-II

Information Representation: Introduction, Digitization principles, Text, Images, Audio and Video

Unit-III

Text and image compression: Introduction, Compression principles, text compression, image Compression.

Unit-IV

Distributed multimedia systems: Introduction, main Features of a DMS, Resource management of DMS, Networking, Multimedia operating systems.

Unit-V

Multimedia Communication Across Networks: Packet audio/video in the network environment, Video transport across generic networks, Multimedia Transport across ATM Networks

Learning Outcomes:

Upon Completing the Course, students will gain the knowledge of various issues involved in multimedia communication techniques.

Books Recommended:

1. Yao Wang, Joern Ostermann, and Ya-Qin Zhang, Video Processing and Communications, Prentice Hall, 2001.
2. Mihaela vander Schaar. And Philip Chou, Multimedia over IP and Wireless Networks: Compression, networking, and Systems, by, Academic Press, 2007.