

CPE400/ECG600-001 Computer Communication Networks

Class meets: MW 4:00-5:15pm in TBE-B178

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Course Website: <http://www.ee.unlv.edu/~meiyang/cpe400/cpe400.htm>

Course Description

Computer network architecture; OSI Model; network protocols; local area networks; fiber optics communication; ISDN; elements of Queuing Theory, with emphasis on hardware design issues. 3 credit hours.

Course Objectives

To gain the knowledge on

- The OSI model, the TCP/IP protocol architecture
- Data communications, data link control protocols
- Routing algorithms, congestion control in data networks
- Wide area networks
- Local area networks
- Internet and transport protocols*

Course Prerequisites

CPE300, CS370, and MATH 431

Textbook

- William Stallings, Data and Computer Communications, 9th edition, Pearson Prentice Hall, 2011, ISBN 0-13-139205-2 (required)
- Andrew Tanenbaum, Computer Networks, 4th edition, Pearson education, Inc., 2004, ISBN 0-13-066012-3 (reference)

Supplementary Materials

Class notes & handouts

Topics

Overview

(Ch. 1&2)

Data Communications, Data Networking, and the Internet Protocol Architecture, TCP/IP, and Internet-Based Application

Physical Layer

(Ch. 3,4,5& 8)

Data Transmission, Transmission Media, Signal Encoding Techniques, Multiplexing

Data Link Layer

(Ch. 6 & 7)

Digital Data Communication Techniques, Data Link Control Protocols

Wide Area Networks (Ch. 10, 11 & 12, 13)	Circuit Switching and Packet Switching, Routing in Switched Networks, Asynchronous Transfer Mode
Local Area Networks (Ch. 15 & 16)	Local Area Network Overview, Ethernet
Internet and Transport Protocols* (Ch. 18 & 22)	Internet Protocols, Transport Protocols

Evaluation

1. There will be one midterm exam and one final exam.
2. There will be 5-6 homework assignments. In general, homework will be due two weeks from the date it is assigned, returned and (solution) posted in one week from the due date. Late assignments will not be accepted. Staple your paper sheets together.
3. There will be an individual-based project using Ethereal. Graduate students will also need complete a socket programming project.
4. Distribution of final grade:

Homework	20% (50 points)
Project	20% (50 points)
Midterm Exam	30% (75 points)
Final Exam	30% (75 points)

Grades may be determined according to this scale:

- A >= 220
- B >= 180
- C >= 150

Attendance Policy

Attendance is required. You are responsible for all class work missed, regardless of the reason for the absence(s). **No makeup exams will be given**, so please make sure you are present for all exams. It is your responsibility to check the course website for all activities going on with this course.

Academic Dishonesty

Academic dishonesty includes, but is not limited to, activities such as cheating and plagiarism. Any work turned in for individual credit must be entirely the work of the student submitting the work. You may share ideas but submitting identical assignments (for example) will be considered cheating. For assignments, access to notes, the course textbooks, books and other publications is allowed. All work that is not your own, **MUST** be properly cited. This includes any material found on the Internet. **Any person caught cheating will be given an 'F' grade for the course and reported to appropriate university officials.**

ADA statement

If you have a documented disability that may require assistance, you will need to contact the Disability Resource Center (DRC) for coordination in your academic accommodations. The DRC is located in the Reynolds Student Service Complex in room 137. Call at 895-0866 or TDD 895-0652, visit the DRC website at: <http://www.unlv.edu/studentlife/disability/>.