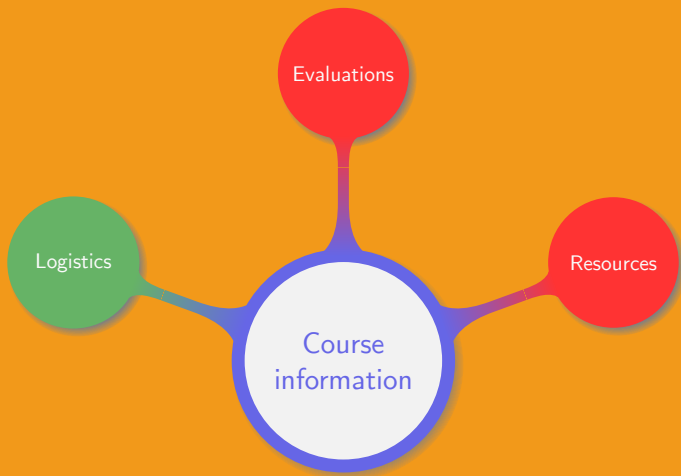




Introduction to Operating Systems

0. Course information

Manuel – Fall 2020



Teaching team:

- Instructor: Manuel (charlem@sjtu.edu.cn)
- Teaching assistants:
 - Zhenhao (guzhenhao1@sjtu.edu.cn)
 - Yaxin (leespace666666@sjtu.edu.cn)

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Important rules:

- When contacting a TA for an important matter, CC the instructor
- Prepend [VE482] to the subject, e.g. Subject: [VE482] Grades
- Use [SJTU jBox service](#) to share large files (> 2 MB)

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Never send large files by email

Course arrangements:

- Lectures:
 - Tuesday 8:00 – 9:40
 - Thursday 8:00 – 9:40
- Manuel's office hours:
 - Tuesday 12:15 – 13:45 (JI-437A)
 - Appointment (TBD)
- TAs' office hours: TBA
- Labs:
 - Tuesday 18:20 – 20:55
 - Wednesday 18:20 – 20:55

Main goals of this course:

- Understand the functioning of operating systems
- Become familiar with the internal structure of operating systems
- Be able to perform basic operating system coding

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Be able to share in the development of an operating system

Learning strategy:

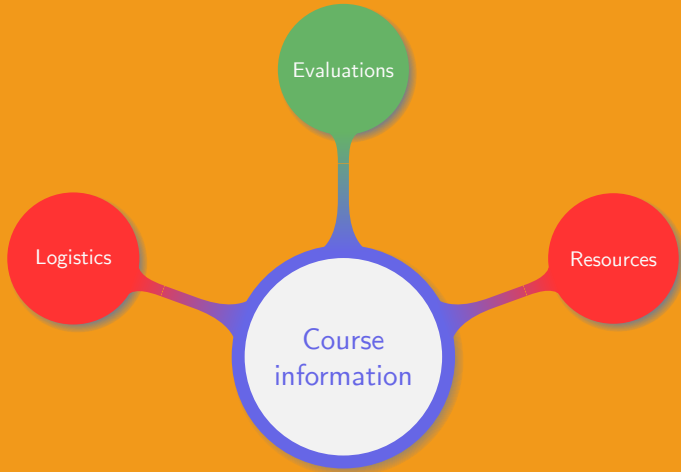
- Course side:
 - ① Understand how to efficiently use the CPU
 - ② Know how to handle Memory, Input/Output, and Filesystems
 - ③ Get a basic idea of security and distributed systems

Learning strategy:

- Course side:
 - ① Understand how to efficiently use the CPU
 - ② Know how to handle Memory, Input/Output, and Filesystems
 - ③ Get a basic idea of security and distributed systems
- Personal side:
 - ① Read and write code
 - ② Relate known strategies to new problems
 - ③ Perform extra research

Detailed goals:

- Understand the general organisation of an OS
- Understand the hardware organisation
- Be familiar with the concept of process and threads
- Be able to solve common problems related to inter-process communication
- Be able to implement the most common scheduling algorithms
- Be able to analyse, prevent or solve deadlock issues
- Be familiar with the memory management and filesystems
- Be proficient at using Unix systems, spot particular parts of the kernel code, and write clean and well shaped code
- Understand the concept of security in an OS



Homework:

- Total: 8
- Content: basic concepts, programming, scripting

Labs:

- Total: 9 + 3
- Content: improve programming skills, work on projects

Projects:

- Total: 3
- Content: shell, thread communication, scheduling

Extra: Linux kernel challenges

Grade weighting:

- Homework: 10%
- Projects: 40%
- Labs: 10%
- Midterm exam: 20%
- Final exam: 20%

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Assignment submissions:

- Late submission: -10% per day, not accepted after three days
- Dirty or hard to decipher: up to -10%

Grades will be curved with the median in the range $\llbracket B, B+ \rrbracket$

General rules:

- Not allowed:
 - Reuse the code or work from other students
 - Reuse the code or work from the internet
 - Give too many details on how to solve an exercise

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- Not allowed:
 - Reuse the code or work from other students
 - Reuse the code or work from the internet
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- Allowed:
 - Share ideas and understandings on the course
 - Provide general directions on where or how to find information

Documents allowed during the exams: none

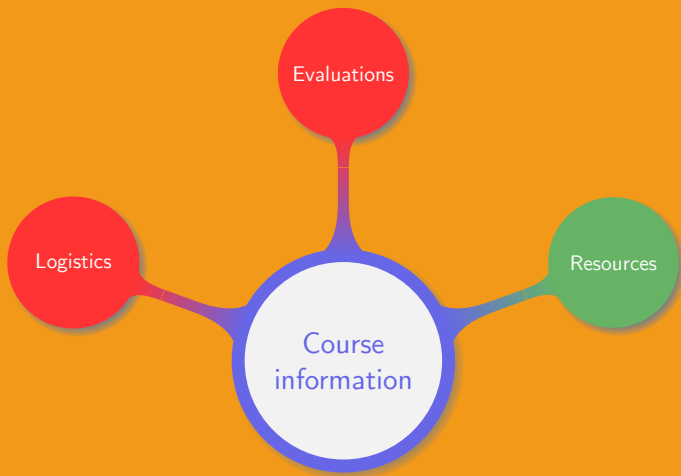
Group works:

- Every student in a group is responsible for his group submission
- If a student breaks the Honor Code, the whole group is sent to Honour Council

Contact us as early as possible when:

- Facing special circumstances (e.g. full time work, illness...)
- Feeling late in the course
- Feeling to work hard without any result

Any late request will be rejected



On **Canvas** platform:

- Course materials:
 - Syllabus
 - Lecture slides
 - Homework
 - Labs
 - Projects
 - Challenges
- Course information:
 - Announcements
 - Grades
 - Notifications
 - Surveys

Useful places where to find information:

- *Modern Operating Systems*, A. Tanenbaum
- *Operating System Concepts*, A. Silberschatz
- *Operating Systems: Three Easy Pieces*, R. and A. Arpcaci-Dusseau
- OS creation: http://wiki.osdev.org/Main_Page
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Never use Baidu in any course



Thank you!