CSMC 412

Operating Systems

Prof. Ashok K Agrawala

Set 1

Course Overview

Today

- Introduction to the class

- Review Syllabus
  - read the warning about the size of the project
- Class Grades Server
  - Grades.cs.umd.edu
- Web Page
  - https://www.cs.umd.edu/class/spring2023/cmsc412/
- Piazza
  - https://piazza.com/class/ld3ir2rant31yy/

Catalog Description

- A hands-on introduction to operating systems, including topics in –
  - multiprogramming,
  - communication and synchronization,
  - memory management,
  - IO subsystems, and
  - resource scheduling polices.
- The laboratory component consists of constructing a small kernel, including functions for device IO, multi-tasking, and memory management.

Prerequisites

- Minimum grade of C or better - in
  - CMSC330, and
  - CMSC351
- 1 course with a minimum grade of C - from
  - CMSC414,
  - CMSC417,
  - CMSC420,
  - CMSC430,
  - CMSC433,
  - CMSC435,
  - ENEE440,
  - ENEE457

Teaching Assistants

Liu	Geng

Text

- Required
  - CMSC412:Operating Systems Spring2023
    - ZYBooks
      - 1. Sign in or create an account at learn.zybooks.com
      - 2. Enter zyBook code: UMDCMSC412AgrawalaSpring2023
      - 3. Subscribe
- URL
  - https://learn.zybooks.com/zybook/UMDCMSC412AgrawalaSpring2023

Grades Server And Piazza

- Server -
  - http://grades.cs.umd.edu
- Complete grade information
- Interface for requesting regrades on exams and projects

- Piazza
  - https://piazza.com/class/ld3ir2rant31yy/

Programming Projects:

- Understanding operating system concepts is a hands-on activity. This class will include several substantial programming projects that will require students to read and understand provided code, write new modules, and debug the resulting system. *The programming assignments will be time consuming and students taking this class should plan their class schedules accordingly*.
- The instructor reserves the right to fail, regardless of overall numeric score, students who do not submit a *good faith attempt* to complete all programming assignments.

Class Scheduled Times

- Lecture
  - Tu Th 11:00 AM to 12:15 PM – CSIC 2117
- Recitation
  - Section 0101
    - MW 10:00 PM to 10:50 PM – CSIC 1122
  - Section 0102
    - MW 11:00 AM to 11:50 AM – CSIC 2117

Class Schedule

Grading

- Dates for exams will be announced
- Programming Assignments
- Class Participation
  - Reading the assigned readings
  - Doing the exercises from the book
  - Interacting in the class
  - …

Some Useful Videos By Dr. Neil Spring

- Review of 216
  - Sizes - Necessary distinction between sizeof and strlen.
  - Malloc - Model for how malloc tracks memory, how to interpret memory errors.
  - Timing - Reminder of user / kernel separation.
- Synchronization Topics
  - Synchronization Overview - The basics
  - Semaphore Interface - How Semaphores can be used.
  - Semaphore Implementation - How Semaphores are built (so you know what they are and don't reinvent them).