MSCS 6020 — Statistical Methods, Spring 2010
T/Th 6:00-7:15pm — Cudahy Hall 126

Catalog description

- Elements of statistical simulation and modeling with applications. Generation of random variables, Monte Carlo method, Markov chains, birth-and-death processes, queues, variance reduction, Markov chain Monte Carlo (MCMC) methods and applications, bootstrapping, validation and analysis of simulated data. Offered annually. Prereq: MSCS 6010 and programming competency in a high-level language.

Text

- Ross, *Simulations (4th Ed.)*,
  Elsevier Academic Press, 2006. ISBN 0-12-598063-9.

Prerequisite

- Probability and programming competency

Instructor

- Dr. Elaine Spiller, Cudahy 307, elaine.spiller@marquette.edu

Website

- *d2l*

Office Hours:

- Wednesdays 2-4:30pm or by appointment

Assignments and Projects

- Regular homework assignments that focus on students implementing simulation techniques

- Early in the semester, students will choose a research paper (from provided list or on a topic of their choosing). Students will present the problem from their chosen paper and the aspects of the paper they reproduced in a poster. Part of the poster session will be a 3-5 minute oral presentation by each student which is a "commercial' for his/her poster. In the last week or two of classes, individual students or small groups will lecture the class on additional simulation topics that were necessary background to understand/reproduce results in their papers.

Grades

- Homework – 50%

- Final Project – 50%