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)
Course Outline
Computer Systems Overview
Operating System Overview
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
LECTURES

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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

or the postgraduate equivalent
    ➔ 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 – handed out this week – due in week 3. The 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
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:

\[ 18 - 20 \times 0.04 \times 5 = 14 \]
New university wide plagiarism policy
New school policy will be available shortly
Central Plagiarism Register
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
⇒
EXAMS

- The 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
Final 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

To pass the course, min of 40 in each component necessary

Final mark, COMP3231:
- harmonic mean of class and exam mark (50/50)

If C < 40 or E < 40, then
- min (44 + C)
**Final 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
  \[
  \min(44, \frac{2 \times E \times C}{E + C})
  \]
Final mark, COMP9201:

Maximum of

→ harmonic mean of class and exam mark (50/50)

$$\frac{2 \times E \times C}{E + C}$$

→ and weighted harmonic mean of class and exam marks (20/80):

$$\frac{5 \times E \times C}{E + C}$$

→ If $C < 40$ or $E < 40$, then

$$
\min(44, \max(\frac{2 \times E \times C}{E + C}, \frac{5 \times E \times C}{4 \times E + C}))
$$
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 assignent consults if required
WHAT IS AN OPERATING SYSTEM?

1. Provides an abstraction layer over the concrete hardware
2. Allocation of resources
3. Optimisation of resource utilisation
4. Protection and Security
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What are the characteristics of a “good” operating system?