



北京邮电大学软件学院

School Of software Engineering Of BUPT

厚德 博学 敬业 乐群



# *Operating System*

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## **Lecture 0 syllabus**

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# About This Course

## ✿ This course

- ✦ 是计算机专业学生必修的核心专业基础课之一
- ✦ 是一门涉及较多硬件知识的计算机系统软件课程
- ✦ 在计算机软硬件课程设置上，它起着承上启下的作用

✿ 操作系统对计算机系统资源实施管理，是所有其他软件与计算机硬件的唯一接口，所有用户在使用计算机时都要得到操作系统提供的服务。

✿ 通过本课程的学习，能够理解操作系统的基本概念和主要功能。培养分析问题、解决问题的能力以及独立承担专门技术工作的能力。



# About This Course

## ❁ Prerequisite courses:

- ❁ Programming language C(C语言)
- ❁ Assembly language(汇编语言)
- ❁ Data structures(数据结构)

## ❁ 课件：英文为主，部分中文（考虑到国内考研需求）

## ❁ 学时学分：总学时64学时 实验16学时

## ❁ Schedule:

- ❁ Classroom: 教三, 539（周五），539（周三）
- ❁ Time of the classes:
  - 3(3, 4), 10:10~12:00
  - 5(3, 4), 10:10~12:00
- ❁ Weeks: 1-16



# *Lecture Format*

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- ✿ Help you understand important and hard OS concepts
- ✿ Lectures do not cover everything
  - ✦ Not all questions in homework or exams are from lectures
- ✿ Students responsibility
  - ✦ Attend lectures
  - ✦ Read textbooks
  - ✦ Homework, Experiments, Exam



# *homework & Lab Code*

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- ✿ **Unless stated otherwise, all homework & Lab are individual assignments and are expected to be your own work.**
- ✿ **TAKE PRIDE IN THE WORK YOU DO!!! DON'T CHEAT.**
  - ✦ **All homework must be completed only by yourself. If you have been found that you copy it from other students or other places, your homework degree will be zero.**



# *Grading Policy*

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课堂总成绩\*80.0% + 实验成绩\*20.0%

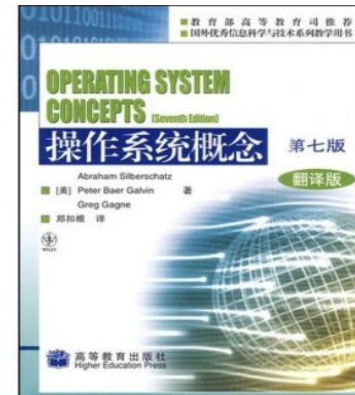
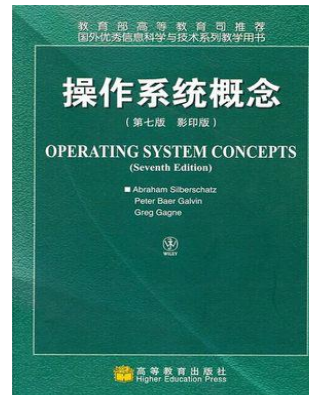
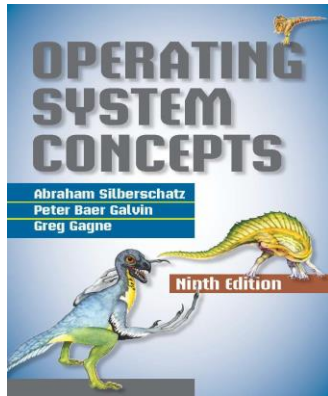
课堂总成绩 = 课堂平时\*10.0%+课堂期中\*15.0%+课堂期末\*75.0%)



# Textbook & References

## Textbook:

- ❖ (恐龙书) Operating System Concepts, by Avi Silberschatz, Peter Baer Galvin, and Greg Gagne.
- ❖ Webpage: <http://www.os-book.com/>
- ❖ Who use: 弗吉尼亚大学, 北卡罗来纳州立大学, RICE, 斯坦福, 加州伯克利, CMU等



(影印版/翻译版：网上大约50~60元能买到)

(大多数同学使用中文教材，建议尝试英文教材)



# *Textbook & References*

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## Reference:

- ❖ 1、汤子瀛. 计算机操作系统.  
西安: 西北电子科技大学出版社, 1999 (国内考研用书)
- ❖ 2、张尧学. 计算机操作系统教程 (第二版).  
北京: 清华大学出版社, 2000, 8
- ❖ 3、Andrew S. Tanenbaum, **Morderns Operating Systems** (影印版, 翻译版)
- ❖ 4、William Stallings, **Operating Systems: Internals and Design Principles** (影印版, 翻译版)  
Webpage: <http://williamstallings.com/>





# Overview

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- ❖ **Overview and History**
- ❖ **Processes and Threads**
- ❖ **Synchronization**
- ❖ **Deadlock**
- ❖ **Implementing Synchronization Operations**
- ❖ **CPU Scheduling**
- ❖ **Memory Management**
- ❖ **Introduction to Paging**
- ❖ **Virtual Memory**
- ❖ **Introduction to File Systems**



# Overview

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- ✿ **File System Implementation**
- ✿ **Segments**
- ✿ **Disk Scheduling**