MODULE HANDBOOK DESCRIPTION

Module designation	Power System Analysis Laboratory	
Code	FBA3209	
Semester(s) in which the module is taught	6 / third year	
Person responsible for themodule	Sultan, ST., MT.	
Language	Indonesian	
Relation to curriculum	Concentration Elective for Electrical Power System Engineering	
Teaching methods	Contextual Instruction (CI)	
Workload (incl. contacthours, self-study hours)	Contact minutes every week, each week of the 16weeks/semester : • 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 joiningthe module	- Power System Analysis I (FBA3101) - Power System Analysis II (FBA3208)	
Module objectives/intend edlearning outcomes	1. Students are able to analyze transmission system power flow (balanced three-phase power flow), distribution system power flow (unbalanced three-phase power flow), balanced and unbalanced faults.	PLO3
	2. Students are able to make a model of an electric power transmission and distribution system for power flow and fault analysis using a software package based on the practicum module instructions.	PLO4
	3. Students are able to compare the analysis of power flow and disturbances in electric power systems with simulation results, make conclusions, and then report the results.	PLO5

Content	1. Power Flow of Electrical Power Transmission Systems 2. Power Flow of Electrical Power Distribution Systems 3. Faults in a balanced three-phase electric power system 4. Single-phase to ground fault, inter-phase fault, and two-phase to ground fault in the electric power system
Examination forms	1. Pre-test 2. Practice skills 3. Practice report 4. Response
Study and examination requirements	The final grade in the module is composed of: 1. Pre-test and practice skills = 20% 2. Practice report and response = 80% Students must have a final grade of 65% or higher to pass
Reading list	1. Laboratorium Sistem Tenaga Listrik, 2013, "Modul Praktikum Analisa Sistem Tenaga", Jurusan Teknik Elektro, Fakultas Teknik, Universitas Mataram. 2. Nrartha, I. M., A., 2020, "Buku Ajar Analisa Sistem Tenaga I", buku ajar, Jurusan Teknik Elektro, Fakultas Teknik, Universitas Mataram. 3. Nrartha, I. M., A., Sultan, Muljono, A., B., 2012, "Rancang Bangun Perangkat Lunak Untuk Evaluasi Studi Aliran Daya Tiga Fase Dengan Metoda Kompensasi", laporan penelitian dana DIPA BLU, Universitas Mataram. 4. Grainger, J.J., dan Stevenson W.D.Jr., 1994, "Power Sistem Analysis", McGraw-Hill, Inc., Singapore. 5. Saadat, H., 1999, "Power System Analysis", McGraw-Hill, Singapore.