



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

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date		
Electronic Design	8320103147		T=3 P=0 ECTS=4.77	5	July 17, 2024		
AUTHORIZATION	SP Developer		Course Cluster Coordinator		Study Program Coordinator		
		Dr. Nur Kholis, 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					
Short Course Description	Description: Presents material about the design or design of every electronics problem, providing an overview of good design work, starting from problem formulation, analyzing problems, finding solutions, making decisions and good documentation of an electronics project						
	References						
References	Main :						
	1. A.P Malvino 1993, Elektronik prinsiples. singapore : Mcgraw-hillSchults, ME 1994. Electronic Devices.Singapore:Glencoe						
Supporting lecturer	Supporters:						
	Dr. Agus Budi Santoso, M.Pd. Prof. Dr. Bambang Suprianto, M.T. Parama Diptya Widayaka, S.ST., 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	BJT Transistor Amplifier Able to understand the concept and definition of circuits	- Explain the meaning of a 1 level transistor amplifier circuit. . - Explain the meaning and function of class A, B, C and AB amplifiers	Criteria: PAP	Presentation, group discussion and reflection 3 X 50		0%
2	Students are able to design a 1-level transistor amplifier circuit.	- Determine the value of the transistor's supporting components so that it functions as an amplifier - Design the transistor as a 1 level amplifier circuit with the help of an electronics simulation program (Multisim)	Criteria: PAP	Presentation, discussion and practice 3 X 50		0%
3	Students are able to design a 1-level transistor amplifier circuit.	- Determine the value of the transistor's supporting components so that it functions as an amplifier - Design the transistor as a 1 level amplifier circuit with the help of an electronics simulation program (Multisim)	Criteria: PAP	Presentation, discussion and practice 3 X 50		0%
4	Students are able to understand how to measure transistor amplifier circuits to determine whether the circuit works according to specified specifications.	- Explain the working principles of the circuit - Explain the function of each supporting component - Explain circuit testing. - Measuring the quantities needed to know that the circuit is working according to the specified specifications.	Criteria: PAP	Discussions, assignments, exercises, searching for library sources and other references 3 X 50		0%
5	Students are able to understand how to measure transistor amplifier circuits to determine whether the circuit works according to specified specifications.	- Explain the working principles of the circuit - Explain the function of each supporting component - Explain circuit testing. - Measuring the quantities needed to know that the circuit is working according to the specified specifications.	Criteria: PAP	Discussions, assignments, exercises, searching for library sources and other references 3 X 50		0%

6	Students are able to design simple electronic circuits (Multivibrator)	- Explain how the circuit works - Determine the value of the components needed. - Create circuit simulations with the MULTISIM program	Criteria: PAP	Discussion, exercises and assignments 3 X 50		0%
7	Students are able to design simple electronic circuits (Multivibrator)	- Explain how the circuit works - Determine the value of the components needed. - Create circuit simulations with the MULTISIM program	Criteria: PAP	Discussion, exercises and assignments 3 X 50		0%
8	UTS	-	Criteria: PAN	- 3 X 50		0%
9	Students are able to understand amplifier circuits using FETs	- Explain the FET biasing technique - Explain how the FET amplifier circuit works - Explain the testing of the FET amplifier circuit - Create a circuit simulation with the MULTISIM program	Criteria: PAP	Discussion, assignments and exercises 3 X 50		0%
10	Students are able to understand amplifier circuits using FETs	- Explain the FET biasing technique - Explain how the FET amplifier circuit works - Explain the testing of the FET amplifier circuit - Create a circuit simulation with the MULTISIM program	Criteria: PAP	Discussion, assignments and exercises 3 X 50		0%
11	Students are able to understand how to create an audio system by modifying the existing power amplifier circuit.	- Assembling amplifier parts into an audio amplifier circuit. - Carrying out circuit testing. - Designing an Amplifier Box - Assembling the circuit in the box - Calculating the production costs of making an amplifier.	Criteria: PAN	Discussion, assignments and practicum 3 X 50		0%

12	Students are able to understand how to create an audio system by modifying the existing power amplifier circuit.	- Assembling amplifier parts into an audio amplifier circuit. - Carrying out circuit testing. - Designing an Amplifier Box - Assembling the circuit in the box - Calculating the production costs of making an amplifier.	Criteria: PAN	Discussion, assignments and practicum 3 X 50			0%
13	Students are able to understand how to create an audio system by modifying the existing power amplifier circuit.	- Assembling amplifier parts into an audio amplifier circuit. - Carrying out circuit testing. - Designing an Amplifier Box - Assembling the circuit in the box - Calculating the production costs of making an amplifier.	Criteria: PAN	Discussion, assignments and practicum 3 X 50			0%
14	Students are able to understand how to create an audio system by modifying the existing power amplifier circuit.	- Assembling amplifier parts into an audio amplifier circuit. - Carrying out circuit testing. - Designing an Amplifier Box - Assembling the circuit in the box - Calculating the production costs of making an amplifier.	Criteria: PAN	Discussion, assignments and practicum 3 X 50			0%
15	Students are able to understand how to create an audio system by modifying the existing power amplifier circuit.	- Assembling amplifier parts into an audio amplifier circuit. - Carrying out circuit testing. - Designing an Amplifier Box - Assembling the circuit in the box - Calculating the production costs of making an amplifier.	Criteria: PAN	Discussion, assignments and practicum 3 X 50			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** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities 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.