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MODULE HANDBOOK

Module name	**Electronic Circuits**
Module level	Undergraduate
Code	MII-1302
Courses (if applicable)	**Electronic Circuits**
Semester	Fall (Odd)
Contact person	Abdul Ro'uf
Lecturer	Abdul Ro'uf Tri Wahyu Supardi
Language	Bahasa Indonesia
Relation to curriculum	1. Undergraduate degree program, compulsory, 2th semester. 2. International undergraduate program, compulsory, 2th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.
Workload	1. Lectures: 2 x 50 = 100 minutes (1 hours 10 menit) per week. 2. Exercises and Assignments: 2 x 50 = 100 minutes per week. 3. Private study: 2 x 50 = 100 minutes per week.
Credit points	2 credit points (sks).
Requirements according to the Examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.
Recommended prerequisites	-
Learning outcomes (course outcomes) and their corresponding PLOs	After completing this module, a student is expected to: CO1 Able to understand and explain the elements of electrical circuits. CO2 Able to understand and explain the definition and basic laws of electric circuit. CO3 Able to analyze to solve electric circuit problems CO4 Able to apply basic laws to solve electric circuit problems.

PLO		CO 1	CO 2	CO 3	CO 4
Program	**PLO1**				

<table>
<tr><td></td><td>
<table>
<tr><td rowspan="4">Learning Outcome (PLO)</td><td>PLO2</td><td>√</td><td>√</td><td></td><td></td></tr>
<tr><td>PLO3</td><td></td><td></td><td>√</td><td></td></tr>
<tr><td>PLO4</td><td></td><td></td><td>√</td><td></td></tr>
<tr><td>PLO5</td><td></td><td></td><td></td><td></td><td></td></tr>
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<tr><td>Contents</td><td>1. Introduction: Electric Circuit, Quantity, unit, dimension, charge, current, voltage, power and energy, elements of the strand
2. DC Intersection and Node Analysis: Branch current and mesh current, Node voltage method
3. Complex numbers, Complex fields, Vector operator j, Other representations of complex numbers, Algebra of complex numbers
4. Superposition theorem, reciprocal theorem, compensation theorem</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>The evaluation is done in 3 forms, namely:
1. Trial, either midterm or semester test,
2. Four tasks, individual assignments to be completed within a certain timeframe, and
3. Two quizzes, held on face-to-face, once before midterm exam and once after midterm exam, with a short answer form.

Assessment is done using benchmark assessment, with the aim of measuring the level of student understanding related to the target and class rank.</td></tr>
<tr><td>Media employed</td><td>LCD, blackboard, and websites.</td></tr>
<tr><td>Assessments and Evaluation</td><td>
<table>
<tr><th>Type</th><th>Percentage</th><th>CO1</th><th>CO2</th><th>CO3</th><th>CO4</th></tr>
<tr><td>Quiz</td><td>5 %</td><td>√</td><td></td><td>√</td><td></td></tr>
<tr><td>Individual Task</td><td>25 %</td><td></td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Group Task</td><td>0</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Midterm Exam</td><td>40 %</td><td>√</td><td>√</td><td>√</td><td></td></tr>
<tr><td>Final Exam</td><td>30 %</td><td></td><td></td><td></td><td>√</td></tr>
<tr><td>Total</td><td>100%</td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Reading List</td><td>[1] Alexander, Sadiku, 2013: Fundamentals of Electric Circuits, Fifth-Addition, Addison Wesley.
[2] Schultz, Mitchel E. 2007: Grob’s Basic Electronics, 10th Edition, McGraw-Hill, New York
[3] Nahvi, Mahmood & Edminister, Joseph A, 2003: Electric Circuits, McGraw- Hill, Singapore.</td></tr>
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