

COSC 6375: Computer System Performance Evaluation

Spring 2008

Instructors: J.-F Pâris, Rong Zheng
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Lectures TuTh 2:30pm – 4:00pm in SEC 2005
Office Hours: TuTh 4:00pm-4:45pm (J.-F Pâris)
Class web sites: Go to www.uh.edu/webct, click on WebCTVista button
www.cs.uh.edu/~paris/6375/resources.htm
TA: TBA

Textbook:

- Jean-Yves Le Boudec *Performance Evaluation Lecture Notes (Methods, Practice and Theory for the Performance Evaluation of Computer and Communication Systems)*, Available on-line at <http://icalwww.epfl.ch/perfeval/printMe/perf.pdf>

References:

- 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
1 st week	Introduction	TBA
2 nd and 3 rd weeks	Simulation	TBA
4 th week	Review of probability and stochastic processes	TBA
5 th week	Queuing theory	TBA
6 th week	Queuing networks	TBA
7 th week	Network calculus	TBA
8 th and 9 th weeks	Simulation	TBA
10 th week	Confidence interval	TBA
11 th week	Model fitting	TBA
12 th week	Testing	TBA
13 th week	Applications	TBA

Grading

There will be one midterm (30% of grade), one final (30%) and four assignments (25%). 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.**