Operating Systems
CSE 410
Summer 2015
Instructor: Rana Forsati
forsati@msu.edu
About This Course

6 weeks * 3 lectures + 1 Week * 2 lectures
-(1 holiday + 2 exam days)

= 17 lectures

We need to cover >= 11 chapters [tentative]
and...
6 Homeworks + 5 Exercises + …
About This Course

Yes... Lots of work...

What's even worse:

10:20 – 12:10 = 1h 50min lecture
About This Course

A lot of work **BUT**

- We will learn important and interesting concepts related to operating systems
- **Processes** (how to write a **shell** or terminal program in Linux?)
- **Threads**: How to implement **Multithread** programs and parallel algorithms?
- **Synchronization**: How to share resources between multiple process?

- How to do **Memory** management?
Format of the Lecture

Monday+Wednesday+Friday
10:20 – 11:10
+ 10 min break
+ 11:20 – 12:10

Course Website:
http://www.cse.msu.edu/~cse410
Textbook

Links

Course’s web site:

http://www.cse.msu.edu/~cse410

Piazza:

http://piazza.com/msu/summer2015/cse410/home
<table>
<thead>
<tr>
<th>Week of</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
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</table>
| 1: May 18th | Chapter 0 (logistics+overview)  
Chapter 1  
Exercise#1 on Piazza | Chapter 1  
HW#1 Assignment | Chapter 2  
Chapter 3                              |
| 2: May 25th | Exercise#2 on Piazza                       | Chapter 3  
Due data of HW#1  
HW#2 Assignment | Chapter 4                              |
| 3: June 1st | Chapter 4  
Chapter 9  
Exercise#3 on Piazza | Chapter 9  
Due data of HW#2  
HW#3 Assignment | Midterm Exam                        |
| 4: June 8th | Chapter 7  
Exercise#4 on Piazza                  | Chapter 7  
Chapter 8  
Due data of HW#3  
HW#4 Assignment | Chapter 8                              |
| 5: June 15th | Chapter 5  
Exercise#5 on Piazza               | Chapter 5  
Due data of HW#4  
HW#5 Assignment | Chapter 6                              |
| 6: June 22nd | Chapter 11                                   | Chapter 11  
Chapter 12  
Due data of HW#5  
HW#6 Assignment | Chapter 12                              |
| 7: June 29th | Overview and Exam Practice  
Due date of HW#6 | Final Exam                                    |                                      |
Material (1)

☑️ Week 1

Computer System Overview + Operating System Overview + Processes

☑️ Week 2

Processes + Threads

☑️ Week 3

Threads + Processor Scheduling algorithms + Midterm
Material (2)

- Week 4
  Memory Management + Virtual Memory

- Week 5
  Concurrency control + Synchronization + Deadlock

- Week 6
  I/O Management + File Management

- Week 7
  Wrap up + Exam Practice + Final
Grading Policy

- Exams 50%
  - Midterm Exam 25%
  - Final Exam 25%
- Homework/Projects 40%
- Exercises/Quizzes 10%
- Presentation (optional) +10%
Homeworks

- There will be 6 HWs
- Will be posted on Wednesday
- **Deadline:** 1 week from posting the homework
- 3 conceptual/problem solving questions
- 3 HWs are implementation projects:
  - C/C++ programming
  - Kernel programming
  - Linux environment
Rules about Assignments of Homework

• Individual assignments
• Collaborative solutions are not permitted
• Project Late Points Policy:
  – Late assignment points will be reduced by 20% per day.
  – Maximum delay of 2 days permitted
  – For some projects, late submission will not be accepted
    • Such exception will be mentioned in class
    • Typically for cases where solution needs to be discussed immediately after deadline
Rules about Assignments of Homework

- TA and I will be available to help you with Linux programming
- For questions: attend TA or my office hours or Piazza
- You may not of course obtain any materials from previous students, web, etc. [do it by yourself!]
Exercises

• There will be 5 exercises

• I will be posting exercises roughly once a week on Piazza every Monday

• **Deadline**: 1 week from posting the exercise

• The goal of exercise is to enable you to collaborate with each other (and me and TA) to understand the material better and get prepared for Homework.

• Are mostly conceptual!

• Quizzes are based on exercises!
Rules about Assignments of Exercises

• Exercises are different than everything else in that collaboration is permitted and in fact encouraged.

• Piazza will be used to collaborate on exercises.
• You can submit your answers and/or comment on someone else’s answer in Piazza.

• You will receive credit for an exercise only if
  – You should submit your solution
Rules about Assignments of Exercises

- Exercises will not be graded.

- TA will post the answers to exercises on Piazza.
Rules about Assignments of Exercises

- Unless posted by me or TA, treat material on piazza as how you treat the material on Internet
  - It might be correct but is not guaranteed to be 😞
  - These are answers posted by some students in the class.
Exams

• Two Exams

• Midterm:
  • Date: Friday, Week 3
  • Covers Chapters 1, 2, 3, 4, and 9

• Final:
  • Date: Wednesday, Week 7
  • Covers 7, 8, 5, 6, 11, and 12
Quiçzes

- Several short quizzes based on the Exercises!
- Two lowest quiz scores will be dropped and not be included in grade calculation.
- Might be announced in advance, most will not
Presentation

• Optional!

• To help students to boost their grade

• Most likely in last few lectures

• Topics from Chapter 11 and Chapter 12

• Or other interesting topics: Android operating systems!
Guaranteed Grade Scale

- 4.0 > = 90% of points available
- 3.5 > = 85% of points available
- 3.0 > = 80% of points available
- 2.5 > = 75% of points available
- 2.0 > = 70% of points available
- 1.5 > = 65% of points available
- 1.0 > = 60% of points available
Curve

• If your score exceeds the respective value from the scale, that grade is guaranteed.
  – For example, if your total score is 83, your final grade cannot be lower than 3.0

• If two students’ score is *very close*, I assign them identical grade (subject to above rule).
  – For example, if there are two students with overall score of 89.99 and 90.01 then they will receive the same grade of 4.0
Announcements for Class

• Most announcements will be made on Piazza or course webpage.

• I will be assuming that you are aware of all announcements made in class.
Excuses for …

• Make-ups for exams and Extend assignments’ due date
  – documented illness
  – personal emergency
  – Job interview (only applicable for this class)
    • Must notify before the fact and provide appropriate documentation
    • Same would apply if you are attending a conference based on recommendation from a professor in our department.

MSU’s policy on Integrity of Scholarship and Grades