

CS 477/CIS 677: Computer Communications & Networks

Fall 2011

CS 477/677 has two roles: to give an overview of computer networks to undergraduates, who may never take another course in data communications, and to provide graduate students an excellent background to facilitate graduate work in the area. Therefore, this course introduces all protocol layers. The course focuses on the Internet protocols, but also introduces a number of other current / future communication network technologies.

Instructor: Susan J Lincke, Ph.D.

Email: Lincke <at> uwp.edu

Web Page: www.cs.uwp.edu/Classes/Cs477

Office Hours: Wed 1-5 PM

Thurs 5-6 PM or by appt.

Office Phone: (262) 595-2129

Office Location: MOLN 255

Class Hours: Thurs. 6-8:45 PM

Class Location: MOLN 130

Text: *Data & Computer Communications, 9th Ed.*, William Stallings

Prerequisites: CS 355 Computer Architecture, excellent programming skills in Java, C++, or C#.

Projects: All students do project 1; undergrad students complete one additional project; graduate and honors students shall complete two additional projects.

1. Partial implementation of a TCP protocol in Java, C#, or C++.
2. Implementation of a client/server interface using Java RMI
3. Presentation on a network-related topic not covered in this course.
4. Review of 4 research papers. (Available to graduate students only.)

Due Dates: Exam dates and project due dates are posted on my web page.

Course Outline:

1. Introduction (Chapters 1&2)
2. Data Link Control: Errors, Retransmission, Flow Control (Chapter 7)
3. Network Layer: Routing, and Internet Protocol (IPv4, IPv6) (Chapter 18-18.4, 19.2, 20.4)
4. Transport Layer (TCP/UDP) (Chapter 22)
5. Midterm
6. Physical Layer: Transmission Media, Multimedia (Chapters 4, 5, 6, 8)
7. Client/Server Applications: Java RMI (Web Pages)
8. LANs & Medium Access Control: Ethernet and Wifi - 802.11 (Chapters 15, 16, 17)
9. A Complete Network Overview: Focus on Cellular Networks (Chapter 14)

Grading: Grading for Undergraduates

- TCP Project: 40%
- In-class Exercises: 5%
- RMI or Presentation: 5%
- Two exams @ 25% = 50%

Grading for Grads

- TCP Project: 40%
- Two side projects: 5% each
- Two exams @ 25% = 50%

Grading Scale: A= 90% B=80% C=70% D=60% F<60%
Plus grades are assigned for grades within 2% of the next higher grade.
Minus grades are assigned for grades with in 2% of the next lower grade.

Course Regulations:

Academic Honesty: Any indication of copying project work or any behavior during exams that could be considered copying or cheating will result in an immediate zero on the assignment or exam for all parties involved. In addition, the student's advisor/department will be notified. Cheating on assignments is defined to be copying from someone else or providing someone else copies of your answers. Do not show your assignments to anyone else! You may answer questions on labs or project homework asked by other students.

Exam Make-Ups: Prior notice must be given to me when an exam must be missed. No make-up exams will be granted unless satisfactory documentation is produced to show an extenuating circumstance.

Homework Assignment Submission Policy and Guidelines

Assignments are to be submitted in class on the date due. All assignments shall be submitted as hard copy, but program code must in addition be submitted electronically. Hard copies should be left on my table at the start of the class. Assignments submitted after the first 10 minutes of class will be counted a day late. This policy is meant to discourage people from skipping class to finish a project.

Every assignment should be stapled together and have an id-box header as follows:

```
// your name  
// CS 477 – Computer Networks  
// Assignment date and description
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Assignments turned in late will automatically have one full grade deducted. No assignments will be accepted one week or later after the due date.

Accommodation for Religious Observances: UW-Parkside policy requires that reasonable accommodation for a student's religious beliefs. Please notify your instructor within the first two weeks of classes about any scheduled class date that conflicts with a religious observance.

Students with a Disability: Anyone who has special needs that must be accommodated to fulfill the course requirements should contact the Disability Services Coordinator in the Office of Educational Support Services (WLLC D175, 595-2372), and keep me informed. The University has many resources available to assist students with their academic studies.