UNDERGRADUATE PROGRAM IN COMPUTER SCIENCE
DEPARTMENT OF COMPUTER SCIENCE AND ELECTRONICS
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNIVERSITAS GADJAH MADA

Module name	**Digital System**
Module level	Undergraduate
Code	MII-1811
Courses (if applicable)	Digital System
Semester	Spring (Genap)
Contact person	Suharto, Dr.
Lecturer	Suharto, Dr.
Language	Bahasa Indonesia
Relation to curriculum	1. Undergraduate degree program, obligatory, 2nd semester. 2. International undergraduate program, obligatory, 2nd semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.

Workload	1. Lectures: 1 x 100 = 100 minutes per week. 2. Exercises and Assignments: 2 x 60 = 120 minutes (2 hours) per week. 3. Private study: 2 x 60 = 120 minutes (2 hours) per week.
Credit points	2 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	
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to:
	LO1 Students should be able to know about number systems, binary number, octal and hexadecimal number.
	LO2 Students should be able to explain basic logic gates.
	LO3 Students should be able to use Boolean algebra to solve basic Boolean function problem.
	LO4 Students should be able to use basic digital components in digital systems.
	LO5 Students should be able to explain the concepts of flip-flop, counter, register and synchronous system.
	LO6 Students should be able to design digital systems using finite state machine.

	LO7 Students should be able to explain Register Transfer Logic representation.
	LO8 Students should be able to know about simple computer architecture.
Content	Digital System course is designed to serve as a first course in digital systems, providing students at the sophomore level a transition from the world of physics to the world of digital electronics and computation. This course attempts to satisfy two goals: Combine the study of circuits and digital electronics into a single, unified treatment, and establish a strong connection with the contemporary worlds of both these types of digital systems.
Study and examination requirements and forms of examination	1. Assignments. 2. Mid-terms examination. 3. Final examination.
Media employed	LCD, blackboard, and websites.
Assessments and Evaluation	**LO1**: Problem in midterm (8%), and assignment 1 (2%). **LO2**: Problem in midterm (7%), and assignment 2 (3%). **LO3**: Problem in midterm (12%), and assignment 3 (5%). **LO4**: Problem in final exam (12%), and assignment 4 (3%). **LO5**: Problem in final exam (15%), and assignment 5 (5%). **LO6**: Problem in final exam(15%), and assignment 5 (5%). **LO7**: Problem in final exam (5%) **LO8**: Problem in final exam (5%)

Reading List	**O1**: Morris Mano, Logic and Computer Design Fundamental,Fifth Edition,Pearson Higher Education, Inc, 2015 **A1**: Katz, Randy, and Gaetano Borriello. Contemporary Logic Design. 2nd ed. Upper Saddle River, NJ: Prentice Hall, 2004. ISBN: 9780201308570. **A2**: Palnitkar, Samir. Verilog® HDL. 2nd ed. Upper Saddle River, NJ: Prentice Hall, 2003. ISBN: 9780130449115