



### Module Description

<b>Module name</b>	Specific Topic in Cloud Computing
<b>Module level, if applicable</b>	Bachelor of Informatics
<b>Code, if applicable</b>	21D12143103
<b>Subtitle, if applicable</b>	-
<b>Course, if applicable</b>	
<b>Semester(s) in which the module is taught</b>	7 <sup>th</sup>
<b>Person responsible for the module</b>	<b>Dr. Amil Ahmad Ilham, S.T., M.IT.</b>
<b>Lecturer</b>	1. Dr. Amil Ahmad Ilham, S.T., M.IT. 2. Dr. Eng. Ady Wahyudi Paundu, S.T., M.T.
<b>Language</b>	Indonesian Language [Bahasa Indonesia]
<b>Relation to Curriculum</b>	This course is an elective course and is offered starting from the 7 <sup>th</sup> semester.
<b>Type of teaching, contact hours</b>	Teaching methods: [group discussion], [case study], [collaborative learning], [problem-based learning].  Teaching forms: [lecture]  CH : 8.00 - 16.00
<b>Workload</b>	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
<b>Credit points</b>	3 credit points (equivalent with 5.1 ECTS)



<p><b>Requirements according to the examination regulations</b></p>	<p>Students must have attended all minimum 80% of classes and submitted all class assignments that are scheduled before the final tests.</p>
<p><b>Recommended prerequisites</b></p>	<p>Virtualization and Cloud Computing</p>
<p><b>Module objectives/intended learning outcomes</b></p>	<p><b>Intended Learning Outcomes (ILO):</b></p> <p><b>ILO 1:</b> 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><b>ILO 4:</b> Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements by applying computer science theory and software development fundamentals.</p> <p><b>Course Learning Objective (CLO):</b></p> <p>After completing this course should be able to understand various concepts in architecting cloud computing solution including high availability, infrastructure automation and decoupling. Student also should be able to design cloud computing solution based on cloud computing architecture principles</p> <p>ILO 1 → CLO 1: Students able to understand various concepts in architecting cloud computing solutions including high availability, infrastructure automation and decoupling.</p> <p>ILO 4 → CLO 2 : Students can design cloud computing solutions based on cloud computing architecture principles.</p>
<p><b>Content</b></p>	<p>Students will learn about :</p> <ol style="list-style-type: none"> <li>1. Cloud Computing Architecture Principles</li> <li>2. High Availability</li> <li>3. Infrastructure Automation</li> <li>4. Infrastructure Decoupling</li> </ol>



	<p>5. Well-Architected Framework</p> <ol style="list-style-type: none"> <li>a. Operational</li> <li>b. Security</li> <li>c. Reliability</li> <li>d. Performance Efficiency</li> <li>e. Cost Optimization</li> </ol>
<b>Forms of Assessment</b>	<p>Assessment techniques: [observation], [participation], [written test].</p> <p>Assessment forms: [midterm exam], [assignment], [presentation]</p> <p>CLO 1 =&gt; ILO 1: 30% (Midterm Exam: written test) and 20% (Assignment1: participation)</p> <p>CLO 2 =&gt; ILO 4: 40% (Presentation: observation) and 10% (Assignment2: participation)</p>
<b>Study and examination requirements and forms of examination</b>	<p><b>Study and examination requirements:</b></p> <ul style="list-style-type: none"> <li>- Students must attend 15 minutes before the class starts.</li> <li>- Students must switch off all electronic devices.</li> <li>- Students must inform the lecturer if they will not attend the class due to sickness, etc.</li> <li>- Students must submit all class assignments before the deadline.</li> <li>- Students must attend the exam to get a final grade.</li> </ul> <p><b>Form of examination:</b> Written exam: Essay</p>
<b>Media employed</b>	Video conference, Slide presentation, Learning Management System (LMS).
<b>Reading list</b>	<p><b>Main :</b> AWS Whitepapers and Guides <a href="https://aws.amazon.com/whitepapers/">https://aws.amazon.com/whitepapers/</a></p> <p><b>Support :</b> Ransome, James F. 2016, “Cloud Computing Implementation, Management, and Security”, CRC Press</p>