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Spring 2008

CS 470/670: System Simulation

Eric Maston

Wright State University - Main Campus

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Computer Science 470/670

Spring 2008

Wright State University

March 31, 2008

There are several goals in CS 470/670:

1. Learn basic tools and theory of simulation.
2. Understand how simulation can be applied to solve real problems.
3. Complete a substantial simulation project.
4. Have some fun!

Class Details

Lecturer: Eric Matson

Office: 336 Russ Engineering Center

Phone: 937-775-5108

Office Hours: Monday 9:30 - 10:30, Wednesday 12:30 - 1:30 at Russ 336 or by appt.

Email: eric.matson@wright.edu

Web: WebCT

Class: 4:10 - 5:50 (pm) MW, Rike Hall 058

Text: Simulation Modeling and Analysis, Law, 2007.

Platform: All projects will be developed in Java or C++. If developing in Java, either command line or Netbeans 6.0. If developing in C++, Bloodshed Dev C++.

Prerequisites: For this class, the prerequisite is CS 400/600. Please let me know the first lecture if you do not meet this prerequisite, and we can talk about your preparation if it differs.

Grading

Homework Assignments 30%

Simulation Project 30%

Midterm Exam 20%

Final Exam 20%

The base scale is: A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: 0-59. This is the highest requirement that will be used. The scales may be lowered or revised if necessary.

Schedule

(always subject to changes) Always have readings scheduled for that day complete prior to the class meeting

Week	Topic	Reading
1	Introduction, Basic Simulation	1
2	Methodologies	2
3	Building Valid Simulations	5
4	Probability and Simulation	4, 7, 8.1 - 8.3
5	Statistical Simulation	6, 9.1 - 9.5
6	Comparing Alternative Configurations, EXAM	10
7	Variance Reduction Techniques	11
8	Experimental Design	12.1 - 12.3
9	Simulation Languages	3
10	Project Demos	
Jun 9	Final Exam	5:45 - 7:45 pm

Policies and Notes

- Attendance: Attendance is not required, nor will it be taken after the first couple of lectures. If you are not a regular attendee, it will be your responsibility to seek out what material was covered in the lecture and learn it. Most of my exam questions will be taken directly from ideas covered during the lecture, so it greatly helps if you attend!
- I will utilize WebCT to post updates to the course, sample code, projects, announcements, schedule, etc. Get in the habit of checking it regularly.
- **Always make back ups of all of you work. Never have just one copy of anything!** This way, when your dog eats your laptop the day before the final project is due, you will not have a problem (except getting a new laptop).
- If you are going to miss an exam, for any reason, discuss it with me in advance. If it is an emergency situation, please notify me as soon as possible.
- You can reach me a number of ways. Email is normally the best as I check it about 18 hours a day normally. You can also reach me by phone during the day at 775-5108. If you need human contact either stop in during my office hours, make an appointment, or just come by my office. If I am in and not on a deadline to get something else completed, I will normally try to help as much as possible.
- The key to learning in this class will be spending time working through the problems. Do not wait until 2 hours before something is due to try to learn the concept and then write

the program. This normally ends in a disaster! Stay up with the readings and try to work through some of the examples in the book.

Academic Misconduct

In this class, the only way to truly learn the concepts is to do the work yourself. I encourage working with other people on the course concepts. When you begin to write the program, complete and submit your own work. With the project, you will work in teams, so make sure to do your part and contribute.

Work that has obviously been copied or in the more extreme case, when the original authors name has not even been changed, both parties will receive a 0 grade for that assignment. Both parties will also be turned over to the Office of Judicial Affairs.