

Digital Systems Simulation
ORI 390R - 9, Unique # 17910
Fall 2002

Instructor: Elmira Popova, ETC 5.120
Time and location: T TH 8.00 - 9.30 am ETC 5.132 (**NOTE ROOM AND TIME CHANGE**)
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Office hours: tba
Prerequisite: Graduate course in Probability and Statistics
Introduction to Stochastic Processes
Computer literacy, ability to work with Windows NT and/or UNIX,
working knowledge of C, C++.

Resource Materials

Required text: *Simulation Modeling & Analysis* by A. M. Law and W. David Kelton
Third Edition, McGraw Hill

Instructor's notes and handouts.

Grading policy

Midterm Exam	30 %
Final Exam	40 %
Homeworks	30 %

List of tentative topics

Weeks 1-2: Introduction to simulation, General concepts in discrete-event simulation, Random number generation

Weeks 3-4: Random variate generation, Queuing models, Input modeling

Weeks 5-6: Output analysis

Weeks 8-9: Midterm exam, Comparison of alternative system designs

Weeks 10-11: Monte Carlo integration, Markov Chain Monte Carlo (MCMC) methods

Weeks 12-14: MCMC methods, Optimization and simulation

Additional Administrative Notes

The University of Texas at Austin provides upon request appropriate academic adjustments for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4241 TDD or the College of Engineering Director of Students with Disabilities at 471-4382.

An engineering student must have the dean's approval to add or drop a course after the fourth class day of the semester or after the second class day of a summer term. Adds and drops are not approved after the fourth class day except for good cause. "Good cause" is interpreted to be documented evidence of an extenuating nonacademic circumstance (such as health or person problems) that did not exist on or before the fourth class day.

A Course-Instructor Survey from UT's Measurement and Evaluation Center will be administered near the end of the semester.