Module designation	CE332 Computer Architecture & Organization
Semester(s) in which the module is taught	3
Person responsible for the module	Dareen Kusuma Halim
Language	English & Indonesian
Relation to curriculum	Compulsory
Teaching methods	Lecture
Workload (incl. contact hours, self-study hours)	Total workload: 136.08 hours - 35.01 hours of synchronous lecture. - 84.06 hours of self-study and assignments in the form of essays. - 17.01 hours related to exam and self study
Credit points	3 SKS (5.04 ECTS)
Required and recommended prerequisites for joining the module	Required: - CE232 Digital Systems

Module objectives/intended learning outcomes	Course Learning outcome	Related ELOs	
		ELO	Performance Indicator
	Students are able to describe the principles and inner workings of computers	J	Understand the principles of computer system elements and their inner workings to solve engineering problems.

Content	This course teaches the principles of the computer inner working and how computers are designed for specific tasks. Specifically, this course contain these topics: 1. Introduction to computer architecture and history of computer development 2. Computer performance analysis 3. Top-level view of computer components, functions, and interconnections 4. Memory system basics 5. Cache, internal & external Memory 6. Input & output 7. Operating system 8. Characteristics and functions of Instruction Sets 9. Addressing modes and formats 10. CPU functions and structures 11. RISC 12. Control unit

	13. Parallel Processors
Examination forms	Written test
Study and examination requirements	Total score ≥ 55 must be satisfied. The total score is the weighted average of the assignments (30%), the midterm exam (30%), and the final exam (40%).
Reading list	1. Stallings, W. 2022. Computer Organization and Architecture:Designing for Performance. 11th Edition. Pearson Education.