

UCF



Stands For Opportunity

***CDA6530: Performance Models of
Computers and Networks***

***Cliff Zou
Fall 2014***

Course Information

- ❑ **Teacher: Cliff Zou**
 - ❑ Office: HEC243 407-823-5015
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 - ❑ Office hour: MoWe 10:15am – 11:45am
- ❑ **Course Webpage:**
 - ❑ <http://www.cs.ucf.edu/~czou/CDA6530-14/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



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

Course Materials

- ❑ **Reference textbook:**
 - ❑ [Introduction to Probability Models, Ninth Edition](#) by Sheldon M. Ross.
 - ❑ [Simulation, fourth 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**

Course Introduction

- | <u>Coursework</u> | <u>times</u> | <u>approx %</u> |
|------------------------|--------------|-----------------|
| □ 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

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 oriented**
 - ❑ I believe programming projects are more useful for practical skills training
 - ❑ Thus we will have 5 programming projects
 - ❑ No final exam (to reduce workload)

□ Questions?