

Module Description

Module name	Course Module
Module level, if applicable	Bachelor of Electronics Engineering
Code, if applicable	5215-xxx-x
Subtitle, if applicable	
Course, if applicable	Digital Electronics Practice
Semester(s) in which the module istaught	III
Person responsible for the module	Lecturer of Course
Lecturer	Drs. Jusuf Bintoro, MT
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 3 th semester.
Type of teaching, contact hours	<p>Teaching methods used in this course are:</p> <ul style="list-style-type: none"> - Lecture (i.e., group investigation, small group discussion, casestudy, and video based learning) - Practice (i.e., computer simulation and case study in laboratory) <p>The class size for lecture is 30 students. Contact hours for lecture is 46 hours.</p>
Workload	<p>For this course, students are required to meet a minimum of 46 hours in one semester, which consist of:</p> <ul style="list-style-type: none"> - 46 hours for lecture,
Credit points	1 credit points (equivalent with 1.44 ECTS)
Requirements according to the examination regulations	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.
Recommended prerequisites	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.

<p>PLO-CLO-ILO</p>	<p>After completing the course and given with this case:</p> <p>Course Learning Objectives (CLO1): Mahasiswa mampu menganalisis Gerbang logika menggunakan saklar (A2, S2, S3, C1) (30)</p> <p>Course Learning Objectives (CLO2): Mahasiswa mampu menganalisis Multivibrator Astabil, Monostabil, Bistabil (Flip-flop) (A2, S2, S3, C1) (30)</p> <p>Course Learning Objectives (CLO3): Mahasiswa mampu menerapkan berbagai jenis flip flop, Pencacah, Register, Decoder, Encoder dan Pengingat (Memory) (A2, K2, S1, S3, C1, C2) (40)</p> <p>Program Learning Outcome (PLO3): Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p>Attitude (A2): Untuk berkolaborasi sebagai sebuah tim, berkomunikasi secara efektif baik lisan maupun tulisan dalam lingkungan akademik dan profesional.</p> <p>Knowledge (K2): Untuk menerapkan prinsip-prinsip teknik elektronika untuk memecahkan masalah dalam sistem teknik elektronika</p> <p>Engineering and Education Skill (S1): Mampu merancang prinsip dan aplikasi sistem rekayasa elektronik</p> <p>Engineering and Education Skill (S3): Mampu mencari alternatif solusi dan pemecahan masalah di bidang teknik elektronika.</p> <p>Competence (C1): Menerapkan teknologi baru di bidang rekayasa dengan mempertimbangkan standar teknis, aspek kinerja, keandalan, penerapan, dan keberlanjutan</p> <p>Competence (C2): Mampu mengelola dan mengembangkan proses, sistem operasi, dan peralatan dengan mempertimbangkan dampak teknis dan nonteknis dari kegiatan industri di bidang teknik elektronika.</p>
<p>Content</p>	<p>Students will learn about: Pratikum Gerbang logika menggunakan saklar, Multivibrator Astabil, Monostabil, Bistabil (Flip-flop), Berbagai Jenis Flip-flop, Pencacah, Register, Decoder, Encoder dan Pengingat (Memory).</p>

Forms of Assessment	Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Sikap: 5%; Keterampilan Umum: 5%; Tugas PjBL 1: 40%; Tugas PjBL 2: 50%.
Study and examination requirements and forms of examination	<p>Study and examination requirements:</p> <ul style="list-style-type: none"> - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get final grade. <p>Form of examination: Written exam: Uji Alat</p>
Media employed	Direct Whiteboard, Google classroom, Tutorial Video by Youtube and Power Point Presentation.
Reading list	<p>Referensi Utama:</p> <ol style="list-style-type: none"> 1. Ayers, John E. (2005). Digital Integrated Circuits: Analysis and Design. Boca Raton, London, and Taylor & Francis e-Library. 2. Balch, Mark. (2003). Complete Digital Design: A Comprehensive Guide to Digital Electronics and Computer System Architecture. New York: McGraw-Hill 3. Tocci, Ronald J. et al. (2007). Digital Systems: Principles and Applications. New Jersey: Pearson Education International. <p>Referensi Pendukung:</p> <ol style="list-style-type: none"> 4. Nahin, Paul J. (2013). The Logician and the Engineer. New Jersey 08540: Princetown University Press. 5. Ndjoutche, Tertulien. (2016). Electronics Engineering Series: Digital Electronics 3 Sequential and Aritmetic Logic Circuit. Great Britain and the United States: 6. TTL dan CMOS data sheet (download internet) 7. Referensi Pendukung lainnya yang dapat dibaca tidak terbatas pada Nama pengarang; melalui internet browser (google, etc) dan youtube dengan kata kunci (Keyword): Elektronika Digital atau Digital Electronic.