

## Module Description

<b>Module name</b>	Course Module
<b>Module level, if applicable</b>	Bachelor of Electronics Engineering
<b>Code, if applicable</b>	5215-175-2
<b>Subtitle, if applicable</b>	
<b>Course, if applicable</b>	Introduction electrical engineering
<b>Semester(s) in which the module istaught</b>	I
<b>Person responsible for the module</b>	Lecturer of Course
<b>Lecturer</b>	Drs. Pitoyo Yuliatmojo, MT
<b>Language</b>	Indonesian Language [Bahasa Indonesia]
<b>Relation to Curriculum</b>	This course is a compulsory course and offered in the 1 <sup>th</sup> semester.
<b>Type of teaching, contact hours</b>	<p>Teaching methods used in this course are:</p> <ul style="list-style-type: none"> <li>- Lecture (i.e., group investigation, small group discussion, casestudy, and video-based learning)</li> <li>- Structured assignments (i.e., essays and case study)</li> <li>- Practice (i.e., computer simulation and case study in laboratorium)</li> </ul> <p>The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments are 32 hours</p>
<b>Workload</b>	<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"> <li>- 27 hours for lecture,</li> <li>- 32 hours for structured assignments,</li> <li>- 32 hours for private study</li> </ul>
<b>Credit points</b>	2 credit points (equivalent with 3.00 ECTS)
<b>Requirements according to the examination regulations</b>	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.
<b>Recommended prerequisites</b>	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.

<p><b>Module objectives/intended learning outcomes</b></p>	<p>After completing the course and given with this case:</p> <p><b>Course Learning Objectives (CLO1):</b> Mahasiswa mampu memahami dasar semikonduktor, diode dan transistor, pengantar sistem digital, aljabar boolean, gerbang logika dan tabel kebenaran, dan rangkaian pensaklaran (K1) (15)</p> <p><b>Course Learning Objectives (CLO2):</b> Mahasiswa mampu memahami pengantar teknik tenaga listrik, Komunikasi, sistem instrumentasi, teknologi informasi (K1) (15)</p> <p><b>Course Learning Objectives (CLO3):</b> Mahasiswa mampu memahami kendali terbuka atau tertutup dan contoh-contoh penerapannya (K1) (20)</p> <p><b>Course Learning Objectives (CLO4):</b> Mahasiswa mampu menerapkan perkembangan perangkat lunak (K2, S1, S3, C1) (50)</p> <p><b>Program Learning Outcome (PLO2):</b> Menerapkan ilmu-ilmu dasar untuk memecahkan masalah teknik elektronika</p> <p><b>Program Learning Outcome (PLO3):</b> Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p><b>Knowledge (K1):</b> Menerapkan matematika, ilmu dasar dan teknik dasar untuk merancang dan menganalisis untuk memecahkan masalah di bidang teknik elektronika.</p> <p><b>Knowledge (K2):</b> Untuk menerapkan prinsip-prinsip teknik elektronik untuk memecahkan masalah dalam sistem teknik elektronik</p> <p><b>Engineering and Education Skill (S1):</b> Mampu merancang prinsip dan aplikasi sistem rekayasa elektronik</p> <p><b>Engineering and Education Skill (S3):</b> Mampu mencari alternatif solusi dan pemecahan masalah di bidang teknik elektronika.</p> <p><b>Competence (C1):</b> Menerapkan teknologi baru di bidang rekayasa dengan mempertimbangkan standar teknis, aspek kinerja, keandalan, penerapan, dan keberlanjutan</p>
--	--

<p><b>Content</b></p>	<p><b>Students will learn about:</b>  Mata kuliah ini mencakup pembahasan tentang dasar semikonduktor, diode dan transistor, pengantar sistem digital, aljabar boolean, gerbang logika dan tabel kebenaran, dan rangkaian pensaklaran. Pengantar teknik tenaga listrik: pembangkit tenaga listrik, generator dan dinamo. Pengaturan: Pengertian kendali terbuka atau tertutup dan contoh-contoh penerapannya. Pengantar komunikasi: sinyal dan spektrum, sistem komunikasi satelit, telepon, radio dan televisi. Pengantar sistem instrumentasi: Galvanometer, Ammeter, Ohm meter, Osciloscop dan dasar-dasar penggunaan alat ukur listrik. Pengantar teknologi informasi: teknologi mikroprosesor, teknologi mikrokontrol, komputer, teknologi jaringan komputer: LAN dan WAN, serta perkembangan perangkat lunak: bahasa pemrograman terstruktur, OOP, dan visual.</p>
<p><b>Forms of Assessment</b></p>	<p>Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Structured tasks: 20% ; Quiz 10% ; Mid Test : 35% Final Test: 35%</p>
<p><b>Study and examination requirements and forms of examination</b></p>	<p><b>Study and examination requirements:</b></p> <ul style="list-style-type: none"> <li>- Students must attend 15 minutes before the class starts.</li> <li>- Students must switch off all electronic devices.</li> <li>- Students must inform the lecturer if they will not attend the class due to sickness, etc.</li> <li>- Students must submit all class assignments before the deadline.</li> <li>- Students must attend the exam to get final grade.</li> </ul> <p><b>Form of examination:</b>  Written exam: Essay</p>
<p><b>Media employed</b></p>	<p>Direct Whiteboard, Google classroom, Tutorial Video by Youtube and Power Point Presentation.</p>
<p><b>Reading list</b></p>	