



Module Description

Module name	Computer Memory System
Module level, if applicable	Bachelor of Informatics
Code, if applicable	307D4213
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	5 th
Person responsible for the module	Dr. Amil Ahmad Ilham., ST., M.IT
Lecturer	1. Dr. Amil Ahmad Ilham., ST., M.IT 2. Ir. Christoforus Yohannes., MT
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 5 th semester.
Type of teaching, contact hours	<p>Teaching methods: [group discussion], [simulation], [collaborative learning].</p> <p>Teaching forms: [lecture], [tutorial].</p> <p>CH : 08.00 - 16.00</p>
Workload	<p>For this course, students are required to meet a minimum of 136.00 hours in one semester, which consist of:</p> <ul style="list-style-type: none"> - 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 according to the examination regulations	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)
Recommended prerequisites	-
Module objectives/intended learning outcomes	<p>Intended Learning Outcomes (ILO): After completing this course, students are able to:</p> <p>ILO 1: Have the knowledge of fundamental Computing Science that includes basic theory and concept of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering and Information System</p> <p>ILO 4: 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>ILO 6: Perform effectively in a team, either as a member or leader, in activities related to the program's discipline</p> <p>Course Learning Objective (CLO): After completing this course, students can understand the concept of memory hierarchy, memory types, cache and virtual memory architecture and evaluate cache and virtual memory performance.</p> <p>ILO 1 => CLO 1: Students can understand the concept of memory hierarchy, memory types, cache and virtual memory architecture. ILO 4 => CLO 2: Students can evaluate cache and virtual memory performance using an appropriate tool. ILO 6 => CLO 3: Students can work in a group assignment to evaluate cache and virtual memory performance and present the results to other students.</p>
Content	Students will learn about : <ol style="list-style-type: none"> 1. Fundamental concept of memory 2. The memory hierarchy 3. Basic parameters & configurations of caches 4. Types of memory 5. The development of memory technology 6. Cache Blocking and Matrix Multiply 7. Virtual memory



Forms of Assessment	<p>Assessment techniques: [observation], [participation], [written test].</p> <p>Assessment forms: [quiz], [final term exam], [assignment], [presentation]</p> <p>Quiz = 20%, Final term exam = 30%, Assignment = 30%, Presentation = 20%</p> <p>CLO 1 => ILO 1: 50% (Quiz and Final term exam: written test) CLO 2 => ILO 4: 30% (Assignment: participation) CLO 3 => ILO 6: 20% (Presentation: observation)</p>
Study and examination requirements and forms of examination	<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. - Students must submit all class assignments before the deadline. - Students must attend the exam to get final grade. <p>Form of examination:</p> <p>Written test</p>
Media employed	Video conference and slide presentation.
Reading list	<p>Main :</p> <ol style="list-style-type: none"> 1. David A Patterson and John L. Hennessy, 2014, Computer Organization and Design (The Hardware and Software Interface William Stallings and Lawrie Brown, 2019, Computer Security: Principles and Practice, 4th ed, Pearson Education Inc. ISBN 978-9-35-343886-9 2. CACTI