北京邮电大学软件学院
School Of software Engineering Of BUPT

Operating System

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: 教三，540
  - Time of the classes:
    1(10,11),16:35~18:10
    4(3,4),08:10~09:35
  - Weeks: 3-18

Lecture Format

- 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

- **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.**

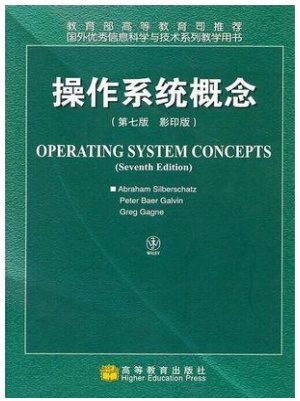
Grading Policy

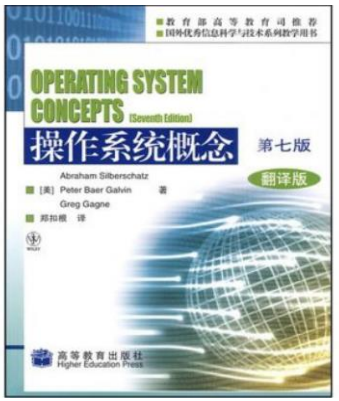
课堂总成绩*80.0% + 实验成绩*20.0%

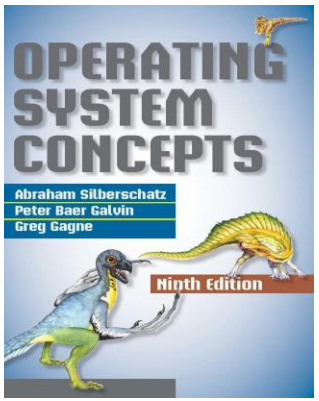
课堂总成绩 = 课堂展示及考勤*20.0% + 平时作业10% + 课堂期中*10.0% + 课堂期末*60.0%

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

- **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/
  - 5、Remzi H. Arpaci-Dusseau and Andrea C. Arpaci-Dusseau，Operating Systems: Three Easy Pieces
    Webpage: http://pages.cs.wisc.edu/~remzi/OSTEP/

Overview

- **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

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