

CSE 222
Graduate Networking
Fall 2001

Lecture 1: Class Overview

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Administrivia

- Instructor: Me
 - ◆ Office hours: Tu 3:30-4:30, AP&M 5220
- TA: John-Paul Fryckman
 - ◆ Office hours: TBD
- Course Web
 - ◆ <http://www-cse.ucsd.edu/classes/fa01/cse222/>
- Mailing List
 - ◆ Please add your name and preferred e-mail address to the sheet being passed around

Course Goals

- Primary goal
 - ◆ Provide a basis for understanding, appreciating, and performing research in networking

- Secondary goals
 - ◆ Practice reading and evaluating research papers
 - ◆ Experience doing a mini research project

Course Mechanics

- Lecture **and** discussion
 - ◆ Textbook for fundamentals (Peterson and Davie, 2nd E)
 - ◆ Classic papers for origins
 - ◆ Recent papers for state of the art
- Class divided into topics
 - ◆ Begin each topic with a lecture on background material
 - ◆ From this, we will launch into the papers for the topic
- Papers
 - ◆ Paper list will be online
 - ◆ Should be able to download and print from the web page

Topics

- Topics I will try to cover
 - ◆ Internetworking
 - ◆ Reliable data transfer
 - ◆ Congestion control
 - ◆ Queue management
 - ◆ Scheduling
 - ◆ Unicast and multicast routing
 - ◆ Wireless & Mobile networking
 - ◆ Integrated and differentiated services
 - ◆ Router and switch architecture
 - ◆ Infrastructure services
 - ◆ Network security
 - ◆ Network applications
- Haven't entirely settled on exact paper list yet
 - ◆ Problem: Too much to fit into one quarter

Your responsibilities

- **Reading** the textbook and papers
- **Writing** evaluations about the papers
- **Talking** about the papers in class
- **Solving** periodic homework problems (from textbook)
- **Doing** a mini-research project

- There are no exams...

Paper evaluations

- There will usually be two papers assigned per class
- For each paper, you will write an evaluation
 - ◆ ½ - 1 page
 - ◆ State the goal of the paper, and the approach the paper takes to achieve that goal
 - ◆ Critique the paper, stating whether you are convinced by the paper's arguments, experiments, analyses, or not. State why.
 - ◆ What did you learn from the paper?
 - ◆ Evaluations will be due by 8am of the morning in which the paper is presented
- We will be setting up an automatic evaluation submission system shortly
 - ◆ Until it works, send copies of evaluations to me and John-Paul

Final Project

- Research oriented project
- The type of project and the subject are your choice:
 - ◆ Network trace analysis or measurement
 - ◆ Implement a network protocol, service, tool or application
 - ◆ Simulation of network behavior
 - ◆ Research topic survey
- I will provide potential project ideas on the Web page
- This will be a group project (and group grade)
 - ◆ Groups of 2-4
 - ◆ Writeup and class presentation

Grading

- Class discussion 15%
- Paper evaluations 15%
- Homework 25%
- Final project 45%

For Next Time...

- Read the course Web page
- Read the End-to-end paper by Saltzer et al and the Clark paper on Internet design philosophy
- Browse Chapter 1 of Peterson&Davies
- Read the Web page again (it'll be different)