Module designation	CE232 Digital Systems
Semester(s) in which the module is taught	2
Person responsible for the module	Megantara Pura
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	-

	Course Learning outcome	Related ELOs	
		ELO	Performance Indicator
Module objectives/intended learning outcomes	Students are able to explain the basic principles of digital systems	J	Understand the principles of computer system elements and their inner workings to solve engineering problems.
	Students are able to perform simplification and design of simple digital circuits.	J	Understand the principles of computer system elements and their inner workings to solve engineering problems.
	Students are able to demonstrate the inner workings of simple digital circuits.	J	Understand the principles of computer system elements and their inner workings to solve engineering problems.
Content	This course covers the basic principles of digital systems; number systems, logic gates, digital circuits (sequential, combinational), digital data format, and methods for designing simple digital systems. Specifically, this course contain these topics: 1. Introduction to digital systems

	2. Number systems 3. Boolean algebra 4. Logic gates 5. Simplifying logic equations 6. Number formats in digital systems 7. Fixed point and Floating point arithmetic 8. Combinational logic circuits 9. Sequential circuits 10. Sequential circuits design procedure 11. Application of combinatorial and sequential circuits
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. M. Morris Mano, Digital Design, 6th Edition, Pearson, 2018