MODULE HANDBOOK
Master Program in Computer Science
Department of Computer Science and Electronics
Faculty of Mathematics and Natural Sciences
Universitas Gadjah Mada

Distributed System and Cloud

<table>
<tr><td>Module name</td><td>Distributed system and cloud</td></tr>
<tr><td>Module level</td><td>Postgraduate</td></tr>
<tr><td>Code</td><td>MII6671</td></tr>
<tr><td>Courses (if applicable)</td><td>Distributed system and cloud</td></tr>
<tr><td>Semester</td><td>Fall (Gasal)</td></tr>
<tr><td>Contact person</td><td>Dr. Mardhani Riasetiawan, MT</td></tr>
<tr><td>Lecturer</td><td>Dr. Mardhani Riasetiawan, MT
Dr. Y Suyanto, M.Ilkom</td></tr>
<tr><td>Language</td><td>Bahasa Indonesia</td></tr>
<tr><td>Relation to curriculum</td><td>1. Postgraduate degree program, elective</td></tr>
<tr><td>Type of teaching, contact hours</td><td>1. Postgraduate degree program, : lectures, < 60 students,</td></tr>
<tr><td>Workload</td><td>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.</td></tr>
<tr><td>Credit points</td><td>3 credit points (sks).</td></tr>
<tr><td>Requirements according to the examination regulations</td><td>A student must have attended at least 75% of the lectures to sit in the exams.</td></tr>
<tr><td>Recommended prerequisites</td><td>Databases.</td></tr>
<tr><td>Learning outcomes and their corresponding PLOs</td><td>After completing this module, a student is expected to:
<table>
<tr><th>CO</th><th>Description</th><th>Supported PLO</th></tr>
<tr><td>CO-1</td><td>Able to define the distributed system, system models, cluster, grid and virtualization</td><td>PLO2</td></tr>
<tr><td>CO-2</td><td>Able to explians the concept and architecture of Cloud, web services, SOA and cloud programming environment</td><td>PLO2, PLO3, PLO4</td></tr>
<tr><td>CO-3</td><td>Able to explai the Grid, P2P, and Internet of Things (IoT)</td><td>PLO2, PLO3, PLO4</td></tr>
<tr><td>CO-4</td><td>Able to explains HPC concepts, MPI, and Hadoop Mapreduce ecosystem</td><td>PLO2, PLO3, PLO4</td></tr>
<tr><td>CO-5</td><td>Able to explains the 3-tier, multitier, and Cloud application and its implementation</td><td>PLO5, PLO6, PLO9</td></tr>
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<tr><td></td><td></td></tr>
<tr><td>Content</td><td>Matakuliah cloud technology merupakan mata kuliah pilihan yang memberikan pemahaman dan pengetahuan mengenai teknologi cloud yang memfokuskan pada konsep Infrastruktur as a Services, Platform as a Services dan Software as a Service, serta Everything as a Services. Konsep ini membawa pada pembahasan detail mengenai teknologi di belakang konsep tersebut dan aspek implementasi pada lingkungan enterprise. Mata Kuliah merupakan pembahasan penting pada dunia industry yang membutuhkan layanan berbasis internet yang cepat, reliable dan berkualitas. Mata kuliah Kapitas Selekta merupakan matakuliah yang memberikan peluang penyajian materi yang bertujuan untuk mengenalkan dan mengajak mahasiswa memahami materi terbaru dan trend teknologi yang berkembang. Secara khusus mata kuliah ini bertujuan untuk memperkenalkan mahasiswa kepada teknologi dan metode pada Cloud Technology serta penerapannya dalam dunia industri</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>Mid-terms examination and Final examination.
Task assessment
Project Presentation and reviw</td></tr>
<tr><td>Media employed</td><td>LCD, blackboard, websites, and big data tools.</td></tr>
<tr><td>Assessments and Evaluation</td><td>
<table>
<tr><td>Able to define the distributed system, system models, cluster, grid and virtualization</td><td>Quiz 1
Problem 1 (MidSem)</td></tr>
<tr><td>Able to explians the concept and architecture of Cloud, web services, SOA and cloud programming environment</td><td>Quiz 2
Problem 2 (MidSem)
Problem 3 (MidSem)</td></tr>
<tr><td>Able to explai the Grid, P2P, and Internet of Things (IoT)</td><td>Problem 4 (MidSem)
Task 1
Quiz 3</td></tr>
<tr><td>Able to explains HPC concepts, MPI, and Hadoop Mapreduce ecosystem</td><td>Quiz 4
Problem 1 (FinalTest)
Problem 2 (Final Test)</td></tr>
<tr><td>Able to explains the 3-tier, multitier, and Cloud application and its implementation</td><td>Problem 3 (FinalTest)
Problem 4 (FinalTest)
Task 2</td></tr>
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<tr><td>Reading List</td><td>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</td></tr>
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