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MODULE HANDBOOK

Module name	**Experiment on Advanced Electronics**
Module level, if applicable	Undergraduate
Code, if applicable	MII2323
Courses, if applicable	**Experiment on Advanced Electronics**
Semester(s) in which the module is taught	Even semester
Person responsible for the module	Dr. Dyah Aruming Tyas, S.Si.
Lecturer(s)	Dr. Dyah Aruming Tyas, S.Si.
Language	Bahasa Indonesia and English
Relation to curriculum	1. It is a mandatory course for the undergraduate degree program in 4th semester. 2. It is a mandatory course for the international undergraduate degree program in 4th semester.
Teaching methods	1. Undergraduate degree program delivered using lectures and practicum instruction with students less than 30. 2. International undergraduate degree program delivered using lectures and practicum instruction with students less than 30.
Workload (incl. contact hours, self-study hours)	1. Lectures: 1 x 100 = 100 minutes per week. 2. Exercises and Assignments: 1 x 50 = 50 minutes per week. 3. Self-study: 1 x 50 = 50 minutes per week.
Credit points	1 Credit Points
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	Advanced Electronics (MII2312)
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to: CO1. Able to understand the basic characteristics and types of sequential circuits. CO2. Students can explain the stages in designing sequential circuits. CO3. Students are able to design sequential circuits through the stages of sequential circuit synthesis. CO4. Students can describe the function of a sequential circuit through the stages of sequential circuit analysis.

CO5. Students are able to design a series of counters and registers using sequential components.

CO6. able and proficient in translating an electronics and instrumentation problem into a system design in the form of software, hardware or a combination of hardware/software.

PLO		CO1	CO2	CO3	CO4	CO5	CO6
Program Learning Outcome (PLO)	**PLO1**						
	PLO2	√	√	√			
	PLO3				√	√	
	PLO4						√
	PLO5						

Content

1. Astable Multivibrator (ASMV)
2. Monostable Multiviibrator (MSMV)
3. Synchronous counter
4. Asynchronous counter
5. Register
6. Mealy Moore
7. FSM

Study and examination requirements and examination forms

The evaluation is done in three forms, namely:
1. Final exam
2. Case Study

Media employed

Projector, whiteboard, presentation. And e-learning platform (eLok)

Assessments and evaluation

Type	Percentage	CO1	CO2	CO3	CO4	CO5	CO6
Practicum 1	7	**√**					
Practicum 2	7	**√**					
Practicum 3	7		**√**				
Practicum 4	7		**√**				
Practicum 5	7			**√**			
Practicum 6	7			**√**			
Practicum 7	7				**√**		
Practicum 8	7				**√**		
Practicum 9	7					**√**	
Practicum 10	7					**√**	
Case Study	10						**√**
Final Exam	20						**√**
Total	100						

Reading list

1. Wakerly, John F., 2007, Digital Design Principles and Practices, 4th Edition, Pearson International Edition

2. Mano, M.M. & Kime, C.R., 2008, Logic and Computer Design Fundamentals, 4th Edition, Pearson Prentice Hall, Upper Saddel River, NJ.

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