



**Universitas Negeri Surabaya
Faculty of Engineering,
Electrical Engineering Undergraduate Study Program**

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Electrical Power System Equipment	2020102121		T=2	P=0	ECTS=3.18	5	July 18, 2024
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
			Dr. Lusia Rakhmawati, S.T., M.T.	
Learning model	Case Studies						
Program Learning Outcomes (PLO)	PLO study program that is charged to the course						
	Program Objectives (PO)						
	PLO-PO Matrix						
		P.O					
Short Course Description	Understand high voltage engineering equipment and methods of measuring and testing it.						
References	Main :						
	1. Ram, B., Vishwakarma, 1995, <i>Power System Protection and Switchgear</i> , McGraw-Hill, New Delhi. 2. Syahputra, R., Soesanti, I., Ashari, M. (2016). Performance Enhancement of Distribution Network with DG Integration Using Modified PSO Algorithm. <i>Journal of Electrical Systems (JES)</i> , 12(1), pp. 1-19. 3. Batik Industry. <i>Journal of Theoretical and Applied Information Technology (JATIT)</i> , 87(1), pp. 167-175. 4. Syahputra, R. (2016). Application of Neuro-Fuzzy Method for Prediction of Vehicle Fuel Consumption. <i>Journal of Theoretical and Applied Information Technology (JATIT)</i> , 86(1), pp. 138-149. 5. Jamal, A., Suropto, S., Syahputra, R. (2016). Performance Evaluation of Wind Turbine with Doubly-Fed Induction Generator. <i>International Journal of Applied Engineering Research (IJAER)</i> , 11(7), pp. 4999-5004. 6. Syahputra, R., Robandi, I., Ashari, M. (2015). Performance Improvement of Radial Distribution Network with Distributed Generation Integration Using Extended Particle Swarm Optimization Algorithm. <i>International Review of Electrical Engineering (IREE)</i> , 10(2). pp. 293-304. 7. IEEE, 2000, <i>IEEE Guide for Protective Relay Applications to Transmission Lines</i> , IEEE, New York.						
	Supporters:						
Supporting lecturer	Dr. Ir. Achmad Imam Agung, M.Pd.						

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline (offline)	Online (online)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Introduction and RPS Understanding STL Equipment	Able to explain STL Equipment	Criteria: Full marks are obtained if you do everything correctly	Lectures, discussions and questions and answers 2 X 50			0%
2	Introduction and RPS Understanding STL Equipment	Able to explain STL Equipment	Criteria: Full marks are obtained if you do everything correctly	Lectures, discussions and questions and answers 2 X 50			0%
3	Understanding the Characteristics of Electric Power Transmission Systems	Able to explain the Characteristics of Electric Power Transmission Systems	Criteria: Full marks are obtained if you do all the questions correctly	Lectures, discussions, exercises 4 X 50			0%
4	Understanding the Characteristics of Electric Power Transmission Systems	Able to explain the Characteristics of Electric Power Transmission Systems	Criteria: Full marks are obtained if you do all the questions correctly	Lectures, discussions, exercises 4 X 50			0%
5	Understanding Transmission Line Representation	Able to explain Transmission Channel Representation	Criteria: Full marks are obtained if you do all the questions correctly	Lectures, discussions, exercises 6 X 50			0%
6	Understanding Transmission Line Representation	Able to explain Transmission Channel Representation	Criteria: Full marks are obtained if you do all the questions correctly	Lectures, discussions, exercises 6 X 50			0%
7	Understanding Transmission Line Representation	Able to explain Transmission Channel Representation	Criteria: Full marks are obtained if you do all the questions correctly	Lectures, discussions, exercises 6 X 50			0%
8	UTSUnderstanding electrical power distribution systems	Able to explain the electrical power distribution system	Criteria: Full marks are obtained if you do all the questions correctly	Lectures, discussions, exercises, UTS 6 X 50 Evaluation			0%
9	UTSUnderstanding electrical power distribution systems	Able to explain the electrical power distribution system	Criteria: Full marks are obtained if you do all the questions correctly	Lectures, discussions, exercises, UTS 6 X 50 Evaluation			0%
10	UTSUnderstanding electrical power distribution systems	Able to explain the electrical power distribution system	Criteria: Full marks are obtained if you do all the questions correctly	Lectures, discussions, exercises, UTS 6 X 50 Evaluation			0%
11	Understanding Fuel Cells Understanding PLTMH	Able to explain Fuel Cell Able to explain PLTMH	Criteria: Full marks are obtained if you do everything correctly	Lectures, discussions, exercises 2 X 50			0%
12	Understanding Fuel Cells Understanding PLTMH	Able to explain Fuel Cell Able to explain PLTMH	Criteria: Full marks are obtained if you do everything correctly	Lectures, discussions, exercises 2 X 50			0%

13	Understanding PLTSUnderstanding PLTSBayu	Able to explain PLTSable to explain PLTSBayu	Criteria: Full marks are obtained if you do everything correctly	Lectures, discussions, exercises 4 X 50			0%
14	Understanding PLTSUnderstanding PLTSBayu	Able to explain PLTSable to explain PLTSBayu	Criteria: Full marks are obtained if you do everything correctly	Lectures, discussions, exercises 4 X 50			0%
15							0%
16							0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

Notes

- 1. Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
- 2. The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
- 3. Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- 4. Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- 5. Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
- 6. Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- 7. Forms of assessment:** test and non-test.
- 8. Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- 9. Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- 10. Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 11. The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- 12. TM=Face to face, PT=Structured assignments, BM=Independent study.**