



MODULE HANDBOOK DESCRIPTION

Module designation	Electric Machines Laboratory	
Code	FBA3105	
Semester(s) in which the module is taught	5 / third year	
Person responsible for the module	Sultan, ST., MT.	
Language	Indonesian	
Relation to curriculum	Concentration Elective for Electrical Power System Engineering	
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	- Electric Machines (FBA3104)	
Module objectives/intended learning outcomes	1. Students are able to analyze advanced AC electric machines, advanced DC electric motors, DC and AC electric motors starting, and generator synchronization.	PLO3
	2. Students are able to make test circuits for advanced AC machines, advanced DC motors, methods for starting DC and AC electric motors, and generator synchronization based on the instructions of the practicum module.	PLO4
	3. Students are able to compare the analysis results of advanced AC electric machines and DC electric motors. AC and DC electric motor starting methods and generator synchronization with experimental results, conclusions, and then report the results.	PLO5

Content	<ol style="list-style-type: none"> 1. Advanced AC Machine 2. Advanced DC Motor 3. Starting of AC and DC Motors 4. Generator Synchronization
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. Laboratorium Sistem Tenaga Listrik, 2013, “Modul Praktikum Mesin-mesin Listrik”, Jurusan Teknik Elektro, Fakultas Teknik, Universitas Mataram. 2. Wildi, Theodore, 2013, Electrical Machines, Drives and Power Systems, Sixth Edition, Pearson Education Limited, Edinburgh Gate. 3. Theraja, B.L, and Theraja, A.K, 2005, A Text Book of Electrical Technology, Volume II, AC & DC Machines, S. Chand & Company Limited, Ram Nagar, New Delhi. 4. Sahdev, S.K, 2018, Electrical Machines, Cambridge University Press, New Delhi. 5. Chapman, S.J, 2005, Electric Machinery Fundamentals, Fourth Edition, McGraw Hill Higher Education, New York.