Bachelor in Computer Science

Telp   : +62 274 546194
Email   : prodi-s1-ilkom.mipa@ugm.ac.id
Website : http://dcse.ugm.ac.id/

MODULE HANDBOOK

Module name	**Scalable Software Development**
Module level	Undergraduate
Code	MII-2506
Courses (if applicable)	Scalable Software Development
Semester	Fall (Odd)
Contact person	I Gede Mujiyatna S.Kom., M.Kom
Lecturer	-
Language	Bahasa Indonesia
Relation to curriculum	1. Undergraduate degree program, compulsory, 5th semester. 2. International undergraduate program, compulsory, 5th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.
Workload	1. Lectures: 3 x 50 = 150 minutes (2 hours 30 menit) 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	Computer network, Software Engineering
Learning outcomes (course outcomes) and their corresponding PLOs	After completing this module, a student is expected to: CO1 Able to explain and identify scalability concepts in general and specifically in software. CO2 Able to explain and identify scalable software development architectures. CO3 Able to design and evaluate scalable software designs CO4 Able to develop, deploy and orchestrate scalable software in cloud platform CO5 Be able to evaluate the scalable of software performance <table><tr><td colspan="2">PLO</td><td>CO1</td><td>CO2</td><td>CO3</td><td>CO4</td><td>CO5</td></tr><tr><td rowspan="5">Program Learning Outcome (PLO)</td><td>PLO1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>PLO2</td><td>√</td><td>√</td><td></td><td></td><td></td></tr><tr><td>PLO3</td><td></td><td>√</td><td>√</td><td></td><td></td></tr><tr><td>PLO4</td><td></td><td></td><td>√</td><td>√</td><td>√</td></tr><tr><td>PLO5</td><td></td><td></td><td>√</td><td></td><td>√</td></tr></table>
Contents	(a) The concept of cloud computing services and scalability and its influence on software services

	(b) Various scalable software development architectures (c) Scalable software development process (d) Scalable software development workshop
Study and examination requirements and forms of examination	The evaluation is done in 3 forms, namely: 1. Trial, either midterm or semester test, 2. Three tasks, including individual or group assignments to be completed within a certain timeframe, and team project 3. Two quizzes, held on face-to-face, once before midterm exam and once after midterm exam, with a short answer form. 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	LCD, whiteboard, and websites.
Assessments and Evaluation	

Type	Percentage	CO1	CO2	CO3	CO4	CO5
Quiz	10%	√	√			
Individual Task	10%		√	√		
Group Task	10%		√	√	√	√
Midterm Exam	20%	√	√	√		
Team Project	30%			√	√	√
Final Exam	20%		√	√	√	√
Total	100%					

Reading List	W1 M. Abbot & M. Fisher, Art of Scalability: The Scalable Web Architecture, Processes, and Organizations for the Modern Enterprise W2 M. Kleppmann, Designing Data-Intensive Applications: The Big Ideas Behind Reliable, Scalable, and Maintainable Systems

Created date   :   June 28, 2022

Revision date   :   June 28, 2022