

Course Code	TKIT162103													
Course Name	Operating System													
Course Instructors	Adhistya Erna Permanasari; Silmi Fauziati; Rudy Hartanto													
Course Type	Required													
Course Classification	Engineering Topics													
Credit / Contact Hour per Week	3 / 150 minutes per Week													
Course Description	This course will describe the concepts and backgrounds of operating system including: basic structure of computer system, operating system structure, process, thread, SMP, microkernels, mutual exclusion synchronization, deadlock, starvation, memory management, virtual memory, single processor, process scheduling on multiprocessor, real-time process scheduling, I / O management, and file management.													
Prerequisites Courses	-													
Covered Student Outcome	Fundamental Engineering Knowledge (a) Modern Tools Utilization (e)													
Learning Outcome														
		Study Program Student Outcome												
No	Learning Outcome	SO (a) – SO (k)												
1.	Students are able to identify computer system structures.	Fundamental Engineering Knowledge												
2.	Students are able to explain process management in operating systems.	Fundamental Engineering Knowledge												
3.	Students are able to demonstrate memory management in operating systems.	Modern Tools Utilization												
4.	Students are able to describe illustrate scheduling approach	Modern Tools Utilization												
5	Students are able to compare file management and case study in operating systems	Modern Tools Utilization												
Topic	<ol style="list-style-type: none"> 1. Overview of Operating System 2. Basic Structure of Computer System 3. Operating System Structure 4. Process Description and Control 5. Threads, SMP, and Microkernel 6. Mutual Exclusion and Synchronization 7. Deadlock and Starvation 8. Memory Management 9. Virtual Memory 10. Uni Processor Scheduling 11. Multiprocessor and Real Time Scheduling 12. Disc Scheduling 13. File Management 14. Operating System Case Study 													
Direct Assessment	<table border="1"> <thead> <tr> <th>Direct Assessment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Mid Exam</td> <td>LO1, LO2</td> </tr> <tr> <td>Final Exam</td> <td>LO3, LO4, LO5</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Mid Exam	LO1, LO2	Final Exam	LO3, LO4, LO5						
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Mid Exam	LO1, LO2													
Final Exam	LO3, LO4, LO5													
Indirect Assesment	Questionnaire and direct communication													
References	<ol style="list-style-type: none"> [1] Operating Systems: Design and Implementation (Tanenbaum) [2] The Design and Implementation of UNIX Operating System (Bach) 													

	<p>[3] Sri Kusumadewi, Sistem Operasi, J&J Learning Yogyakarta</p>
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[4] William Stallings, Operating Systems, 6th Edition Prentice Hall 2009

[5] Abraham Silberschatz, Peter Galvin, dan Greg Gagne: Operating System Concepts with Java, Sixth Edition, John Wiley & Sons