COSC 4740, Operating Systems Design Fall 2020

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Office Hours: TBA
And by Appointment

Grading: Grades will be based on the percentage listed below and a curved at the semester's end. There will be no extra credit.

Assignments	20% (programs and written)
Lab	10%
Project	30%
Midterm Exam(s)	20%
Final Exam	20%

Lecture Course Web page: http://www.cs.uwyo.edu/~seker/courses/

Texts:
Optional: Silberschatz, Galvin, *Operating System Concepts*, Tenth Edition, Wiley
Prerequisites:

- COSC 3020: Data Structures and Algorithms
- C or C++ programming skills

Workload and Quality of Work:

This is a senior level course. While the textbook is optional, chapter readings are listed and maybe very helpful. There will be 3 programming assignments, 26 written response questions, and a final project. The workload can be heavy, so do not put assignments off until the last minute. I will expect all work submitted to be clear, concise, well organized, relevant, and typed. I reserve the right to deduct points from your score if the submitted assignments do not meet those requirements. Do not turn any homework into the Computer Science Office. If you do, you will receive NO credit (unless otherwise specified). There WILL be homework due for credit during the last week of class.

Written homework:

Written homework assignments are due AT THE BEGINNING OF CLASS TIME on the date specified for each assignment. It must be typed unless otherwise specified. NO late written homework will be accepted without University Excuse. This includes being late to class! It's due at the beginning of class.

Programming homework:

Programming assignments will be due by 5pm. You will turn in code via github.com and an email. Programming assignments will be due by 5pm and considered late if they updated to github after 5pm. Late submissions will accepted for a period of 24

hours after it is due, with a 20% late penalty. The deduction will not count with a university excused absence.

Programming assignments **MUST** work on Computer Science linux machines. They **must compile and run** on cosc linux machines no matter what (or where) you choose to write them on. If your program does not compile, a penalty of half the points will be deducted from the assignment and then grading will begin. With this penalty and a late penalty, it will be possible to receive zero or even negative points.

Approximate Lecture Sequence for COSC 4740
Introduction (1 to 2 weeks)
- Introduction and Overview (chapters 1-2)

Process Management (4 weeks)
- Processes (chapter 3)
- Threads (chapter 4)
- CPU Scheduling (chapter 6)
- Midterm Exam
- Process Synchronization (chapter 5)
- Deadlock (chapter 7)

I/O Management (1 week)
- I/O Systems (chapter 12)

Memory Management (2 weeks)
- Memory Management (chapter 8)
- Virtual Memory (chapter 9)

Midterm Exam
File & Storage Management (2 weeks)
- File System Interface (chapter 11)
- File System Implementation (chapter 12)

Protection and Security (2 weeks)
- Protection (chapter 14)
- Security (chapter 15)

Case Study: Unix Operating System (1 week)
- The Linux System (Chapter 15)

Distributed Systems (2 weeks or as time allows)
- Introduction and Communication paradigms

Final Exam

Please see the Syllabus addendum for addition information.