ENCE360: Operating Systems Course Outline

- This course is an introduction to operating systems:
  - Operating systems are a special type of software that sits between the hardware and other software applications.
  - They function to manage various computer resources, and to provide a convenient interface to the users.
  - This course emphasises system calls (which provide an interface between the operating system and applications) and examples of operating systems.

Lecture Topic	Reading	Laboratory Topic
Introduction to Operating Systems	**MOS: Ch 1**	C Revision
Processes and Threads	**MOS: Ch 2**	
Scheduling (processes/threads)		Threads, Processes
Inter-process Communicatioin (pipes/sockets)	**MOS: pgs 43-45, 733-734**	
Concurrency		Pipes, Files, Signals
Input/Output	**MOS: Ch 5**	
Files and Directories	**MOS: Ch.4**	Sockets
		LAB TEST 1
	MID SEMESTER BREAK	
Memory Management - Caches	**MOS: Ch 3, 7.8**	labs on OS examples, including
Memory Management - Virtual Memory	**MOS: Sect 3.3**	Xv6 (simple teaching OS)
Virtualisation		
Distributed Systems		
Operating System Examples include:		
Windows, Linux, Android, macOS/iOS, real-time operating systems		
		Assignment due

Staff for Operating Systems

- ## Course Supervisor & Lecturer
  - ### Dr Richard Green

    richard.green@canterbury.ac.nz

  - ## Lecturer: Prof Mark Claypool
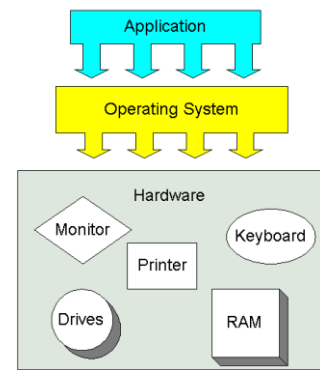
    claypool@cs.wpi.edu

- ## Tutor
 - ### Gordon Beintmann

    gbeintmann@gmail.com

Laboratories

- There are two scheduled lab streams.

- All labs will be held in the department labs in the Erskine building.

- Each student should attend one 2-hour lab each week.

- **Labs begin the first week of term**

- For lab times and locations, check www.canterbury.ac.nz/tt

- Self-allocate your lab via https://mytimetable.canterbury.ac.nz/aplus/apstudent

- If you hit any snags, email
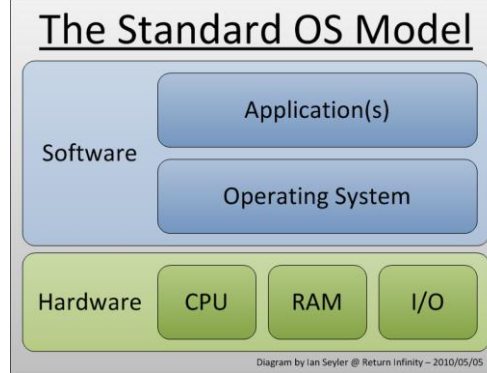
  lab-allocs@cosc.canterbury.ac.nz

Assessment
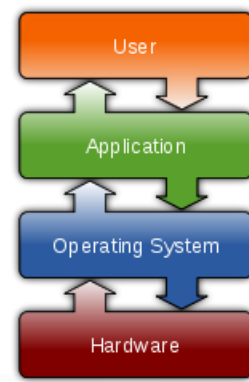
The assessment package for the course:

- Note that the final examination is closed book and calculators are not allowed but you can have both sides of one single A4 page of **handwritten** notes (not reduced by a photocopier).

- Online notices are the definitive source of information on tests and assignments.

Assessment	%	Date
Lab test 1	20%	TBA
Assignment	20%	TBA
Lab quizzes	10%	
Examination	50%	

The Standard OS Model

Software

Application(s)

Operating System

Hardware | CPU | RAM | I/O

Diagram by Ian Seyler @ Return Infinity – 2010/05/05

Course Details

- Most information for ENCE360 (including this document) will be made available on Learn for course-related information.

- You should refer frequently to Learn for updated information, copies of course handouts, due dates and discussions about course topics.

- http://learn.canterbury.ac.nz

(www.canterbury.ac.nz/courses, www.canterbury.ac.nz/tt/2015)

Recommended text
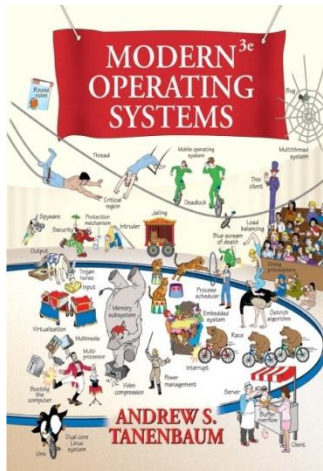
- **Modern Operating Systems (MOS)**
  - **Tanenbaum, Andrew, S.**
    - Modern Operating Systems, 3rd Edition

      (Engineering and Physical Sciences Library)
- **Xv6 (simple teaching OS)**
  - Homepage: http://pdos.csail.mit.edu/6.828/2014/xv6.html
  - Book: http://pdos.csail.mit.edu/6.828/2012/xv6/book-rev7.pdf

WANT TO BE PAID FOR YOUR NOTES?

OF COURSE YOU DO!

The Disability Resource Service (DRS) is looking to buy high quality lecture notes from students enrolled at UC in 2016.

These notes will be used by students who experience difficulties taking notes for themselves for disability-related reasons, and DRS will pay $8 per lecture for them.

For most arts courses the notes need to be taken in MS Word. However, notes in science subjects where many formulas and mathematical symbols are used can be handwritten and scanned.

STEP ONE:

Email **drsnotes@canterbury.ac.nz** as soon as possible with two samples of lecture notes you've taken.

STEP TWO:

Complete the application form we'll email back to you.

STEP THREE:

Keep an eye on your UC email. If we like what we see and you're selected, we'll be in touch!

Disability Resource Service | University of Canterbury

UC
UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND