	Universitas Negeri Surabaya Vocational Faculty, D4 Electrical Engineering Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
AC Electrical Circuits	99992040102031		T=2	P=0	ECTS=3.18	2	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Mahendra Widyartono, S.T., M.T.

Learning model	**Project Based Learning**
Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**
	Program Objectives (PO)
	PLO-PO Matrix

	P.O

PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Short Course Description	Understanding and studying instantaneous prices, average prices, effective current and voltage prices, AC circuit analysis, power triangle, delta to star transformation, reluctance, polyphase, and transient.
References	**Main :**

1. Budiono Mismail. 1994. Rangkaian Listrik. Malang: UNIPRESS Unibraw.
2. Scaum.1998. Rangkaian Litrik I. Jakarta : Erlangga.
3. Theraja B I. 1979. Electrcal Technology. New Delhi: S Chand & Cendany. Ltd.

	Supporters:
Supporting lecturer	Widi Aribowo, S.T., M.T. Mahendra Widyartono, S.T., M.T.

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	Students can use various circuit analysis methods and can choose the appropriate method in a given situation with phasors. Students can prove various electrical circuit theorems with phasors. Students can convert complex numbers from one form to another or combine them and perform simple AC calculations .	1. Students understand Waveforms, Phasor Concepts, Complex Numbers. 2. Students understand sinusoidal current and voltage, complex impedance, phasor diagrams, complex number admittance.		Presentation, discussion and reflection 2 X 50			0%
2	Students can use various circuit analysis methods and can choose the appropriate method in a given situation with phasors. Students can prove various electrical circuit theorems with phasors. Students can convert complex numbers from one form to another or combine them and perform simple AC calculations .	1. Students understand Waveforms, Phasor Concepts, Complex Numbers. 2. Students understand sinusoidal current and voltage, complex impedance, phasor diagrams, complex number admittance.		Presentation, discussion and reflection 2 X 50			0%
3	Students can use various circuit analysis methods and can choose the appropriate method in a given situation with phasors. Students can prove various electrical circuit theorems with phasors. Students can convert complex numbers from one form to another or combine them and perform simple AC calculations .	1. Students understand Waveforms, Phasor Concepts, Complex Numbers. 2. Students understand sinusoidal current and voltage, complex impedance, phasor diagrams, complex number admittance.		Presentation, discussion and reflection 2 X 50			0%
4	Students can use various circuit analysis methods and can choose the appropriate method in a given situation with phasors. Students can prove various electrical circuit theorems with phasors. Students can convert complex numbers from one form to another or combine them and perform simple AC calculations .	Students understand Average Price, Effective Price.		Presentation, discussion and reflection 2 X 50			0%

5	Students can use various circuit analysis methods and can choose the appropriate method for a given situation. Students can prove various electrical circuit theorems using.	1. Students understand various circuit analysis methods and can choose the appropriate method in a given situation. 2. Students understand various electrical circuit theorems and can choose the appropriate theorem in a given situation.		Presentation, discussion and reflection 2 X 50			0%
6	Students can use various circuit analysis methods and can choose the appropriate method for a given situation. Students can prove various electrical circuit theorems using.	1. Students understand various circuit analysis methods and can choose the appropriate method in a given situation. 2. Students understand various electrical circuit theorems and can choose the appropriate theorem in a given situation.		Presentation, discussion and reflection 2 X 50			0%
7	Students can use various circuit analysis methods and can choose the appropriate method for a given situation. Students can prove various electrical circuit theorems using.	1. Students understand various circuit analysis methods and can choose the appropriate method in a given situation. 2. Students understand various electrical circuit theorems and can choose the appropriate theorem in a given situation.		Discussion 2 X 50			0%
8	Students can do UTS questions correctly.	Students understand UTS questions		2 X 50			0%
9							0%
10							0%

11							0%
12							0%
13							0%
14							0%
15							0%
16							0%

Evaluation Percentage Recap: Project Based Learning

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.