

Course content

This course covers key concepts such as the representation, encoding, storage, and transmission of multimedia data, including audio, video, and images. The course employs a blended teaching approach with lectures focused on fundamental principles and hands-on practice emphasizing practical skills. Students will learn to use multimedia software, complete basic programming tasks, and collaborate on multimedia project integration.

Key topics covered include:

1. Digital audio and MIDI fundamentals.
2. Digital image and video processing.
3. Multimedia data compression techniques.
4. Hypertext and hypermedia concepts.
5. Storage media and multimedia representation methods.
6. Multimedia synchronization techniques.
7. Multimedia databases and content-based retrieval.

Course objectives

Knowledge

1. Understand the basic concepts and principles of multimedia technologies, including the digitization and characteristics of multimedia data.
2. Comprehend the concepts of hypertext and hypermedia.
3. Stay informed about emerging trends in multimedia technology.

Skills

1. Operate multimedia-related software independently to perform media design and integration tasks.
2. Implement basic multimedia programming tasks.
3. Analyze and understand the functionality of devices used for multimedia data input and output.

Competencies

1. Independently design and integrate multimedia components for engineering projects.
2. Collaborate with peers to create and present multimedia projects.
3. Develop adaptability and learning skills to engage with the evolving field of multimedia technologies.