

CDA6530: Performance Models of Computers and Networks

Mid-Term Review

Test Style

- ❑ **Open book, open anything**
 - ❑ Use books, notes, calculators
 - ❑ Use your laptop to solve all things
 - ❑ [Wikipedia](#) and mathworld.wolfram.com are two great reference resources
 - ❑ You can use Matlab to do calculation
 - ❑ Such as Markov Chain steady state prob. (matrix calculation)
- ❑ **You need to do the exam alone without discussion with others!**

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- ❑ Release questions via webcourse “assignment” around 12:30pm, Tuesday Oct. 18th, due via webcourse at 1:30pm the next day
 - ❑ Submit format:
 - ❑ Word file, PDF file
 - ❑ Scanned answer sheets
 - ❑ Make sure your writing is large and readable
 - ❑ Photos of your answer sheets if you have no scanner
 - ❑ Make sure it is readable
 - ❑ You can resubmit, so submit first version early!
 - ❑ From 12:30pm to 3:30pm on Oct. 18th, you can call me for any questions for exam problems
 - ❑ Office number: 407-823-5015 (HEC 243)

Test Content

- ❑ Homework 1 and homework 2
 - ❑ Be sure you understand each question
- ❑ Content taught in all lectures

Important knowledge

- ❑ **Random variables**
 - ❑ Discrete: Bernoulli, geometric, binomial, Poisson
 - ❑ Continuous: uniform, exponential, normal
 - ❑ Understand their relationship
 - ❑ Inequality (Markov, Chebyshev)
- ❑ **Poisson process**
 - ❑ Its properties (addition, thinning, memoryless)
- ❑ **Markov Chain**
 - ❑ State trans. Diagram, steady state
 - ❑ Continuous-time (Q), discrete-time (P)
- ❑ **M/M/*/* queue**
 - ❑ Little's law