CDA6530: Performance Models of Computers and Networks

Cliff Zou
Fall 2013

Course Information

- Teacher: Cliff Zou
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  - Email: czou@cs.ucf.edu
  - Office hour: TuTh 11am – 1:00pm
- Course Webpage:
  - http://www.cs.ucf.edu/~czou/CDA6530-13/index.html
  - Syllabus is on the webpage and WebCourse
- UCF Tegrity for online lecture video streaming
  - WebCourse has a Tegrity link
  - Posted several hours after each class
- Use Webcourse@UCF for homework assignment and grading
  - Keep grade private
  - Homework submission
  - Also have a simple BBS channel

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Objectives

❑ What you need for performance analysis:
- ❑ Review practical probability theory
- ❑ Review several useful random processes
- ❑ Basic queuing theory
- ❑ Practical analysis techniques
- ❑ Useful tools (Matlab and basic usage of NS2)
- ❑ Basic simulation techniques
  - ❑ Discrete-time simulation
  - ❑ Discrete event simulation
- ❑ Example cases/papers on performance modeling
  - ❑ Prepare for your own research

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Course Materials

- ❑ Reference textbook:
  - ❑ [Introduction to Probability Models, Ninth Edition](#) by Sheldon M. Ross.
  - ❑ [Simulation, fouth edition](#) by Sheldon M. Ross.
- ❑ Reference courses:
  - ❑ [CMPSCI673 - Performance Evaluation](#), by Don Towsley, UMass.
  - ❑ Course: [COMS6180 - Modeling and Performance Evaluation](#), by Visal Misra, Columbia Univ.
- ❑ Other references that we can find online

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Course Introduction

- Coursework   times   approx %

Coursework	times	approx %
Written homework	2	20%
Programming projects	5	60%
Midterm exam	1	20%

- Written homework
  - Mainly for the first half course on knowledge: probability, random process, queuing theory
- Programming projects
  - Emphasis for the second half of the course
  - Example:
    - Basic usage of Matlab on statistical analysis
    - Internet worm propagation simulation
    - Networking simulation using NS2
    - Discrete-event simulation

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Course Introduction

- Midterm exam
  - Focus on the first half theoretic knowledge on probability, random process, queuing theory
  - Since we have online session, midterm will be open book and like a special homework assignment with 24-hour submission deadline
- Programming projects
  - Simple project: each student individual work
  - Complex project: Two students as a group
  - No final exam (to reduce workload)

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□ Questions?

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