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MODULE HANDBOOK

Module name	**Development of Computing Data Centre**
Module level, if applicable	Undergraduate
Code, if applicable	MII-2609
Courses, if applicable	NA
Semester(s) in which the module is taught	Fall (Odd)
Person responsible for the module	Lukman Heryawan, PhD
Lecturer(s)	Lukman Heryawan, PhD
Language	Bahasa Indonesia & English
Relation to curriculum	1. Undergraduate degree program, compulsory, 6th semester. 2. International undergraduate program, compulsory, 6th semester.
Teaching methods	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.
Workload (incl. contact hours, self-study hours)	1. Lectures: 3 x 50 = 150 minutes per week. 2. Exercises and Assignments: 2 x 50 = 100 minutes per week. 3. Private study: 1 x 50 = 50 minutes 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.
Required and recommended prerequisites for joining the module	Computer organization and architecture, operating system
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to: CO1. Able to explain and identify the concepts and characteristics of data center CO2. Able to describe and identify components of data center and its services CO3. Be able to explain processes, audit, and manage data center resources CO4. Able to explain and know data center operations and its software management CO.5 Able to present data center development based on specific case studies using a simulated data center environment

Content	1. Concepts and definitions, data center technology and its software management 2. Forms and types of data center, such as Smart Data Center, Green Data Center, High performance and reliable data center 3. Management of computing resources for data center computation 4. Data center computation and software environment supporting technology 5. Prototype of simulated data center development
Study and examination requirements and examination forms	The evaluation is done in 2 forms, namely: 1. Trial, either midterm or semester test, 2. Two tasks, including individual, 3. Two group assignments to be completed within a certain timeframe, and Assessment is done using benchmark assessment, with the aim of measuring the level of student understanding related to the target and class rank.
Media employed	e-learning Platform (ELOK), LCD, blackboard, and websites.
Assessments and evaluation	

Type	Percentage	CO1	CO2	CO3	CO4	CO5
Task 1	10	√				
Group Task 1	15		√			
Midsem Test	25		√	√		
Task 2	10			√		
Group Task 2	15				√	
FinalSem test	25				√	√
Total	100					

Reading list	● The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations Paperback, October 6, 2016, Gene Kim, Patrick Debols, John Willis, Jez Humble ● Data Center Handbook, O'Reilly, 2014, Hwaiyu Geng

PLO		CO1	CO2	CO3	CO4	CO5
Program Learning Outcome (PLO)	**PLO1**	√				
	PLO2		√			
	PLO3			√		
	PLO4				√	
	PLO5					√