CSMC 412

Operating Systems
Prof. Ashok K Agrawala

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Set 1

Course Overview

Today

- Review Syllabus
  - read the warning about the size of the project
- Class Grades Server
  - Grades.cs.umd.edu
- Web Page
  - http://www.cs.umd.edu/class/fall2020/cmsc412/
- Piazza
  - https://piazza.com/class/keaorzni1x61e0?cid=6

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

- Deepti Bisht
- Hana Hailu
- Haoran Zhou
- Shreya Suresh
- Zejun Liu
- Elijah Grubb
- Benjamin Black
- Joy Wongkamjan

Class Overview

- Class Web Page
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- Piazza
  - https://piazza.com/class/k5ihb0ezfcw227

Text

- Required
  - *Operating System Concepts* 10th Edition, eText Siberschatz, Galvin and Gagne,
  - John Wiley 2018
  - ISBN 978-1-119-32091-3
- Available
  - https://www.wiley.com – E-Book $ 76.00
    - May rent at lower price
  - https://hubetext.com/shop - PDF $8.00

Class Grades Server
http://grades.cs.umd.edu

- Complete grade information
- Interface for requesting regrades on exams and projects

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
- Recitation
  - Section 0101
    - MW 12:00 PM to 12:50 PM
  - Section 0102
    - MW 1:00 PM to 1:50 PM

Online Operation

- Lectures
  - Videos will be posted on M W scheduled
  - Must watch before the next scheduled Zoom Session
  - Class is organized in 4 Groups A,B,C, and D
    - Zoom Session times
      - 11:00 for Group A Section 0101 Last Names between A and Ka
      - 11:15 for Group B Section 0101 Last Names between Ki and Z
      - 11:30 for Group C Section 0102 Last Names between A and Moh
      - 11:45 for Group D Section 0102 Last Names between Moo and Z

Online Operations

- Projects and Recitations
  - Projects will be posted as per scheduled
  - Project discussions will take place in recitation sessions (also Zoom Sessions)
    - Details will be posted on Piazza
- Office Hours
  - All TA Office Hours will be via Zoom
  - Schedule will be posted
  - Will use Quuly to manage the office hours

[Class Schedule](#)

Grading

- Regular Quizzes and short exams
- Dates for exams will be announced
- Programming Assignments
- Class Participation
  - Watching Videos
  - Attending Class Zoom Sessions
  - Attending Recitation Zoom Sessions
  - …

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).
- Would require UMD CAS for Box Access