

Module Description

Module name	Course Module
Module level, if applicable	Bachelor of Electrical Engineering
Code, if applicable	5115-037-2
Subtitle, if applicable	-
Course, if applicable	Electrical Circuit 2 (Rangkaian Listrik 2)
Semester(s) in which the module is taught	3 rd semester (odd semester)
Person responsible for the module	Lecturer of Course
Lecturer	Imam Arif Rahardjo., S.Pd., M.T.
Language	Indonesian
Relation to Curriculum	This course is a compulsory course and offered in the 3 rd semester (odd 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, case study, and video based learning) - Structured assignments (i.e., essays and case study) - Practice (i.e., computer simulation and case study in laboratory) <p>The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments is 32 hours, learn individually is 32 hours.</p>
Workload	<p>For this course, students are required to meet a minimum of 87 hours in one semester, which consist of:</p> <ul style="list-style-type: none"> - 23 hours for lecture - 32 hours for structured assignments - 32 hours for learn individually
Credit points	2 credit points (equivalent with 3 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	The Electrical Circuit 2 course is a continuation of the Electrical Circuit I course, so that students have completed the Electrical Circuit I course and obtained a minimum grade of C which is a prerequisite to be able to take the Electrical Circuit 2 course

Module objectives/intended learning outcomes	After completing the course and given with this case: Course Learning Objectives (CLO): 1. Understanding the relationship between response time and response frequency (10) 2. Understanding the working of magnetic clutch (10) 3. Explaining procedures, usage techniques and calculations of circuit transformation methods (20) 4. Explaining the concept of transient circuit (20) 5. Explaining the multi-phase system of voltage and current, balanced-unbalanced load, star load, and triangular load on a 3-phase system (20) 6. Describing the parameters of a two-door network (20)
Content	Students will learn about: know and master the procedures, use techniques and calculations of circuit transformation methods and understand the relationship between response time and response frequency, transient circuits (RL, RC and RLC with direct and alternating sources), multi-phase voltage and current systems in 3-phase systems, multi-phase system balanced-unbalanced load on a 3-phase system, balanced-unbalanced load on a 3-phase system, star load on a 3-phase system, balanced-unbalanced load on a 3-phase system, triangular load on a 3-phase system, magnetic coupling (self-inductance) , together, coefficient), magnetic coupling (linear and ideal transformers), and two-door networks (admittance, impedance, hybrid, transmission, multiple network equivalent parameters)
Forms of Assessment	Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Structured tasks: 50% ; Mid Test : 25% Final Test: 25%
Study and examination requirements and forms of examination	Study and examination requirements: - 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. Form of examination: - Written exam: Essay, Joobsheets - Portofolio
Media employed	Direct Whiteboard and Power Point Presentation.

Reading list	Main References: <ol style="list-style-type: none">1. Fowler, Electricity principles and application, McGrawHill, 20032. Kuphakit Tony R., Lesson in Electric Circuit, 20063. Mehta, VK., Basic Electrical Engineering, S. Chand & Company Ltd., New Delhi, 2001 Supporting References: <ol style="list-style-type: none">1. Scientific journals on electrical engineering and its applications.2. Sources from newspapers, magazines, and the internet that are relevant to the topic discussed.
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