

Module Description

Module name	Course Module
Module level, if applicable	Bachelor of Electronics Engineering
Code, if applicable	5215-181-3
Subtitle, if applicable	
Course, if applicable	Electronics I
Semester(s) in which the module is taught	II
Person responsible for the module	Lecturer of Course
Lecturer	Dr. Moch Sukardjo, M.Pd
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 2 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) - Structured assignments (i.e., essays and case study) <p>The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments are 32 hours</p>
Workload	<p>For this course, students required to meet a minimum of 91 hours in one semester, which consist of:</p> <ul style="list-style-type: none"> - 27 hours for lecture, - 32 hours for structured assignments, - 32 hours for private study
Credit points	2 credit points (equivalent with 3.00 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 memahami dasar-dasar bidang elektronika sehingga dapat digunakan untuk mendalami bidang elektronika tingkat lanjut (K1) (30)</p> <p>Course Learning Objectives (CLO2): Mahasiswa mampu melakukan simulasi pengujian rangkaian elektronika menggunakan software aplikasi elektronika (K1, S1, S3, C1, C2) (70)</p> <p>Program Learning Outcome (PLO3): Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p>Knowledge (K1): Menerapkan matematika, ilmu dasar dan teknik dasar untuk merancang dan menganalisis untuk memecahkan masalah di bidang teknik elektronika.</p> <p>Engineering and Education Skill (S2): Mampu menganalisis prinsip kerja dan penerapan sistem rekayasa elektronik</p> <p>Engineering and Education Skill (S3): Mampu mencari alternatif solusi dan pemecahan masalah di bidang teknik elektronika.</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: Kuliah ini bertujuan memberikan dasar-dasar bidang elektronika sehingga dapat digunakan untuk mendalami bidang elektronika tingkat lanjut. Materi kuliah mencakup pembahasan bahan semikonduktor, isolator, konduktor, semikonduktor diode, penyearah setengah gelombang dan gelombang penuh; filter RLC; Pengganda tegangan, Clipper, Clamper, karakteristik dan penggunaan Diode Zener, Diode Varaktor, Diode tunnel, Photo diode, LED, Infra Red, Photo konduktif cell. Semikonduktor Transistor, Bipolar Transistor NPN dan PNP, Pembiasan Transistor. Transistor bipolar sebagai saklar. Kemudian melakukan simulasi pengujian rangkaian elektronika menggunakan software aplikasi elektronika.</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:10%; Keterampilan Umum: 5%; Membuat Program: 10%; UTS, UAS, Projek dan tugas individu:75%
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: Essay</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. Prinsip-Prinsip Elektronika: Albert Paul Malvino (kode: MV) 2. Rangkaian Elektronika analog: Sutarno 3. 3. Tower Transistor (data book) 4. Fakultas Teknik - UNJ, 2017, Pedoman Penyusunan Rencana Pembelajaran Semester (RPS) UNJ, Fakultas Teknik, Universitas Negeri Jakarta. <p>Referensi Pendukung:</p> <ol style="list-style-type: none"> 5. Moch Sukakrdjo dan Muhamad Yusro; Prinsip-prinsipl Elektronika Das