



MODULE HANDBOOK DESCRIPTION

Module designation	Power Electronics Laboratory	
Code	FBA3107	
Semester(s) in which the module is taught	5/third year	
Person responsible for the module	Supriono, 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)	<p>Contact minutes every week, each week of the 16 weeks/semester :</p> <ul style="list-style-type: none"> <li>• Practice : 1 x 50 minutes</li> <li>• Data analysis : 1 x 60 minutes</li> <li>• Writing report : 1 x 60 minutes.</li> </ul> <p>Total study hours = 2 hours 50 minutes/week</p>	
Credit points	1 (~ 1,6 ECTS)	
Required and recommended prerequisites for joining the module	<ul style="list-style-type: none"> <li>- Power Electronics (FBA3106)</li> <li>- Basic Electric Power (FBS2126)</li> <li>- Basic Electronics (FBS2125)</li> </ul>	
Module objectives/intended learning outcomes	1. Students are able to do experiment controlling static loads and non-static loads	PLO5
	2. Students are able to do inverter experiments that are inverter for PLTS and inverter for dynamic loads.	
	3. Students are able to design DC Chopper to drive BLDC Motors.	PLO4
	4. Students are able to calculate Total Harmonics Distortion (THD) on an inverter	PLO3

Content	<ol style="list-style-type: none"> <li>1. DC Chopper with Low Pass Filter and DC Chopper without Low Pass Filter</li> <li>2. DC Chopper for driving static loads and dynamic loads.</li> <li>3. Inverter for driving dynamic loads.</li> <li>4. Inverter on PLTS System</li> </ol>
Examination forms	- Essay on the book of Practice Guide Power Electronics laboratory
Study and examination requirements	The final grade in the module is the journal practicum report. Students must have a final grade of 65% or higher to pass
Reading list	<ol style="list-style-type: none"> <li>1. Muhammad H Rashid, Power electronics Handbook, 4th edition, 2019</li> </ol>