

ESE/CSE 346 COMPUTER COMMUNICATIONS SPRING 2011

Instructor: Carlos F. Gamboa

Office Hours: Wednesday from 4-6 or by appointment.

Office Location: TBA

Course Objective:

This course will provide students with a broad overview of computer networks technology. Students will be provided with the tools necessary to gain a better understanding of networks technology, performance and evaluation while concentrating in the fundamental concepts. Throughout this course students will be exposed to the state of the art in modern networks technology.

Text: Networks and Grids: Technology and Theory, 1st ed. by Thomas Robertazzi, 2007. Publisher: Springer.

Suggested reading:

Computer Networks (5th Edition), by Andrew S Tanenbaum, David J. Wetherall
Prentice Hall, ISBN-10: 0132126958

Grading:

- Midterm 35%
- Final 35%
- Project 30%

Week 1: Introduction to network topology and transport media.

Week 2: Networks Performance Evaluation

- Probability review
- Network models

Week 3: Deterministic routing algorithms

Week 4: Error Correcting Codes

Week 5: Local Area Networks technologies

- Ethernet
- Wireless LAN
- Bluetooth

Week 6: Asynchronous Transfer Mode networks.

Week 7: Optical Networks

- SONET
- WDM

Week 8: Internet protocols

- UDP
- TCP/IP

Week 9: Domain Name System.

Electronic mail.

The World Wide Web.

- The HyperText Transfer Protocol
- Introduction to the Grid Technology

Week 10: Network Security

- Introduction to Cryptography
- Advanced Encryption Standard
- RSA

Week 11: Network Security (continuation)

- SSL
- Computer networks and society

Note: If you have a physical, psychological, medical or learning disability that may impact on your ability to carry out assigned course work, I would urge you to contact the staff in the Disabled Student Services office (DSS) 631-632-6748. DSS will review your concerns and determine with you what accommodations are necessary and appropriate. All information and documentation of disability are confidential.