Introduction to Operating Systems
Lecture 0: Course introduction

MING GAO

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Outline

1. Textbooks and references
2. Requirements and assessment
3. Office hour and contact information
4. A rough outline to the course
   • Course schedule
5. Take-aways
Required textbook

Optional textbooks:

References and suggested readings

- Books
- Web pages
- Papers

Most of them are in English, and can be found in the Internet, libraries, or book stores.

http://dase.ecnu.edu.cn/mgao/OS_2015/OS.html
Requirements

1. Slides will be posted 1-2 days before lecture, but
2. Students are expected to
   - take notes during lecture (no lecture notes will be provided)
   - read the assigned readings before and after the lecture
   - think through the answers of tutorial (a set of questions) every week before the lecture
3. Conduct one lab exercise (honestly and independently)
4. Take weekly workload (average)
Assessment

- Final exam: 60%
- Mid exam: 20%
- Lab & quiz: 20%
Contact information

**Lecturer:** GAO Ming—— 高明

2. Email: mgao@sei.ecnu.edu.cn
3. Research focus:
   - Social mining (community detection, event detection & user linkage)
   - Uncertain data and streaming data management
   - Distributed database implementation

**Teaching assistant:** ZHOU Huan—— 周欢

- Email: xxxxxxxx
- Office: Rm. 312, Geo. Building
Contact info. cont’d

Course homepage
http://dase.ecnu.edu.cn/mgao/OS_2015/OS.html

Course ftp
- ftp://219.228.60.7/mgao/os15/
- Username: student
- Password: student
What to be taught in this course?

Aim at helping students to build up system thinking

1. What is an operating system (OS)?
2. Its components and available technologies
3. The design issue of an OS or a system software
4. Some knowledge of system programming
5. Some advanced technologies that are related, or would be integrated into OS in the future
What to be taught in this course?

We won’t introduce how to use Mac OS X, MS Windows, Linux etc, how to develop in a specific OS, which should be learned by yourself before/after classes.
Schedule

Background
CS and OS overview

Process and process coordination
- Process description & control
- Threads
- CPU scheduling
- Synchronization
- Deadlocks
Schedule

Memory management
- Memory management basics
- Virtual memory

Storage management
- File system interface
- File system implementation
- Secondary storage
- I/O management
Schedule

Advanced topics
- Distributed systems: a brief introduction
- Protection and security

Lab instructions
- Linux/Windows/Pintos introductions
- 3 projects
Take-aways

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Advices to learning OS

- Not a reading course.
- More than a programming course, though it is project-heavy
- No standard answers