

# CSE 506: Operating Systems

Introduction

# Today's Lecture

- Course Overview
- Course Topics
- Grading
- Logistics
- Academic Integrity Policy
- Homework #1 (of 1)
- Quiz #1 (of 1)
- Key concepts from Undergrad Operating Systems

# Course Overview (1/3)

- Caveat 1: I'm new here.
- Caveat 2: This is a new course.
- Operating Systems are  
the *software*  
that *managers*  
computers' *resources*

## Course Overview (2/3)

- Ever wonder what the OS does, anyway?
- Operating System is an umbrella term
  - Kernel: resource manager
  - Standard Libraries: APIs to interface with the kernel
  - Utilities: tools to work with system
- This course is mostly about the **kernel**
  - What's inside the kernel
  - What interface this presents to libraries and software

# Course Overview (3/3)

- This course is hard, roughly like CSE 502
  - In CSE 502, you learn what's inside a CPU
  - In CSE 506, you learn what's inside an OS
- This is a project course
  - Learn why things are the way they are, first hand
  - We will build an operating system
  - If you don't know C, you need to learn it quickly
  - If you do not work hard on the project, you will fail

# Course Topics

- Intro/Review
- What Software Expects of the OS
- What Hardware Provides to the OS
- ***Virtual Memory***
- ***Scheduling***
- ***Storage***
- Networking
- Multi-threading
- Multi-processing

Will devote most time to items in ***bold***

# Grading (Standard Option)

kk	Due Date	Points	Grading	Required?
<b>1 Quiz</b>	Today	0	Curve 0 to 100	Yes
<b>1 Homework</b>	Nov 1	20	Curve 0 to 100	No
<b>1 Warm-up Project</b>	Sep 26	10	All or nothing	No
<b>1 Course Project</b>	Last class	100	See below	Yes
<b>1 Final</b>		30	Absolute value	No
<b>Participation</b>		10	Curve 0 to 100	No

Course Project	Points
Cooperative OS	50
Preemptive OS	60
Preemptive OS w/ File System	70
Preemptive w/ File System and Network	80
Multi-processor OS w/File System and Network	90
Multi-processor OS w/File System and Network and Thread Support	100

Without curve, need 100 points to get an A

# Grading (Research Option)

- If you are...
  - Pursuing a PhD
  - Pursuing an MS thesis
  - Taking or Planning to take 523/524 with me
- You may select a **research** option for the grade
  - **Only** available with instructor's approval
- When selecting this option...
  - Must work **alone** on everything
  - Attain **at least** 60 points of the Standard Option
  - Grade will be based on **subjective** research progress

Note: Of the two, this is the **harder** option



# Logistics (1/4)

- Project milestones
  - There are *no* official project milestones
  - If *you* need milestones, send me a milestone schedule
    - I will deduct 5 points for each milestone you miss
- Books
  - Operating System Concepts  
by Silberschatz, Galvin, Gagne (tried and true)
  - Operating Systems: Principles and Practice  
by Anderson and Dahlin (beta)
  - The C Programming Language  
by Kernighan and Ritchie (if you aren't a C guru)

# Logistics (2/4)

- Working in groups
  - Permitted on everything except Quiz and Final
  - Groups may range in size from 1 to 75 people
    - Points deducted on group work are multiplied by group size
    - Permission of instructor is needed for group size greater than two
- Attendance
  - Optional (but highly advised)
  - No laptop, tablet, or phone use in class
    - Don't test me - I **will deduct** grade points

# Logistics (3/4)

- Blackboard
  - This will be my second time using it, don't expect much
- Course Mailing List
  - Subscription is **required**  
<http://lists.cs.stonybrook.edu/mailman/listinfo/cse506>
- Quiz
  - Completion is **required**
  - If you missed the 1<sup>st</sup> class, come to office hours for it

## Logistics (4/4)

- Wait list is currently full
- Grad students often over-enroll
  - Space likely to open up in first week
  - If you want in, keep showing up for a few lectures
- Worst case: Prof. Zadok teaching 506 in the spring
  - Likely to be offered every semester going forward

# Academic Integrity Policy

- Probably different from other classes
  - Much more open, but much more strict
  - Resembles the “real world”
- Actual Policy:
  - All submitted work must have an explicit Copyright label containing your name.
  - All submitted work must have an explicit license.
  - All Copyright laws of the United States must be respected.

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Questions?

# Quiz #1 (of 1)