

Further Correction

University of California, Santa Barbara Department of Electrical and Computer Engineering

Course Syllabus

ECE160

Multimedia Systems

4 units

Catalog Description:

ECE160: Introduction to multimedia and applications, including WWW, image/video databases and video streaming. Covers media content analysis, media data organization and indexing (image/video databases), and media data distribution and interaction (video-on-demand and interactive TV).

Text Book:

Multimedia Systems, Algorithms, Standards and Industry Practice,
Parag Havaldar and Gerard Medioni, Course Technology, Cengage Learning, 2010, 1-4188-3594-3
ECE160 lecture notes (on ECE160 course web site)

Course Goals:

1. Understand Principles of Digital Representation of:
 1. Video
 2. Audio
 3. Color
2. Understand Principles of Multimedia Data Compression Standards, including:
 1. JPEG and JPEG2000
 2. MPEG2 and MPEG4
 3. MP3
3. Understand Principles of Multimedia Transmission and Delivery, including:
 1. Web Pages
 2. Streaming Video and Audio
 3. RTP and Forward Error Correction
4. Understand Principles of Authoring and Synthesis of Multimedia Content
 1. Midi Interface
 2. Video Editing
 3. Music Synthesis
 4. Image Rendering
 5. Image Animation
5. Practical Use of Software Packages for:
 1. Video Editing
 2. Music Synthesis
 3. Image Rendering
 4. Image Animation

Projects

- | | |
|--------------------|--------------|
| 1. Video Editing | Due April 12 |
| 2. Music Synthesis | Due April 26 |
| 3. Image Rendering | Due May 17 |
| 4. Image Animation | Due June 7 |

Class

Tuesdays and Thursdays, 3:30pm to 4:45pm, Buchanan 1920

Instructor

P. M. Melliar-Smith, (pmms@ece.ucsb.edu)

Instructor Office Hours

Tuesdays and Thursdays 2pm to 3:15pm, HFH, Room 2164

Teaching Assistants

Abhinav Anand (abhinav_anand@umail.ucsb.edu),

Nitin Chhabra (nitinchhabra@umail.ucsb.edu)

Discussion Sections

Tuesday, 5:00pm-5:50pm and Thursday 9:00am-9:50am

TA Office Hours

Abhinav Anand: Wednesday, 1:00-4:00pm, ECI Lab

Nitin Chhabra: **Monday: 11:00am - 2:00 pm**, ECI Lab

Assignments

There will be weekly written assignments, except for first and last weeks. They will be issued in class on Tuesdays and will be due in class on the following Tuesday.

Midterm

The midterm will be on May 3 in class

Final

The final will be on Thursday June 9 at 4pm to 7pm.

Grading

Assignments 20%

Projects 50%

Midterm 10%

Final 20%