# Final Exam Topics

Fall 2018

# Exam Technical Details

- When: Wednesday, December 12, 1:30-3:30
- Seats will be assigned
- One page of notes are allowed.
  - 8.5x11 paper (double-sided is fine). Typed or handwritten. No Magnification instruments.
- No electronic devices.
  - Including calculators, watches, iwatches, phones, laptops, Tamagotchis, tablets, ...
- Multiple Choice
- Can grade as you exit the exam.
- Contact drc.ou.edu for appropriate accommodations (drc@ou.edu).

# Help before finals

- Monday office hours 10:30 – 12:30p
- Monday Vinothini 2-4p
- Tuesday, Dr. Fagg, 4-5p
- Office hours Wednesday Morning 10-12.
- Discussion Board
- Others…

# Outline

- Everything from the Midterm
- Threads I
- Threads II
- Concurrency I
- Concurrency II
- Memory Management
- Virtual Memory

Threads vs Processes

Kernel vs User space Threads

Process/Thread states

bit manipulation

Memory
- monolithic
- Pagings
- Segmentation
- Paged segmentation

fixed/dynamic

buddy

Computing physical addresses & checking boundaries

Producer/Consumer problem

Deadlock
- Banker's alg
- Conditions for deadlock
- Prevention vs avoidance

Resource Locking mechanisms
- Semaphores
- Monitors
- mutex

Resource alloc graph

Q: lock resources in a specific order

Threads vs Processes

Kernel vs User Space Threads

bit manipulation

Process/Thread states

Producer/Consumer Problem

Deadlock

R

Banker's al

Boundaries

Resource Locking mechanisms

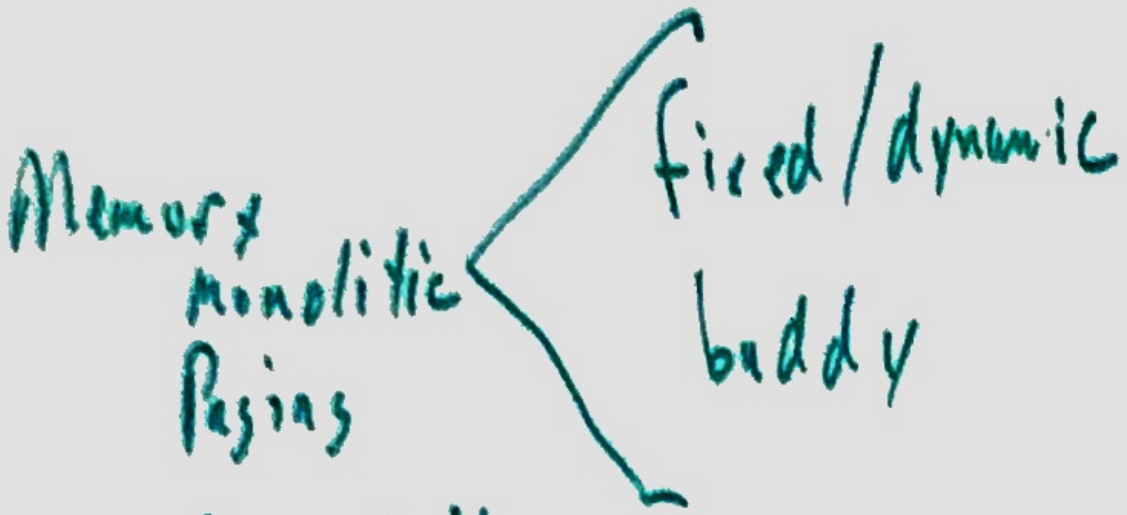
- Semaphores
- Monitors
- mutex

Resource alloc graph

Q:

