



Module Description

Module name	Basic Electrical and Electronics
Module level, if applicable	Bachelor of Informatics
Code, if applicable	21D12110402
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	1 st
Person responsible for the module	Dr. Ir. Ingrid Nurtanio, MT.
Lecturer	<ol style="list-style-type: none"> 1. Dr. Ir. Ingrid Nurtanio, MT. 2. Ir. Zaenab Muslimin, MT. 3. Ir. Christoforus Yohannes, MT.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 1 st semester.
Type of teaching, contact hours	Teaching methods: [contextual learning], [self-directed learning]. Teaching forms: [lecture] CH : 08.00 - 16.00
Workload	For this course, students are required to meet a minimum of 91.67 hours in one semester, which consist of: - 26.67 hours for lecture, - 32.00 hours for structured assignments, - 32.00 hours for private study
Credit points	2 credit points (equivalent with 3.4 ECTS)
Requirements	Students have participated in at least 80% of the learning activities



according to the examination regulations	(Academic Regulations, Chapter VII)
Recommended prerequisites	-
Module objectives/intended learning outcomes	<p>After completing the course, Students are able:</p> <p>Intended Learning Outcomes (ILO):</p> <p>ILO 1 : Have the knowledge of fundamental in Computing Science that includes basic theory and concepts of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering, Information Management and Digital Resilience, also the advance topics of either Artificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things.</p> <p>ILO 3 : Apply the knowledge of computing and other related disciplines to analyze and identify solutions for any computing-based problem</p> <p>Course Learning Objective (CLO):</p> <p>After attending this course for one semester, students are expected to be able to explain the basic concepts and principles of electrical and electronics that are used in informatics.</p> <p>Sub CLO :</p> <p>ILO 1 => CLO 1: Students are able to know what electrical and electronic components, circuits and devices.</p> <p>ILO 3 => CLO 2: Students are able to analyze the electrical and electronic circuits that are used in informatics.</p>
Content	<p>Students will learn about :</p> <ol style="list-style-type: none"> 1. Basic Electrical Concepts (Ohm’s Law and Kirchhoff’s Laws) 2. DC Circuits 3. AC Circuits. 4. Electronic Components 5. Semiconductor Devices (Diodes, Transistors) 6. Operational Amplifiers 7. Integrated Circuits 8. Linear Electronic Circuits 9. Digital Electronic Circuits
Forms of	Assessment techniques: [participation], [written test].



<p>Assessment</p>	<p>Assessment forms: [quiz], [midterm exam], [final term exam], [assignment].</p> <p>Quiz 1 = 5%, Quiz 2 = 5%, Quiz 3 = 5%, Quiz 4 = 5%, Mid term exam = 30% Final term exam = 30%, Assignment 1 = 5%, Assignment 2 = 5%, Assignment 3 = 5%, Assignment 4 = 5%.</p> <p>CLO 1 => ILO 1: 40% (Assignment: participation, Quiz: written test) CLO 2 => ILO 3: 60% (Mid term exam : written test, Final term exam : written test)</p>
<p>Study and examination requirements and forms of examination</p>	<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. <p>Form of examination: Written exam: Essay, multiple choice,</p>
<p>Media employed</p>	<p>Video conference, slide presentation, Learning Management System (LMS).</p>
<p>Reading list</p>	<p>Main :</p> <ol style="list-style-type: none"> 1. Earl Gates, 2014, Introduction to Basic Electricity and Electronics Technology, Delmar, Cengage Learning. 2. Albert Paul Malvino, David J. Bates, 2007, Electronic Principles, seventh edition, The McGraw-Hill Companies. <p>Support :</p> <ol style="list-style-type: none"> 1. Christopher R. Robertson, 2008, Fundamental Electrical and Electronic Principles, third edition, Elsevier Ltd.