

**UNDERGRADUATE PROGRAM IN COMPUTER SCIENCE
DEPARTMENT OF COMPUTER SCIENCE AND ELECTRONICS
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNIVERSITAS GADJAH MADA**

Module name	Capita Selecta Computer System and Network																			
Module level	Undergraduate																			
Code	MIK-4621																			
Courses (if applicable)	Capita Selecta Computer System and Network																			
Semester	Fall (Gasal)																			
Contact person	Dr. Mardhani Riasetiawan, MT																			
Lecturer	Dr. Mardhani Riasetiawan, MT																			
Language	Bahasa Indonesia																			
Relation to curriculum	1. Undergraduate degree program, elective, min 60 credit points.																			
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, Thursday (09.30-12.10)																			
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Private study: 3 x 60 = 180 minutes (3 hours) per week.																			
Credit points	3 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	Databases.																			
Learning outcomes and their corresponding PLOs	<p>After completing this module, a student is expected to:</p> <table border="1"> <thead> <tr> <th>CO</th> <th>Description</th> <th>Supported PLO</th> </tr> </thead> <tbody> <tr> <td>CO1</td> <td>Able to define the distributed system, system models, cluster, grid and virtualization</td> <td>PLO2</td> </tr> <tr> <td>CO2</td> <td>Able to explains the concept and architecture of Cloud, web services, SOA and cloud programming environment</td> <td>PLO2, PLO3, PLO4</td> </tr> <tr> <td>CO3</td> <td>Able to explai the Grid, P2P, and Internet of Things (IoT)</td> <td>PLO2, PLO3, PLO4</td> </tr> <tr> <td>CO4</td> <td>Able to explains HPC concepts, MPI, and Hadoop Mapreduce ecosystem</td> <td>PLO2, PLO3, PLO4</td> </tr> <tr> <td>CO5</td> <td>Able to explains the 3-tier, multitier, and Cloud application and its implementation</td> <td>PLO5, PLO6, PLO9</td> </tr> </tbody> </table>		CO	Description	Supported PLO	CO1	Able to define the distributed system, system models, cluster, grid and virtualization	PLO2	CO2	Able to explains the concept and architecture of Cloud, web services, SOA and cloud programming environment	PLO2, PLO3, PLO4	CO3	Able to explai the Grid, P2P, and Internet of Things (IoT)	PLO2, PLO3, PLO4	CO4	Able to explains HPC concepts, MPI, and Hadoop Mapreduce ecosystem	PLO2, PLO3, PLO4	CO5	Able to explains the 3-tier, multitier, and Cloud application and its implementation	PLO5, PLO6, PLO9
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Content	<p>Cloud technology class will provide knowledge in cloud technology that focus in infrastructure concepts as a Services, platform as a services and software as a Service, everything as a Services. This concept is detailed in technology behind the concept and implemented aspects to enterprise environment. It is an important discussion to the internet industry based world service that is fast, reliable and qualified. Capita Seleкта course is a subject that provides opportunities for presentation of material that aims to introduce and invite students to understand the latest materials and trends. Specifically this course aim to introduce student to technology and method in Cloud and the implementations.</p>																			

Study and examination requirements and forms of examination	Mid-terms examination and Final examination. Task assessment Project Presentation and review	
Media employed	LCD, blackboard, websites, and big data tools.	
Assessments and Evaluation	Able to define the distributed system, system models, cluster, grid and virtualization	Quiz 1 Problem 1 (MidSem)
	Able to explains the concept and architecture of Cloud, web services, SOA and cloud programming environment	Quiz 2 Problem 2 (MidSem) Problem 3 (MidSem)
	Able to explain the Grid, P2P, and Internet of Things (IoT)	Problem 4 (MidSem) Task 1 Quiz 3
	Able to explain HPC concepts, MPI, and Hadoop Mapreduce ecosystem	Quiz 4 Problem 1 (FinalTest) Problem 2 (Final Test)
	Able to explain the 3-tier, multitier, and Cloud application and its implementation	Problem 3 (FinalTest) Problem 4 (FinalTest) Task 2
Reading List	WA: Distributed and Cloud Computing, From Parallel Processing to the Internet of Things, Lai Hwang, Geogffrey C Fox, Jack J Dongara, 2011. Cloud in Enterprise. Mardhani Riasetiawan, Inside Technology Publishing 2016	