

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

Document Code

SEMESTER LEARNING PLAN

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Courses		CODE		Co	urse	Fam	nily	Crea	lit We	eight	SE	MESTI	ER	Comp Date	pilation
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AUTHORIZAT	ION	SP Develope	r	Sui	Ject	5	Course Cluster Coordinator					dy Pro	ogran	n Coor	rdinato
		Ibrohim, S.T., Wrahatnolo, M						Dr. Banto,	ambai M.T.	ng	Dr	. Lusia	a Rakh M.		ti, S.T.,
Learning model	Case Studies														
Program	PLO study progra	m that is char	ged to t	the c	our	se									
Learning Outcomes	Program Objectiv	es (PO)													
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	1. Pansini, Ant	hony J. (2006). I	Electrica	l Dist	tribut	tion E	Engine	ering.	USA:	Taylor a	& Franc	is Ltd.			

Week-	Final abilities of each learning stage	E	valuation	Learı Studer	Ip Learning, ning methods, nt Assignments, stimated time]	Learning materials [References	Assessmen Weight (%)
	(Sub-PO)	Indicator	Criteria & Form	Offline(offline)	Online (online)	1	
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Engineering Volume II. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975.	
Volume II. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical	
Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power	
Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering	
Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II.	
Artono Arismunandar & Sususmu Kuwahara. 1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT.	
& Sususmu Kuwahara. 1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT. Pradnya	
Kuwahara. 1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT. Pradnya Paramita. Artono	
1975.		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT. Pradnya Paramita. Artono Arismunandar	
		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu	
		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara.	
		transmission lines for channel					Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975.	

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					Paramita.
					Department of
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					2004.
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					of
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					Training
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					(SLK) for
					Electrical
					Engineering
					Personnel in
					the Field of
					Electrical
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					Transmission.
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					Electricity
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					(2002).
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					Publishers.
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					(2006).
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					System
					Operations.
					Jakarta:
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					Publishers.
					Gross, A.
					Charles.
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					York: John
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					Power
					Transmission.
					Jakarta:
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					Stam HNC
					1993. Safety and Health in
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					Workplace.
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					Indonesian
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					Requirements
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					Installations
					2000. Jakarta:
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					Foundation.
					William D.
					Stevenson Jr.
					(1994).
					Elements of
					Power
					Systems
					Analysis Fourth
I	I	I	I	I	

					Edition, New York:	
3	Students can discuss the function of the transmission system and the	Evaluation Rubric	Criteria: Evaluation Rubric Form of	Case method 2 x 50	McGraw-Hill. Material: learning material 1 Bibliography:	10%
	main components, identify the electrical characteristics of transmission lines, differentiate		Assessment : Participatory Activities		Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of	
	transmission lines for channel analysis purposes				Electrical Power Engineering Volume I. Jakarta: PT.	
					Pradnya Paramita. Artono Arismunandar & Sususmu	
					Kuwahara. 1975. Handbook of Electrical Power	
					Engineering Volume II. Jakarta: PT. Pradnya Paramita.	
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					Electrical Engineering Personnel in the Field of Electrical	
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					Electricity Training Center. Djliteng Marsudi	
					(2002). Electrical Energy Generation. Jakarta:	
					Erlangga Publishers. Djliteng Marsudi	
					(2006). Electric Power System Operations.	
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					Gross, A. Charles. (1990). Power System Analysis, New York: John Wiley & Sons. Hutauruk. (1985) Electric Power Transmission. Jakarta: Erlangga. Stam HNC 1993. Safety and Health in the Workplace. Self-Help Spreader: Jakarta. Indonesian National Standards. 2000. General Requirements for Electrical Installations 2000. Jakarta: PUIL Foundation. William D. Stevenson Jr. (1994). Elements of Power Systems Analysis Fourth Edition, New York: McGraw-Hill.	
4	determine and study transmission lines for channel analysis purposes, explaining general constants of transmission lines	Evaluation Rubric	Criteria: Evaluation Rubric Form of Assessment : Participatory Activities	Case method 2 x 50	Material: learning material 1 Bibliography: Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume I. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume II. Jakarta: PT. Pradnya Paramita. Artono Arismunandar & Sususmu Kuwahara. 1975. Handbook of Electrical Power Engineering Volume III. Jakarta: PT. Pradnya Paramita. Department of	10%

