

Nama Mata Pelajaran	Operating Systems Concepts										
Kod	CCSB234										
Status Mata Pelajaran	Core										
Peringkat	Degree										
Nilai Kredit	4 (3 hours lecture/tutorial, 2 hours lab)										
Prasyarat (Jika Ada)	CCSB133 (Computer Organization)										
Penilaian	<table> <tr> <td>Quizzes</td> <td>10%</td> </tr> <tr> <td>Lab work</td> <td>20%</td> </tr> <tr> <td>Assignments</td> <td>10%</td> </tr> <tr> <td>Mid Term Progress Test</td> <td>20%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> </table>	Quizzes	10%	Lab work	20%	Assignments	10%	Mid Term Progress Test	20%	Final Examination	40%
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Tenaga Pengajar	Abdul Rahim Ahmad, Bahram Abedi										
Semester diajar	Semester 4										
Kaedah Penyampaian	Lecture, tutorial and lab										
Objektif Mata Pelajaran	<p>At the end of the course, the students should understand:</p> <ul style="list-style-type: none"> • The fundamental concepts of operating systems at introductory level. • The terminologies associated with operating system concepts. • The general concepts and algorithms used in process management, memory management and I/O systems. 										
Hasil Pembelajaran	<p>At the end of the course, students should be able to:</p> <ul style="list-style-type: none"> • Describe the overall functions of an operating system in a complete computer system. • Differentiate between processes based and thread based execution. • Calculate various parameters with regard to methods of paging, segmentation in memory management functions. • List down the algorithms for synchronization, deadlock handling and allocation of resources. Coding is not required. • Tabulate the functions in memory management, storage management and file system management in a typical operating system. • Compare two real life operating systems - Linux and a particular version of Windows operating system with regards to implementation of various operating systems functionalities. 										
Sinopsis Mata Pelajaran	<p>This course aims at giving the students the general understanding on the concepts of an operating system.</p> <p><i>Kursus ini bertujuan untuk mengajar para pelajar tentang konsep asas sesebuah sistem pengoperasian.</i></p>										

		Jam		
		Kuliah	Tutorial	Amali
Rangka Mata Pelajaran	1. Overview <ul style="list-style-type: none"> • Computer systems : organizations and structure. • Operating systems: history, structure and operations. 	2		
	2. Computer-system structure <ul style="list-style-type: none"> • Computer-system operation. • I/O structure • Storage structure and hierarchy • Network structure 	2		2
	3. Operating system structures <ul style="list-style-type: none"> • System components and structures • Operating system services • System calls • System programs • Virtual machines 	2		2
	4. Process Management <ul style="list-style-type: none"> • Process and program concept. • Process scheduling algorithms • Interprocess communication • Overview of threads • Multithreading models • Overview of CPU scheduling • CPU scheduling criteria and algorithms • Real-time scheduling 	6	4	6
	5. Memory Management <ul style="list-style-type: none"> • Swapping • Contiguous memory allocation • Paging • Segmentation • Segmentation with paging • Virtual memory • Thrashing • Page replacement algorithms 	6	4	6
	6. Storage Management : File system interface and implementation. <ul style="list-style-type: none"> • File concept • Access methods • Directory structure • File-system mounting • File sharing • Free space management • Efficiency and performance 	5	3	6

	7. Storage Management : Mass storage and I/O Systems	5	3	6
	<ul style="list-style-type: none"> • I/O hardware • Application I/O interface • Kernel I/O subsystem • Transforming I/O to hardware operations • Disk structure • Disk scheduling algorithms • Disk management • RAID structure 			
	Jumlah Jam	28	14	28
	Persamaan Jumlah Jam	28	14	14
	Jumlah Persamaan Jam Kuliah	56		
	Jam Kredit	4		
Rujukan	Wajib	William Stallings, Operating Systems: Internals and Design Principles, 5th Ed. 2005		
	Tambahan	<ol style="list-style-type: none"> 1. Silberschatz et al: Operating Systems Concepts, John Wiley & Sons, 7th Edition, 2004 2. Tanenbaum: Modern Operating Systems, Prentice Hall, 2nd Edition, 2001 3. Deitel: Operating Systems, Addison-Wesley, 2nd Edition, 1999 4. Silberschatz et Galvin: Operating Systems Concepts, John Wiley & Sons, 5th Edition, 1999 		