

Brooklyn College
Department of Computer & Information Sciences

CISC 7630 [*751X] Multimedia Computer Systems

37½ hours plus conference and independent work; 3 credits

In-depth study of major issues and recent trends in multimedia. Multimedia systems architecture. Multimedia database systems, presentation systems, and conferencing systems. Multimedia file management and information models. Scheduling and synchronization. Data compression. Image analysis and content-based retrieval. Distributed multimedia. Authoring. Quality of service and multimedia systems design. Applications of multimedia systems. Students will read, report on, and implement techniques and ideas described in the current multimedia research literature.

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Syllabus:

1. What is multimedia? Underlying issues. (1 week)
2. Overview of media: discrete vs. continuous, analog vs. digital. (1 week)
3. Compression theory and specific compression techniques. Signal processing fundamentals. (2 weeks)
4. Multimedia systems architecture. (1 week)
5. Multimedia operating systems. (1 week)
6. Networking and communications in multimedia systems. (2 weeks)
7. Multimedia databases and query techniques. (2 weeks)
8. Multimedia user interfaces. Data visualization and filtering. (1 week)
9. Media synchronization. (1 week)
10. Multimedia delivery systems. (1 week)
11. Multimedia on the WWW: standards and trends. (1 week)