Objectives of the course

It is a graduate level discrete-event simulation course. The emphasis will be on the simulation philosophy, modeling complex stochastic systems, and how to make optimal decisions with simulation.

Resource Materials

Required book: *Simulation Modeling & Analysis* by A. M. Law

Additional resources: *Simulation with ARENA, 5th Edition*,
by W. David Kelton, Randall P. Sadowski, and Nancy B. Swets

Instructor’s notes and handouts.

Simulation with ARENA is available from the publisher as e-book:

Tentative topics

- Introduction to simulation
- General concepts in discrete-event simulation, Queuing models
- Random number generation
- Random variate generation
- Input modeling
- Discrete event simulation languages - ARENA
- Output analysis for terminating simulation
- Output analysis for steady-state simulation
- Variance Reduction
- Comparing Alternatives
- Simulation from multivariate distributions and time series
Grading policy

Homework 30%
Midterm Exam 30 %
Final Exam 40 %
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 non academic 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.