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					Resources. 2004.	
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					of Competency	
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					Standards (SLK) for	
					Electrical Engineering	
					Personnel in	
					the Field of Electrical	
					Power	
					Transmission. Jakarta:	
					Energy and Electricity	
					Training	
					Center. Djliteng	
					Marsudi	
					(2002). Electrical	
					Energy Constration	
					Generation. Jakarta:	
					Erlangga Publishers.	
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					System Operations.	
					Jakarta: Graha Ilmu	
					Publishers.	
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					System Analysis, New	
					York: John Wiley & Sons.	
					Hutauruk.	
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					Transmission.	
					Jakarta: Erlangga.	
					Stam HNC 1993. Safety	
					and Health in	
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					Installations 2000. Jakarta:	
					PUIL Foundation.	
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					Stevenson Jr. (1994).	
					Elements of	
					Power Systems	
					Ánalysis Fourth	
					Edition, New	
					York: McGraw-Hill.	
5	determine and	Evaluation	Criteria:	Case	Material:	5%
	study transmission lines for channel	Rubric	Evaluation Rubric	method 2 x 50	learning material 1	
	analysis purposes, explaining general		Form of Assessment :		Bibliography:	

constants of		Participatory		Artono
transmission li	nes	Activities		Arismunandar
				& Sususmu
				Kuwahara. 1975.
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				Electrical
				Power
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				Energy and
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				Publishers.
				Gross, A. Charles.
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				System
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	1	1		York: John
				Wiley & Sons.

					Hutauruk. (1985) Electric Power Transmission. Jakarta: Erlangga. Stam HNC 1993. Safety and Health in the Workplace. Self-Help Spreader: Jakarta. Indonesian National Standards. 2000. General Requirements for Electrical Installations 2000. Jakarta: PUIL Foundation. William D. Stevenson Jr. (1994). Elements of Power Systems Analysis Fourth Edition, New York:	
6	identify current carrying capacity	Evaluation Rubric	Criteria: Evaluation Rubric Form of Assessment : Participatory Activities	Case method 2 x 50	McGraw-Hill. Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	10%
7	identify current carrying capacity	Evaluation Rubric	Criteria: Evaluation Rubric Form of Assessment : Participatory Activities	Case method 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	5%
8	Complete the Midterm Exam	Evaluation Rubric	Criteria: Evaluation Rubric Form of Assessment : Participatory Activities	Written test 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	5%
9	categorize circuit diagrams and power flow in transmission lines	Evaluation Rubric	Criteria: Evaluation Rubric	Case method 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	10%

10	categorize circuit diagrams and power flow in transmission lines	Evaluation Rubric	Criteria: Evaluation Rubric	Case method 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	5%
11	classify the transmission and distribution systems of electric power systems	Evaluation Rubric	Criteria: Evaluation Rubric	Case method 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	5%
12	classify the transmission and distribution systems of electric power systems	Evaluation Rubric	Criteria: Evaluation Rubric	Case method 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	5%
13	explore the latest technological developments in electric power transmission and distribution systems	Evaluation Rubric	Criteria: Evaluation Rubric Form of Assessment : Participatory Activities	contextual instruction 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	5%
14	explore the latest technological developments in electric power transmission and distribution systems	Evaluation Rubric	Criteria: Evaluation Rubric Form of Assessment : Participatory Activities	contextual instruction 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	5%
15	explore the latest technological developments in electric power transmission and distribution systems	Evaluation Rubric	Criteria: Evaluation Rubric Form of Assessment : Participatory Activities	contextual instruction 2 x 50	Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	5%

16	Carry out UAS Meetings 1 to 15	Evaluation Rubric	Criteria: Evaluation Rubric Form of Assessment : Participatory Activities	contextual instruction 2 x 50		Material: meeting materials 6 References: Pansini, Anthony J. (2006). Electrical Distribution Engineering. USA: Taylor & Francis Ltd.	10%
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Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage	
1.	Participatory Activities	90%	
		90%	

Notes

- 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.