

MODULE HANDBOOK

Course:	Digital Electronics (Practical)
Module Level:	Undergraduate
Code:	FIE205
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/Term:	4 th / Second Year
Module Coordinator(s):	Drs. Bambang Suprijanto, M.Si.
Lecturer(s):	Drs. Bambang Suprijanto, M.Si. and Yoseph G., S.Si., M.T; Francky Candra, S.T., M.T.
Language:	Bahasa Indonesia
Classification within the curriculum	Compulsory Course / Elective Course
Teaching format / class hours per week during semester:	2 hours of lectures (50 min / hour)
Workload:	2 hours of doing worksheet and pretest preparation, 2 hours of laboratory work, 2 hours of group discussion, searching literature and writing , 13 weeks per semester, and total of 78 hours per semester ~ 2,6 ECTS*
Credit Points:	1
Requirement(s):	(FID 104) Basic Physics II
Learning Goals/Competencies:	<p>General Competences (Knowledge) : After following this course, students are able to understand and design digital electronics instrumentation system.</p> <p>Specific Competences (Skills):</p> <ol style="list-style-type: none"> 1. Students are able to operate digital trainer to construct a digital series. 2. Students are able to use digital IC components to construct a simple logic series. 3. Students are able to operate generator signal as digital pulse source. 4. Students are able to design biner counter series and decimal counter.
Contents:	Introduction and experiments about design of basic logic gates with IC NAND, the design of basic logic gates with IC NOR, multiplexer and demultiplexer circuit, synchronous and asynchronous counter, BCD 7-Segment Decoder and Decimal 7-segment model, design register circuit of the flip-flop of J-K. the series of code, decode and encode, ADC and DAC circuits.
Soft Skill Attribute	Effort and ethic
Study/Exam Achievements:	<p>Students are considered competent and eligible to pass the course upon obtaining at least 55. Final Exam Practice 40%; soft skill 10%, and daily practical value 50%.</p> <p>Final grade is defined as follow: A : 75 - 100</p>

	AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99
Learning Methods:	Practical in laboratory, discussion, demonstration of the model structure
Form of Media:	Laboratory equipments
Literature(s):	<ol style="list-style-type: none"> 1. Petunjuk Praktikum Digital , Jurusan Fisika FMIPA UNAIR. 2. Tokheim, R.L.1990, <i>Digital Electronics</i>: second edition, McGraw-Hill, Inc, New York. 3. Tokheim, R.L.1990, <i>Principles of Digital Electronics</i>, McGraw-Hill, Inc, New York.
Notes:	*Total ECTS = {(total hours workload × 50 min) / 25 hours Each ECTS is equals with 25 hours.