UNIVERSITY OF SOUTHERN CALIFORNIA

EE 550 - Design and Analysis of Computer Communication Networks

Course Syllabus

Catalog Description: Applications of stochastic modeling and optimization techniques to communication network design and analysis. Data link control; performance models; multi-access channels; routing and flow control. **Prerequisite:** EE 450; EE 549 or EE 465.

FALL 2010

Lectures: Tuesday and Thursday 9:30-10:50am, OHE 100D

Instructor: Prof. John Silvester, EEB 240, silvester@usc.edu, +1.213.740 9730
Office hours: Tuesday 5-6pm, Wednesday 3-5 pm, Thursday 5-6pm

TA: TBD

Textbook: "Data Networks" (2nd ed.) by D. Bertsekas and R. Gallager.
Assignment and supplemental handouts will be available through the DEN Blackboard site.
Good texts for Computer Networks (EE 450 prerequisite material and more):
1) "Computer Networks: A Systems Approach" by L. Peterson and B. Davies. (2nd ed.)
2) "Computer Networks" by A. S. Tanenbaum (4th ed.)

Good texts for analytical modeling (EE 465 prerequisite material and more)
1) " Introduction to Probability Models" by S. Ross (8th or 9th ed.)
2) "Queueing Systems Volume 1: Theory" by L. Kleinrock

Grading: There will be problem sets (roughly every 2 weeks), two exams, occasional "quizzes" to review recent material covered in class and assignments, and a project to be weighted in an overall score as follows: Assignments 10%, Exams 30% each, Quizzes 10%, Project 20%.

Course Project: You will work on a project involving a deeper study of a particular network technology or concept. The project can be done alone, but group projects with 2-3 people in each group are strongly encouraged. The project will involve a report, analytical and/or simulation results, and a class presentation. You should fit your project goals and results into the context of the theory taught in the course, although the project does not have to be confined to technologies we cover in the course. Ask a question, take a guess about expected results, and then evaluate your guess via analysis and/or simulations. Be innovative and inventive. All groups must submit reports and presentation slides, along with a paragraph describing the contributions of each member. The reports should be approximately 5-10 pages, and the slides should be appropriate for a 10 - 15 minute presentation.