ELECTRICAL ENGINEERING DEPARTMENT–
ENGINEERING FACULTY
UNIVERSITY OF MATARAM

MODULE HANDBOOKDESCRIPTION

Module designation	Logic Circuits	
Code	FBS-1107	
Semester(s) in which the module is taught	2/first year	
Person responsible for the module	Syafaruddin Ch,S.T.,M.T	
Language	Indonesian	
Relation to curriculum	Compulsory for all major	
Teaching methods	Lecture, case base method.	
Work load (incl. contact hours, self-study hours)	Contact minutes every week, each week of the 16 weeks /semester : • Lectures:2 x50minutes • Exercises and Assignments: 2x 60minutes • Private study: 2 x 60 minutes. Total study hours = 5 hours 40 minutes / week	
Credit points	*2(~ 4,8ECTS)*	
Required and recommended prerequisites for joining the module	-	
Module objectives/ intended learning outcomes	1. Students are able to explain various types of number bases and can convert between number bases in digital electronics 2. Students are able to simplify logic circuits by using the Karnaugh map and Boolean algebra rules 3. Students are able to explain the working principles of various logic gates, the working principles of various types of flip flops, counters, registers, the working principle of encoder, decoder and multiplexer 4. Students are able to design digital circuits using flip flops, counters, registers	PLO2, PLO3 PLO2, PLO3 PLO2 PLO4

Content	1. The numbers in Digital Electronic 2. Aljabar Boolean, 3. Simplifying Logic Circuits 4. Logic Gates , 5. Flip-flop, 6. Counter 7. Register, 8. Encoder-Decoder 9. Multiplexers
Examination forms	- Multiple choice examination and Essay, - Case study Assignments
Study and examination requirements	The final grade in the module is composed of: a. Meeting score=10% b. Exercise Report/ Homework/ Portfolio = 20% c. Middle Test = 35 % d. Final Test = 35 %
Reading list	1. Roger L. Tokheim, Digital Priciples (3rd edition), McGraw Hill, 1994 2. Leach, Malvino.1994. Digital Principles And Applications Third Edition, McGraw-Hill,Inc. 3. Sunarto, 1998. Dasar-dasar Teknologi Digital. Jakarta. 4. Kurniawan, Freddy. 2005. Sistem Digital Konsep dan Aplikasi. Penerbit Graamedia,Yogyakarta.