Syllabus

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COURSE DESCRIPTION
Covers topics on computer simulation and performance evaluation in computer systems. The course mainly covers both classic and timely techniques in the area of performance evaluation, including capacity planning to predict system performance, scheduling, and resource allocation in systems. The course also introduces some basic computational and mathematical techniques for modeling, simulating and analyzing the performance by using simulation, including models, random-number generation, statistics, and discrete event-driven simulation.

PREREQUISITES
To take this class, you must have the experience on high-level language (e.g., java, C/C++) programming, the knowledge of probability (e.g., random variables, expected values, and conditioning), and the background on data structure/algorithm.

COURSE STRUCTURE
In this course,

- there will be 4 homeworks, which represent 30% of your final grade. You will be given 2-3 weeks to complete each homework.

- there will be 1 presentation for each student, which represents 20% of your final grade. You need to present one paper and lead the discussion after your presentation in total 45 minutes. You are also required to read the papers which are presented by other students, and attend the class discussion. The class participation will be considered in your final grade.

- there will a final project, which represents 40% of your final grade. You need to choose a project topic and give a proposal presentation in the middle of the semester. You need to write a final project report and give a final project presentation in the end of the semester. Projects must be completed in groups of two students. There will be one project submission for each group. However each student must completely understand everything about the solutions they turn in.

GRADING

- Homeworks 30%
- Presentations 20%
- Final Project 40%
- Class participation 10%
TEXTBOOKS
The optional course textbooks (not required) include:


POLICIES

- All assignments have fixed due dates and times, by which the assignment files have to be uploaded to Blackboard. No late submission will be accepted.
- Class attendance is required. If you miss a class, you are responsible for all material that was covered, announcements that were made, and handouts that were distributed in class.
- We will be using Blackboard for announcements and other information. Please check the class website at Blackboard daily.
- You are encouraged to discuss assignments with one another, but all writing of assignments must be done individually or within your group. Copying someone else’s work and presenting it as your own, or submitting the same solution as someone else, is not allowed.
- Exceptions to any course policy may be made if you have a personal emergency that prevents you from participating in the course. In this case you must make arrangements with me as soon as possible, preferably within 24 hours.