



Module Description

Module name	Distributed System
Module level, if applicable	Bachelor of Informatics
Code, if applicable	21D12143703
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	7 th
Person responsible for the module	Dr. Adnan, ST.,MT.
Lecturer	1.Dr. Adnan, ST.,MT. 2.Dr.Eng. Ir. Zulkifli Tahir, ST.,M.Sc.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is an elective course and offered in the 7 th semester.
Type of teaching, contact hours	Teaching methods: [group discussion], [case study]. Teaching forms: [lecture], [tutorial]. CH : 08.00 - 16.00
Workload	For this course, students are required to meet a minimum of 136.00 hours in one semester, which consist of: - 40.00 hours for lecture, - 48.00 hours for structured assignments, - 48.00 hours for private study
Credit points	3 credit points (equivalent with 5.1 ECTS)
Requirements	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)



<p>according to the examination regulations</p>	
<p>Recommended prerequisites</p>	<p>Computer Network, Operating System, Database I, Database II</p>
<p>Module objectives/intended learning outcomes</p>	<p>After completing the course, Students are able:</p> <p>Intended Learning Outcomes (ILO):</p> <p>ILO 1 : Have the knowledge of fundamental in Computing Science that includes basic theory and concepts of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering, Information Management and Digital Resilience, also the advance topics of either Artificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things.</p> <p>ILO 3 : Apply the knowledge of computing and other related disciplines to analyze and identify solutions for any computing-based problem. [ILO3] - S</p> <p>ILO 7 : Perform a logical systematic procedure to solve problems, then communicate their ideas in a convincing and effective manner, either in written or orally, to propose solutions. [ILO7] - S</p> <p>Course Learning Objective (CLO): After attending the Distributed Systems Course for 1 (one) semester, students have knowledge of distributed systems. Have the ability to implement related problems related to distributed systems by showing good performance independently and as a team in solving problems.</p> <p>Sub CLO: ILO 1 => CLO 1: Students are able to have knowledge of specific topics in the field of informatics engineering in the field of distributed systems (K) ILO 3 => CLO 2: Students are able to use knowledge to solve problems related to distributed systems (S) ILO 7 => CLO 3: Students are able to communicate their ideas to solve problems related to distributed systems (S)</p>



<p>Content</p>	<p>Students will learn about :</p> <ol style="list-style-type: none"> 1. Definition of Distributed System <ol style="list-style-type: none"> a. Hardware Concept b. Software Concept c. Communication Concept 2. Process <ol style="list-style-type: none"> a. Threads b. Proses c. Client and Server 3. Naming <ol style="list-style-type: none"> a. DNS b. Entitas 4. Synchronization <ol style="list-style-type: none"> a. Clocks Sync Concept b. Sync Algorithm 5. Consistency and Replication <ol style="list-style-type: none"> a. Replication Model b. Protocol Model 6. Fault Tolerance 7. Security System 8. Distributed System Special: <ol style="list-style-type: none"> a. Object System b. Distributed File System (Hadoop Distributed File Server) c. Object-based Distributed System d. Distributed Database e. Cloud Computing
<p>Forms of Assessment</p>	<p>Assessment techniques: [observation], [participation], [written test].</p> <p>Assessment forms: [quiz], [final term exam], [presentation].</p> <p>Quiz = 35%, Final term exam = 15%, Presentation = 50%</p> <p>CLO 1 => ILO 1: 35% Quiz + 15% Exam (Quiz and Final term exam: written test)</p> <p>CLO 2 => ILO 3: 30% (Presentation: observation)</p> <p>CLO 3 => ILO 7: 20% (Presentation: observation)</p>
<p>Study and examination requirements and forms of examination</p>	<p>Study and examination requirements:</p> <ul style="list-style-type: none"> - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc.



	<ul style="list-style-type: none"> - Students must submit all class assignments before the deadline. - Students must attend the exam to get a final grade. <p>Form of examination: Written test</p>
Media employed	Video conference, slide presentation, Learning Management System (LMS).
Reading list	Main : Distributed System Principles and Paradigms, Andrew S. Tanenbaum, Marten Van Steen.