Operating Systems 3

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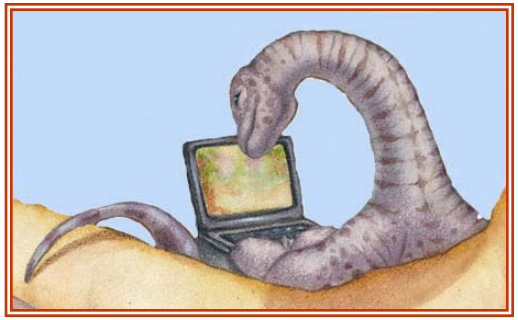

Module Overview and Caveats

- Contents
  - Process Management
  - Memory Management
  - Storage Management
  - Protection
  - Real-Time Systems
- Guidance
  - Lecture notes are not sufficient for this module, you must read the assigned material in the mandatory text book (Operating System Concepts by Silberschatz, Galvin and Gagne, 8th edition) AND complete the formative lab exercises
  - Deferring learning is not an option in this module – you must schedule time each week to ensure you stay on top
  - You ***must*** allow time to prepare for the Thursday labs
  - You may need to work beyond 16:00 on Thursdays to complete labwork – concentrated effort is more efficient than little bits of time

Course Structure: 100 learning hours

- Scheduled activities (42 hours)
  - Wednesdays and Thursdays (10-11):
    - 19 lectures (Adam Smith 916)
    - 1 timed, open book, class test (8% of course marks, 16 Feb)
  - Thursdays (2-4)
    - 6 hours of lecture (12 Jan/16 Feb/15 Mar – Maths 516)
    - 6 lab coding sessions (each 2 hours)
    - 1 lab session (2 hours) to work on assessed exercise
  - 1 exam (80% of the module marks) – 90 minutes

Course Structure: continued

- Unscheduled Activities (58 hours)
  - Reading of assigned material (25 hours)
  - 1 assessed programming exercise, accounting for 12% of the course mark (12 hours)
  - Revision of notes and exam practice (21 hours)
- During the semester, you are expected to spend 6.5 hours per week on the module (2 in lecture, 2 in lab, 2.5 hours reading) + 12 hours on the assessed exercise

Practical Activities

- There are six two-hour lab sessions
- Each usually involves writing C code to complete a piece of software
- You'll be given a "fake" piece of Operating System-style functionality
  - But it will be missing a crucial piece of code
- Exercises are designed so that you need to understand the ideas from the lectures in order to complete the software
  - View them as self-tests; did you *really* understand the lectures?
- Some thought is needed; they are deliberatively *not* summatively assessed but will ***help you with the exam questions*** (and improve your programming)
- Example solution provided for each exercise later
- Exercises will be issued in advance, to enable you to prepare in advance

Assigned Readings in the Dinosaur Book

Week #	Chapters
1	1(Introduction), 2(Operating-System Structures), 3(Processes)
2	4(Threads), 5(CPU Scheduling), 6(Process Synchronization)
3	7(Deadlocks), 8(Main Memory)
4	9(Virtual Memory)
5	Cache handout,10(File-System Interface)
6	11(File-System Implementation), 12(Mass-Storage Structure)
7	13(I/O Systems), 14(Protection)
8	19(Real-Time Systems)
9	21(The Linux System)
10	Xen/TinyOS/Contiki/InceOS papers

OS3 Class Test

- Class Test
  - Worth 8% of overall mark
  - Held on Thursday, 16/02/2012, in Adam Smith 916, 10:00-11:00
  - Open book test, consisting of one question from a previous exam
  - Responsible for any of the material covered in weeks 1-5 of the term (chapters 1-9) + Cache handout

OS3 Assessed Exercise

- Assessed Exercise
  - Refresher on PThreads in Maths 526 on Thursday, 16/02/12, 14:00-15:00
  - First sheet for the assessed exercise handed out at the end of the tutorial
  - Second sheet for the assessed exercise handed out at the lab on Thursday, 23/02/12
  - Assessed exercise, worth 12% of your overall mark, is due by 9:00 am on Tuesday, 6 March 2012