Operating Systems

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| ***Syllabus Information*** |
| **CS 2850 - Operating Systems** |
| **Associated Term:**2022/23 Academic Session **Learning Outcomes:**  By the end of the course students should be able to:  1. Demonstrate an understanding of the principles of computer operating systems  2. Evaluate the theory and practice of existing operating systems  3. Demonstrate a working understanding of program execution, memory hierarchy, and the implementation of data structures  4. Understand system-level programming aspects such as memory management, interrupts, sockets and basic threading in C  5. Write simple shell scripts  **Course Summary:**  This course aims to introduce students to the principles of the function and architecture of operating systems, and also to give an understanding of how programs operate at system level. Course content includes:  Introductory topics: role of an operating system, computer architecture  Processes and threads: process management and scheduling, inter-process comunication, concurrency  Memory: partitioning, swapping and paging, caching, virtual memory, page replacement algorithms  File systems: implementation and maintenance  UNIX shell: starting programs, input and output streams, pipes, filters, utilities  System-level programming: memory handling, processes, threads, synchronisation, I/O    **Required Materials:**  [Click here for the reading list system](https://rhul.rl.talis.com/modules/cs2850.html)  **Technical Requirements:**  The total number of notional learning hours associated with the course are 150.  **These will normally be broken down as follows:**  Teaching & Learning Methods:  Lectures - 1 hour two to three times per week - 11 weeks - 27 hours  Laboratory classes - 1 hour once or twice per week - 11 weeks - 17 hours  **Formative Assessment:**  -  **Summative Assessment:**  Examination (120 minutes) - 60%  Coursework (1 term) - 40% |