This course introduces important technologies and standards in building multimedia information systems (MIS). MIS refers to content management systems that utilize technologies for representing, coding, searching, visualizing, and protecting multimedia contents. The explosive growth of multimedia information makes MIS indispensable for both large organizations and individuals. Examples of MIS include digital libraries, multimedia search engines, professional media archives, home media servers, and mobile multimedia portals.

Intended for intermediate and advanced graduate students, this course will cover state-of-the-art algorithms and designs in the following areas:

- Multimedia compression techniques
- Multimedia summarization and adaptation
- Low-level feature extraction and selection
- Fast search methods for large multimedia database
- Semantics learning and adaptive retrieval
- Content identification, authentication, and protection
- Case studies of deployed systems

Grading will be based on quizzes and a final project. Prerequisites include EE 640 (Stochastic Systems) and EE 635 (Image Processing) or consent of instructor.