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Spring 2006

CS 470/670: System Simulation

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**CS 470 / 670
System Simulation
Spring 2006**

Instructor: Dr. M. M. Rizki
Office: 432 Russ Engineering
Hours: Monday and Wednesday 12:15-1:15 PM and 5:30-6:00 PM
 or by appointment
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Textbooks:

Simulation Modeling and Analysis (3rd Edition)
 by A. M. Law and W. D. Kelton, McGraw-Hill, 2000

Course Requirements:

Simulation Exercises (2 @ 15%)	30%
Simulation Project	30%
Examinations (2 @ 20%)	40%

General Policies:

1. Projects are due at the beginning of class on the assigned due date. Assignments not submitted by the beginning of class on the due date will be accepted up to one week late at a penalty of 25%. The final project must be submitted on the due date -- no late project will be accepted.
2. Projects will be graded based on (1) quality of the simulation analysis, (2) correctness of the results, and (3) quality and readability of the code. Code that does not compile or produces serious run time errors will receive a grade of zero.
3. Homework may be assigned periodically. It will not be graded, but similar problems will appear on your examinations so it is to your advantage to attempt each homework problem.
4. Students registering for CS 670 will be asked to perform additional work on each assignment. As always, graduate students are expected to produce superior quality work!
5. Questions, discussion, and debate are strongly encouraged.

Course Outline:

1. Basic Simulation Concepts	L&K	1.1-3, 1.6-9
2. Object Oriented Simulation	L&K	1.4-1.5 (C version only)
3. Discrete Event Simulation and theSimscrip Languages		
4. Simulation Methodologies	L&K	2.6-2.8
5. Probablistic Aspects of Simulation		
Review of Probability	L&K	4
Random Number Generators	L&K	7
Random Variates	L&K	8.1, 8.2, 8.3.1-8, 8.3.15-16, 8.4, 8.6
6. Statistical Aspects of Simulation		
Selecting Input Distributions	L&K	6
Analysis of Output	L&K	9.1-4, 10.1-2
7. Experimental Design	L&K	12.1-12.3
8. Simulation Languages	L&K	3