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MODULE HANDBOOK

Module name	**Operating Systems**
Module level	Undergraduate
Code	MII-2602
Courses (if applicable)	Operating Systems
Semester	Fall (Odd)
Contact person	Abdul Ro'uf
Lecturer	Abdul Ro'uf Medi
Language	Bahasa Indonesia
Relation to curriculum	1. Undergraduate degree program, compulsory, 3th semester. 2. International undergraduate program, compulsory, 2th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.
Workload	1. Lectures: 2 x 50 = 100 minutes (1 hours 10 menit) per week. 2. Exercises and Assignments: 2 x 50 = 100 minutes per week. 3. Private study: 2 x 50 = 100 minutes per week.
Credit points	2 credit points (sks).
Requirements according to the Examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.
Recommended prerequisites	Computer Organization and Architecture
Learning outcomes (course outcomes) and their corresponding PLOs	After completing this module, a student is expected to: CO1 Understand and be able to explain the operating system, objectives, and computer system resource management tasks. CO2 Understand and be able to explain process and thread management, and be able to implement methods and algorithms in the operating system. CO3 Understand and be able to explain the principles of process synchronization using sync tools to solve sync problems and deadlocks. CO4 Understand and be able to explain memory management and virtual memory. CO5 Understand and be able to explain storage management and I/O. CO6 Understand and be able to explain file management and its implementation on Linux and Windows

PLO		CO1	CO2	CO3	CO4	CO5	CO6	--
Program Learning	**PLO1**							
	PLO2	√	√					

<table>
<tr><td></td><td>Outcome (PLO)</td><td>PLO3</td><td></td><td></td><td>√</td><td>√</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>PLO4</td><td></td><td></td><td></td><td></td><td>√</td><td></td><td></td></tr>
<tr><td></td><td></td><td>PLO5</td><td></td><td></td><td></td><td></td><td></td><td>√</td><td></td></tr>
<tr><td>Contents</td><td colspan="9">1. Overview: operating system, operating system structure.
2. Process management: processes, threads & concurrency, CPU scheduling.
3. Synchronization of processes: synchronization tools
4. Memory management: main memory, virtual memory.
5. Storage management: massive storage structures, I/O systems.
6. File system: interface, implementation, internal.</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td colspan="9">The evaluation is done in 3 forms, namely:
1. Trial, either midterm or semester test,
2. Four tasks, individual assignments to be completed within a certain timeframe, and
3. Two quizzes, held on face-to-face, once before midterm exam and once after midterm exam, with a short answer form.

Assessment is done using benchmark assessment, with the aim of measuring the level of student understanding related to the target and class rank.</td></tr>
<tr><td>Media employed</td><td colspan="9">LCD, blackboard, and websites.</td></tr>
<tr><td>Assessments and Evaluation</td><td colspan="9">
<table>
<tr><th>Type</th><th>Percentage</th><th>CO1</th><th>CO2</th><th>CO3</th><th>CO4</th><th>CO5</th><th>CO6</th></tr>
<tr><td>Quiz</td><td>5 %</td><td>√</td><td></td><td></td><td>√</td><td></td><td></td></tr>
<tr><td>Individual Task</td><td>25 %</td><td></td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Group Task</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Midterm Exam</td><td>40 %</td><td>√</td><td>√</td><td>√</td><td></td><td></td><td></td></tr>
<tr><td>Final Exam</td><td>30 %</td><td></td><td></td><td></td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Total</td><td>100%</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Reading List</td><td colspan="9">[1] Avi Silberschatz, Peter B. Galvin and Greg Gagne, 2018, Operating System Concepts, 10th Edition, John Wiley & Sons..
[2] Andrew Tanenbaum and Herbert Bos, 2014, Modern Operating Systems, 4th Edition, Pearson.</td></tr>
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