
東南大學
SOUTHEAST UNIVERSITY

# OPERATING SYSTEM CONCEPTS

## Chapter 0. Prologue

A/Prof. Kai Dong

# Contents

# Kai Dong

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# Contents

# Operating Systems

*Course Orientation*




## Learning outcome:

# Operating Systems

*Course Orientation*




## Learning outcome:

- Explain and evaluate the operation of the internal algorithms and structures of a modern multi-user/multi-tasking operating system.

# Operating Systems

*Course Orientation*




## Learning outcome:

- Explain and evaluate the operation of the internal algorithms and structures of a modern multi-user/multi-tasking operating system.
- Critically compare and evaluate the operation of a number of different example operating systems.

# Operating Systems

*Course Orientation*




## Learning outcome:

- Explain and evaluate the operation of the internal algorithms and structures of a modern multi-user/multi-tasking operating system.
- Critically compare and evaluate the operation of a number of different example operating systems.
- Apply to the solution of a range of problems, the fundamental concepts, principles and algorithms employed in the operation of a multi-user/multi-tasking operating system.

# Operating Systems

*Course Orientation*




For Students from **SEU**:

- One of the basic courses for the major of Computer Science & Engineering, and the major of Software Engineering.
- Most important content in the postgraduate entrance examination.
  - Data structure (45 points, 30%)
  - Operating system (60 points, 40%)
  - Principles of computer composition (45 points, 30%)

# Operating Systems

*Assessments*




For Students from **SEU**:

| **TI501M (TI601M) - Operating Systems** | | | | | |
|---|---|---|---|---|---|
| Semester | Semester 3 (Spring) | | | | |
| # of Hours | Lecture | Mid-term | Discussion | After-class Lab Work | Total |
| | 48 hours | 4 hours | 12 hours | 8 hours | 72 hours |
| Assessments | 2-hour Final | 100-min Mid-term | Performance/ Exercise | Lab Work Evaluation | - |
| | 60% | 15% | 10% | 15% | 100% |

# Operating Systems

*Assessments*

For Students from **EFREI PARIS**:

| **TI501M (TI601M) - Operating Systems** | | | |
|---|---|---|---|
| Semester | Semester 5 (August/September Group) | | |
| # of Hours | Lecture/Seminar | Supervised Lab Work | Total Guided and Independent Learning |
| | 30 hours | 10 hours | 80 hours |
| Assessments | 2-hour Exam | Lab Work Evaluation | |
| | 60% | 40% | 100% |

# Operating Systems

*Discipline*




- Laptop, tablet and cell phone allowed (mute), but
- Do not deal with anything unrelated to the class.
- Any copying or plagiarism is prohibited.

# Operating Systems

*Bibliography*





- Operating System Concepts. Abraham Silberschatz & Peter B Galvin. Seventh edition, 2007, John Wiley. ISBN 978-0-471-69466-3.
- Operating System Concepts. Abraham Silberschatz & Peter B Galvin. Seventh edition, photocopy edition, Higher Education. ISBN 978-7-040-20928-0. (¥72)
- Currently in the tenth edition. (too expensive)

# Operating Systems

*Learning Method*




Lab work is important.

- I hear and I forgot, I see and I remember, I do and I understand.
- Not having heard something is not as good as having heard it; having heard it is not as good as having seen it; having seen it is not as good as knowing it; knowing it is not as good as putting it into practice. —Confucian philosopher Xunzi.

# Operating Systems

*content of courses - see details in Syllabus.xlsx*

| | |
|---|---|
| Overview | Introduction |
| | Operating-System Structures |
| Process management | Processes |
| | Threads |
| | Process Synchronization |
| | CPU Scheduling |
| | Deadlocks |
| Memory Management | Main Memory |
| | Virtual Memory |
| Storage management | Mass-Storage Structure |
| | File-System Interface |
| | File-System Implementation |
| | I/O Systems |