for deadlock

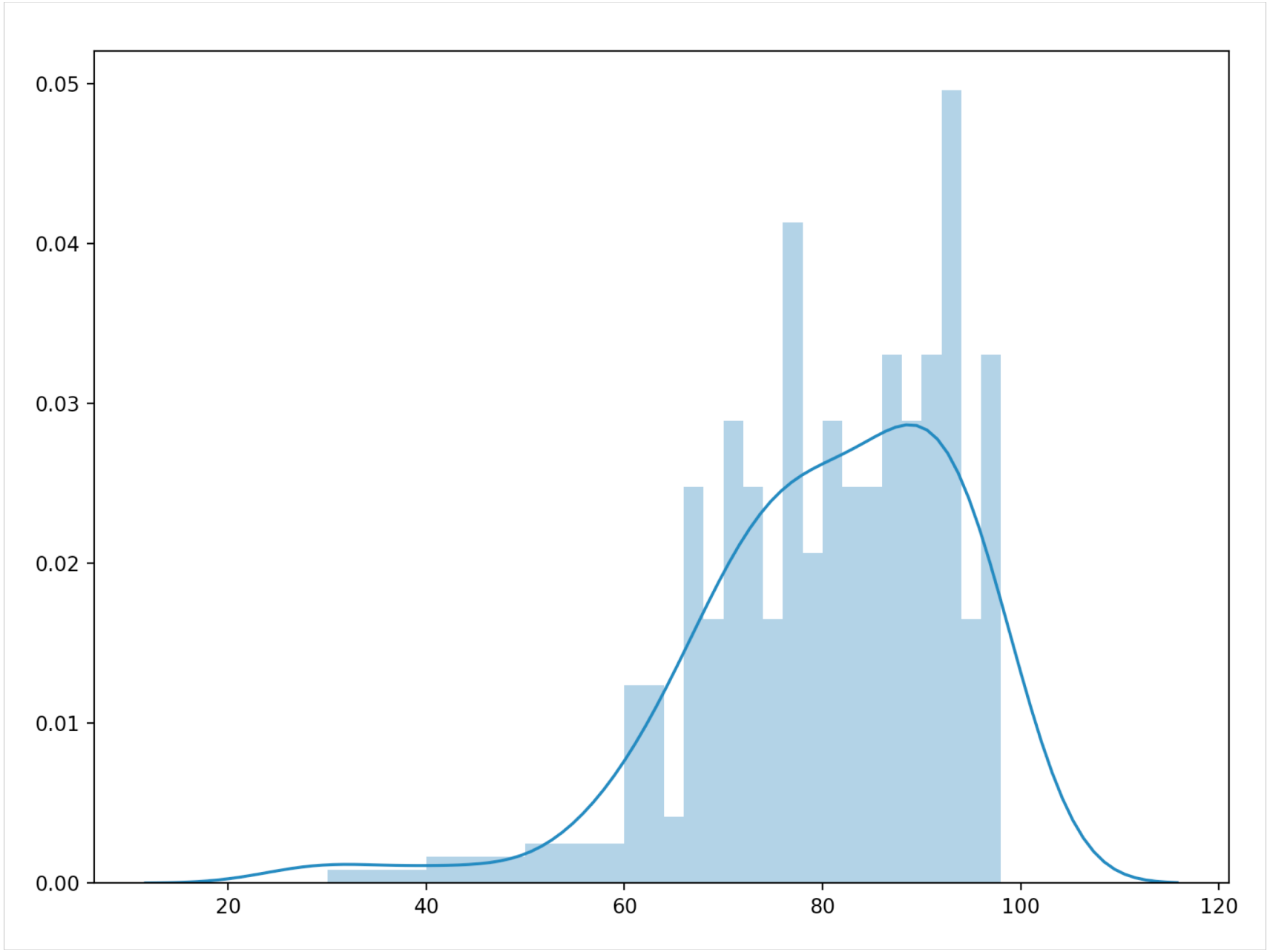
avoidance




Computing physical addresses

& checking boundaries

- Memory
  - Monolithic
  - Paging
  - Segmentation
  - Page segmentation
  - Computing physical addresses + checking boundaries
- Deadlock
  - Bankers Algo
  - Conditions for deadlock
  - Prevention vs avoidance vs Detection
- Producer/Consumer Problem
- Process/Thread States
- Threads vs Process
- Kernel vs User States
- OUFS
  - Alloc table
  - …others
- Resource Locking mechanisms
  - Semaphores
  - Mutex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0.02
0.01
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20
40
60
80
100
120