IE 581 — Simulation Design and Analysis
http://www.ecn.purdue.edu/~ie581/

Spring 2011
MWF 9:30am, GRIS 280

Instructor:
Bruce Schmeiser
School of Industrial Engineering
Purdue University
West Lafayette, IN 47907–2023
cell phone: (765) 491–8665
e-mail: bruce@purdue.edu

Teaching Assistant:
Greg Thompson
e-mail: glthomps@purdue.edu

Office Hours:
Schmeiser
by appointment
or drop in.
Thompson
As announced and
in the course web page.

Prerequisites: Undergraduate engineering probability and statistics (e.g., IE230/IE330). Some computer programming. Previous exposure to Monte Carlo simulation is not required.


Computers: Your choice.

Software: MSExcel and any C compiler.

Content: IE 581 is an introduction to Monte Carlo simulation, focusing on probabilistic and statistical methods useful to the simulation practitioner. In particular, IE 581 considers U(0,1) pseudo-random numbers, statistical input models, random-variate generation, output analysis, variance reduction, methods for comparing stochastic systems, and the structure of next-event logical models. IE 581 is a prerequisite for IE 680; IE 580 is not.

Homework: Students may discuss homework problems with each other, but the work should be done individually. For example, helping another student debug code is acceptable, but modifying another student’s code for your own use is unacceptable. At the top of the homework, please list everyone with whom you consulted.

Tests: Closed-book. You may use one 8.5” × 11” sheet of handwritten (not copied) notes, front and back. No calculator. Most test questions will not resemble the more-detailed homework questions, which often are designed to illustrate concepts via implementation. Copies of some previous tests are on the course web site.

Final examination: Same as regular tests, except two-hours long. No calculator. Comprehensive, but with emphasis on material following the second test. You may have three pages of handwritten (not copied) notes, front and back.

Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
</tr>
<tr>
<td>Test 1</td>
<td>25%</td>
</tr>
<tr>
<td>Test 2</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
</tbody>
</table>

No Class: (Friday) March 11 and (Monday) March 21.