

MODULE HANDBOOK DESCRIPTION

Module designation	Electrical Circuits Laboratory	
Code	FBS2231	
Semester(s) in which the module is taught	4/second year	
Person responsible for the module	Ida Bagus Fery Citarsa, ST., MT.	
Language	Indonesian	
Relation to curriculum	Compulsory for all Majors	
Teaching methods	Contextual Instruction (CI)	
Workload (incl. contact hours, self-study hours)	Contact minutes every week, each week of the 16 weeks/semester : <ul style="list-style-type: none"> • Practice : 1 x 50 minutes • Data analysis : 1 x 60 minutes • Writing report : 1 x 60 minutes. Total study hours = 2 hours 50 minutes/week	
Credit points	1 (~ 1,6 ECTS)	
Required and recommended prerequisites for joining the module	- Electrical Circuit I (FBS1213) - Electrical Circuit II (FBS2122)	
Module objectives/intended learning outcomes	1. Students are able to analyze series circuits, parallel resistor elements (R) with DC sources, basic circuit laws and their applications, circuit theorems, series and parallel circuits of Resistor Inductors (RL), Resistor Capacitors (RC), and RLC with AC sources, and frequency response.	PLO3
	2. 2. Students are able to assemble R series and parallel components with DC sources, R, L, and C components with AC sources, and circuits for frequency response analysis based on instructions from the practicum module.	PLO4
	3. Students are able to compare the analysis results of R series and parallel circuits with DC sources, the circuits of R, L, and C with AC sources, and frequency response with the experimental results of these circuits and make conclusions then report the results.	PLO5

Content	<ol style="list-style-type: none"> 1. The concept and design of series circuit with dc source. 2. The concept and design of parallel circuit with dc source. 3. Kirchhoff's Law on voltage and current. 4. The application of Kirchhoff's Law. 5. Superposition theorem. 6. Thevenin's theorem. 7. Norton's theorem. 8. RL, RC, RLC series circuits. 9. RL, RC, RLC parallel circuits. 10. RLC series circuit combinations. 11. RLC parallel circuit combinations.
Examination forms	<ol style="list-style-type: none"> 1. Pre-test 2. Practice skills 3. Practice report 4. Response
Study and examination requirements	<p>The final grade in the module is composed of:</p> <ol style="list-style-type: none"> 1. Pre-test and practice skills = 20% 2. Practice report and response = 80% <p>Students must have a final grade of 65% or higher to pass</p>
Reading list	<ol style="list-style-type: none"> 1. Djoko, S., 2006, "Teori Dasar Rangkaian Listrik", Pustaka Pena, Yogyakarta. 2. Edminister, J.A, dan Pakpahan, S., 1985, "Rangkaian Listrik", Erlangga, Jakarta. 3. Johnson, D. E., 1997, "Electric Circuit Analysis", Prentice Hall, New York. 4. Sadiku, A., 2007. "Fundamentals of Electric Circuits", Mc.Graw Hill, New York. 5. Bird, J., 2007, "Electrical and Electronic Principles and Technology". 6. Boylestad, R. L., Wolfgang, M., "Electric Circuits", Prentice Hall.10th Ed,2003. New Jersey.