

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

Document Code

SEMESTER LEARNING PLAN

Courses			CODE		Course F	se Family		Credit Weight		SEMESTER	Compilation Date		
Electricity System with Distributed Generation			2020102189					T=2	P=0	ECTS=3.18	7	July 18, 2024	
AUTHORIZATION			SP Developer		Course Cluster Coordinator		Study Program Coordinator						
												Dr. Lusia Rakhmawati, S.T., M.T.	
Learning model	J	Project Based Learning											
Program		PLO study program that is charged to the course											
Learning Outcom		Program Objectives (PO)											
(PLO)		PLO-PO Matrix											
			P.0										
		PO Matrix at the end of each learning stage (Sub-PO)											
			Ρ.	0 Week									
			1 2	3 4 5	5 6	7 8	3 9	10	1	1 12 1	13 14 1	15 16	
Short Course Description This course examin distribution, distribution analysis, alternating of		bution s	system elements	, distribution s	safety, dist	ribution	transfor	mers,	netwo				
References		Main :											
		 Gonen, Turan. 1986. Electric power distribution system Engineering. McGrawHill Book Company. Uppal S.L. 1980. Electric Power. New Delhi Khana: Publisher Anthony, Pensini J. 1986. Electrical Distribution Engineering. Singapore: McGraw-Hill Book Co. 											
		Supporters:											
Support lecturer		Dr. Ir. Achmad Im Widi Aribowo, S. Aditya Chandra H	Г., М.Т.	5,									
Week- eau		nal abilities of ach learning age		Evaluation			Help Learning, Learning methods, Student Assignments, [Estimated time]		ds, ents, e]	Learning materials [References	Assessment Weight (%)		
	(Su	(Sub-PO)		Indicator	Criteria &	Form		ine(ine)	0	nline	(online)]	
(1)		(2)		(3)	(4)		(5	5)		(6)	(7)	(8)

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(weight 3) Value Student End: 3.Participation Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (3) divided	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 	discussion and practice		0%
Student End: 3.Participation Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (3) divided	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on 	discussion and practice		0%
3.Participation Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (3) divided	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator 	discussion and practice		0%
Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (2) x UAS Score (3) divided	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value 	discussion and practice		0%
Assignment Score (3) x UTS Score (2) x UAS Score (3) divided	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 	discussion and practice		0%
Score (3) x UTS Score (2) x UAS Score (3) divided	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: Participation 	discussion and practice		0%
Score (2) × UAS Score (3) divided	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: Participation Score (2) x 	discussion and practice		0%
Score (3) divided	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: Participation Score (2) × Assignment 	discussion and practice		0%
	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: Participation Score (2) x Assignment Score (3) x UTS 	discussion and practice		0%
by 10.	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: Participation Score (2) x Assignment Score (2) x UAS 	discussion and practice		0%
	2	the basics of construction types and line impedance of distribution	construction types and line impedance in electric power distribution systems 2.Explain the secondary relationship of electric power	 The assessment criteria are carried out by looking at aspects: Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: Participation Score (2) x Assignment Score (3) x UTS Score (3) divided 	discussion and practice		0%

3	Able to understand the basics of underground electrical power distribution systems	 Explain the basics of underground distribution of electric power systems Explains installation, primary distribution configuration, cable testing 	Criteria: 1. The assessment criteria are carried out by looking at aspects: 2. Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 3. Participation Score (2) × Assignment Score (3) × UTS Score (3) divided by 10.	Presentation, discussion and practice 2 X 50		0%
4	Able to understand the basics of transformers	 Explain the basics of transformers in electric power distribution systems Explains single phase transformers, substation distribution transformers 	Criteria: 1. The assessment criteria are carried out by looking at aspects: 2. Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 3.Participation Score (2) x Assignment Score (3) x UTS Score (3) divided by 10.	Presentation, discussion and practice 2 X 50		0%

5	Able to understand the basics of substation transformer distribution systems	 Explain the basics of substation transformers for electric power distribution Explain about autotransformers 	Criteria: 1. The assessment criteria are carried out by looking at aspects: 2. Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 3. Participation Score (2) x Assignment Score (2) x UAS Score (2) divided by 10.	Presentation, discussion and practice 2 X 50		0%
6	UTS			2 X 50		0%
7	Challenges and Opportunities for RENEWABLE ALTERNATIVE ENERGY in the ERA of EXPENSIVE ENERGY			2 X 50		0%
8	Challenges and Opportunities for RENEWABLE ALTERNATIVE ENERGY in the ERA of EXPENSIVE ENERGY (2)			2 X 50		0%
9	Understanding WIND POWER POWER PLANT			2 X 50		0%
10	Understanding HYDROELECTRIC POWER PLANTS			2 X 50		0%
11	Understanding Bioenergy POWER PLANT			2 X 50		0%
12						0%
13						0%
14						0%
15						0%
16						0%

Evaluation Percentage Recap: Project Based Learning No Evaluation Percentage

0%

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.

Notes

- 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.
- 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.