Welcome to COMP3231/COMP9201 Operating Systems!

School of Computer Science & Engineering
UNSW

2005/S2

— Staffing —
Gabriele Keller (Lecturer)
Simon Winwood (Subject Admin)
and Nick Fitzroy Dale, Patrick Zardanovski (Tutors)

Overview

Course Outline
Computer Systems Overview
Operating System Overview

Students

Lectures
- Common for all courses (COMP3231/COMP9201)
- Monday 6pm - 9pm
- Lecture notes will be available on the course web site (prior to lecture if possible)
- Lecture notes and textbook are not a substitute for attending the lectures

Tutorials
- Start in week 2
- Everyone (including 9201 students) has to be enrolled into a tutorial to get assignments marked
- For 3231 students: marks awarded for participation (not just attendance)
- You will only get participation marks in your enrolled tutorial
- Attendance is highly recommended

Prerequisites

COMP2011 — Data Organisation:
- Stacks, queues, hash tables, trees, heaps, …

COMP2021 — Digital Systems Structure:
- assembly programming
- mapping of high-level procedural languages to assembly
- You are expected to be competent programmers!!!!
- We will be using the C programming language
- The dominant language for OS implementation.
- Need to understand pointers, pointer arithmetic, explicit memory allocation.
ASSIGNMENTS

→ We will be using OS/161
  • It is an educational operating system
  • developed by the Systems Groups at Harvard
  • about 20,000 lines of code

→ Three assignments
  • Due approx. in week 6, 9, 12
  • Assignment 0 gives you the chance to familiarise yourself with OS/161, the version control system CVS, and GDB debugger
    - handed out this week
    - due in week 3
  • remaining three assignments will be more challenging

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ASSIGNMENTS

→ In groups of 2 students: info on how to form groups will be available soon

→ Start early with assignments

→ Bonus marks for
  • finishing within 48 hours of release
  • finishing a week early
  • see course handout for details

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ASSIGNMENTS

→ Late penalty
  • assignments accepted until 7 days after deadline
  • 4% penalty of total assignment value per day

→ Example:
  - assignment worth 20 marks
  - you have 18/20
  - five days late
  - mark:

\[18 - 20 * 0.04 * 5 = 14\]

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PLAGIARISM

→ New university wide plagiarism policy

→ New school policy will be available shortly

→ Central Plagiarism Register

→ We do take plagiarism seriously — please contact us early if you think you will not be able to complete an assignment

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EXAMS

- There is no mid-session exam
- The final exam is two hours
- Supplementary exams are oral exams
- Supplementary are available according to school policy, not as second chance

FINISH MARK

Two components:
1. Class mark: max. of 100
   - 90% assignments (100% for COMP9201 students)
   - 10% tutorial participation mark (for COMP3231 students)
2. Exam mark: max. of 100

Final Mark:
- To pass the course, min of 40 in each component necessary
- Final mark, COMP3231: harmonic mean of class and exam mark (50/50)
  \[
  \frac{2 \times E \times C}{E + C}
  \]
- If $C < 40$ or $E < 40$, then
  \[
  \min(44, \max(\frac{2 \times E \times C}{E + C}, \frac{5 \times E \times C}{E + C})),
  \]

BOOKS

Main Text Book:
- Andrew S. Tanenbaum: Modern Operating Systems, 2nd Edition
Further Reference:
- Silberschatz et. al: Operating Systems Concepts
C Programming:
**Contact Us**

- Questions?
  - admin related: mail to cs3231@cse.unsw.edu.au
  - lecture, tutes, assignments: message board
- Consultation:
  - Tuesday, 14pm - 15pm
  - additional assignment consults if required

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**What is an Operating System?**

- Provides an abstraction layer over the concrete hardware
- Allocation of resources
- Optimisation of resource utilisation
- Protection and Security

What are the characteristics of a "good" operating system?