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## Welcome to COMP3231/COMP9201 Operating Systems!

School of Computer Science & Engineering  
UNSW

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2005/S2

— Staffing —

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

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### OVERVIEW

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- Course Outline
  - Computer Systems Overview
  - Operating System Overview
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### 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

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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
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### 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.
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## 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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## 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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## 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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## EXAMS

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- 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

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## 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

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**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)

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

- If  $C < 40$  or  $E < 40$ , then

$$\min(44, \frac{2 * E * C}{E + C})$$

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Final mark, COMP9201:

Maximum of

- **harmonic mean** of class and exam mark (50/50)

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

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

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

- If  $C < 40$  or  $E < 40$ , then

$$\min(44, \max(\frac{2 * E * C}{E + C}, \frac{5 * E * C}{4 * E + C}))$$

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## BOOKS

**Main Text Book:**

- Andrew S. Tanenbaum: **Modern Operating Systems, 2nd Edition**

**Further Reference:**

- Silberschatz et. al: **Operating Systems Concepts**
- William Stallings: **Operating Systems, 5th Edition**

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**C Programming:**

- Kernigham & Ritchie: **The C Programming Language, 2nd Edition**
- S. Harbison and G. Steele: **C: A Reference Manual**

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## CONTACT US

- Questions?
  - admin related: mail to [cs3231@cse.unsw.edu.au](mailto: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?

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