MODULE HANDBOOK DESCRIPTION

Module designation	Computer Application on EPS	
Code	FBA0002	
Semester(s) in which the module is taught	6 / third year	
Person responsible for the module	I Made Ari Nrartha, ST., MT.	
Language	Indonesian.	
Relation to curriculum	Free elective for Electrical Power System Engineering	
Teaching methods	Lectures, small group discussion, case base method.	
Workload (incl. contact hours, self-study hours)	Contact minutes every week, each week of the 16 weeks/semester: • Lectures: 2 x 50 minutes • Exercises and Assignments: 2 x 60 minutes • Private study: 2 x 60 minutes. Total study hours = 5 hours 40 minutes/week	
Credit points	2 SKS (~ 3.2 ECTS)	
Required and recommended prerequisites for joining the module	- Power System Analysis I (FBA3101) - Power System Analysis II (FBA3208) - Electric Power Transmission (FBA3102) - Modern Distribution System (FBA3211)	
Module objectives/intended learning outcomes	1. Students are able to select and apply computer applications to quantitatively analyze operating performance, protection against disturbances, and coordination of protection in power systems.	PLO3
	2. Students are able to make electric power system simulations in the model format required by computer applications to determine the operation of the electric power system.	PLO4
	3. Students are able to recognize needs and have the ability to be involved in lifelong independent learning using computer applications.	PLO9

Content	1. Introduction DlgSILENT Power Factory, 2. User Interface DlgSILENT, 3. Depiction of Single Line Diagrams, 4. Load Flow Simulation, 5. Read Case and system configuration, 6. Project library and exporting to excel data, 7. Voltage Colour Gradation, 8. Gradations and current, 9. Simulation of frequency during faults 10. Protection coordination
Examination forms	- Assignment - Written case study - Midterm and final test
Study and examination requirements	The final grade in the module is composed of: 1. Assignment : 10 % 2. Case I assessment: 15% 3. Case II assessment: 15% 4. Midterm assessment: 30% 5. Final assessment: 30% Students must have a final grade of 65% or higher to pass
Reading list	1. Arrillaga, J., Arnold, C.P., Harker, B.J., 1983, "Computer Modelling of Electrical Power Systems",John Wiley & Sons Ltd. 2. Stagg, G.W., and El-Abiad, A.H., 1968, "Computer Methods in Power System Analysis", McGraw-Hill, Inc. 3. DlgSILENT, 2015, "Power System Solution", available on: https://www.digsilent.de/en/