COSC 6375: Computer System Performance Evaluation
Spring 2009

Instructors: J.-F Pâris, Rong Zheng
Email: jfparis (at) sbcglobal.net, rzheng (at) cs.uh.edu
Lectures MW 2:30pm – 4:00 pm in SEC 2006
Office Hours: MW 4:00pm-4:45pm
Class web site: Go to www.uh.edu/webct, click on WebCTVista button

Textbook:

- Hisashi Kobayashi and Brian L. Mark, *System Modeling and Analysis: Foundations of System Performance Evaluation*. Prentice Hall, 2008 (ISBN 013034835X, 9780130348357).

References:

- R. Jain, *The Art of Computer Systems Performance Analysis: Techniques for Experimental Design, Measurement, Simulation, and Modeling*, Wiley- Interscience, New York, NY, 1991
- Dimitri Bertsekas, Robert Gallager, *Data Networks* (2nd Edition), Prentice Hall.
- George S. Fishman, *Discrete Event Simulation: Modeling, Programming and Analysis*, Springer Verlag, 2001.

Prerequisites: Algorithms, data structure, probability, stochastic processes

Synopsis:

Evaluation and prediction of the behavior of computer systems and networks are integrated part of the design of these systems. This course will cover a set of techniques that are central to the modeling and performance evaluation of modern computer systems. These techniques are from the areas of experimental design, statistics (both parametric and non-parametric), random number generation, simulation, queuing theory and queuing networks.

Tentative schedule:

Lectures	Topic	Reading, Assignments
1st week	Introduction	TBA
2nd to 4th weeks	Simulation	TBA
5th week	Review of probability and stochastic processes	TBA
6th week	Queuing theory	TBA
7th week	Queuing networks	TBA
8th week	Network calculus	TBA
9th and 10th weeks	Analysis of outputs	TBA
11th week	Model fitting	TBA
12th week	Testing	TBA
13th week	Applications	TBA

Grading

There will be one midterm (30% of grade), one final (30%) and four assignments (40%). Late assignments will be assessed a penalty of *5 points* per day unless announced otherwise. You will be given a total of **three** grace days to be used at your discretion. All tests will be *closed book*. You will be allowed one 8.5"×11"one-sided sheet of notes for each test.

No cheating will be tolerated on any graded assignment: **what you turn in must be your own work**. The minimum penalty for any transgression will be an **F grade** for the course. **People failing the assignments OR the exams will fail the course.**