CPS 472/572: Computer Networking

Spring 1997
Lecture: M-W 4:30 - 5:45, Miriam Hall 213
Course Web Page: http://www.cps.udayton.edu/courses/cps472.html

Instructor

Dr. Russell Clark
Office: Anderson 149 Phone: 229-3895
Office hours: M-T-W-Th 3:00 - 4:30 or by appointment
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Course Overview

This course will teach the fundamentals of data networking. This is a senior/graduate level course that is part of a two class series in computer communications. The first course, CPS 470/570 Data Communications, introduces the problems and solution techniques of the communications field. It focuses primarily on the "lower-layer" protocols: physical, data-link, and network. The second course, CPS 472/572 Computer Networking, focuses on the "upper-layer" protocols starting with routing in the network layer and covering transport and application protocols.

Prerequisite

CPS 470 Data Communications. Also, a fair amount of programming using C on a UNIX system will be required for homework projects.

Materials

Text:	Data Communications, Computer Networks and Open Systems by Fred Halsall, Fourth Edition
Text:	Internetworking with TCP/IP: Volume 3, by Douglas E. Comer, and David L. Stevens

Course Objectives

My primary objectives for the students in this class are:

1. To learn the terminology of networking/communications.
2. To understand the fundamental problems and solution techniques that arise in the network and transport layers as well as the management of networks and network applications.
3. To understand the details of some specific protocols. This includes identfying which fundamental solutions techniques are incorporated into these protocols.
4. To evaluate different protocol solutions using performance evaluation techniques.

Grading Policies

1. Grades will be computed on a 90-80-70-60 scale. The weights assigned to various items are:

Programs/Homework:	100 points
2 Mid-term Exams:	200 points
Final Exam:	100 points

2. Assignments are due at the beginning of the specified class. Late assignments will be penalized at 10% per 24-hours or fraction thereof. No assignment will be accepted for credit after it has been returned to the class.

3. *All work to be handed in must be done individually unless the instructor explicitly states otherwise.* Any assignment or portion of an assignment that is a duplicate or group result will receive a zero grade.
4. Makeup exams will only be given in the case of serious illness or emergency. You must discuss the situation with me **before** the scheduled exam. Be prepared to provide a written excuse. Never assume you have permission to make-up an exam until you have spoken with me *in person*.

Exam Schedule

All exams will be given during the class lecture period.

- First Exam: Wednesday, February 5 - 4:30pm
- Second Exam: Wednesday, March 12 - 4:30pm
- Final Exam: Monday, April 28 - 4:30pm

Topic Schedule

We will cover the following topics in this class. Related readings will be assigned during the lecture.

Overview, terminology, standards
Bridging Protocols: Transparent Bridging, Spanning-Tree
Network Layer Protocols
Routing Protocols: Unicast, Multicast, Broadcast
Transport Layer Protocols
Presentation Layer Services
Network Services: Directory Services, distributed file services
Network Application design: Client/Server, Remote Procedure Calls
Network Management
Multimedia Networking

CPS 572 Students Only

In order to obtain credit for this course at the graduate level, you will be required to complete several additional assignments using a network simulation system. These assignments will be a continuation of those completed in 570. These assignments will account for 10% of your grade.

Other Important Dates

Last day to add classes/change grading:	January 14
Last day to withdraw without record:	January 27
Last day to withdraw with a record of *W*:	March 26
Last day of classes:	April 23