

### CDA6530: Performance Models of Computers and Networks

Cliff Zou Fall 2011

SCHOOL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCE

# **Course Information**

#### Teacher: Cliff Zou

- Office: HEC243 407-823-5015
- Email: <u>czou@eecs.ucf.edu</u>
- Office hour: TuTh 12pm 1:30pm

#### Course Webpage:

- <u>http://www.cs.ucf.edu/~czou/CDA6530/index.html</u>
- 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

**Stands For Opportunity** 

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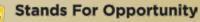
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### **Objectives**

#### 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.
  - <u>Simulation, fouth edition</u> by Sheldon M. Ross.
- Reference courses:
  - <u>CMPSCI673 Performance Evaluation</u>, by Don Towsley, UMass.
  - Course: <u>COMS6180 Modeling and Performance</u> <u>Evaluation</u>, by Visal Misra, Columbia Univ.

Other references that we can find online

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# **Course Introduction**

Coursework	times	approx %
Written homework	2	20%
Programming projects	5	60%
Midterm exam	1	20%
Written homework		
- Mainly for the first half source on knowledge:		

 Mainly for the first half course on knowledge: probability, random process, queuing theory

### Programming projects

- Emphasis for the second half of the course
- Example:

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- Basic usage of Matlab on statistical analysis
- Internet worm propagation simulation
- Networking simulation using NS2
- Discrete-event simulation

**Stands For Opportunity** 

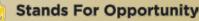
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# **Course Introduction**

### Midterm exam

Focus on the first half content on probability, random process, queuing theory
 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?

