	Universitas Negeri Surabaya Faculty of Engineering, Mechanical Engineering Education Undergraduate Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Electronics Technology	8320302185		T=2	P=0	ECTS=3.18	0	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Ir. Wahyu Dwi Kurniawan, S.Pd., M.Pd.

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
	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	The application of electronics in the household includes audio, video and control in household equipment. The application of electronics in industry includes control in industry and the application of electronics in the Learning Laboratory is carried out using discussion methods and carrying out activities in the laboratory (the process of collecting data, reporting and presenting the results of laboratory activities)
References	**Main :**
	1. Vidyasagar, Dattaraj. 2000. Applied Electronics Textbook. R. A. Witte. 2003. Electronic Test Instruments: Analog and Digital Measurements, 2nd ed. Pearson Education, Delhi. S. Franco. 2003. Design with Operational Amplifiers and Analog Integrated Circuits. Tata Mc-Graw Hill, New Delhi. J. J. Carr. 2003. Elements of Electronic Instrumentation and Measurements , 3rd ed. Pearson Education, Delhi,
	Supporters:
Supporting lecturer	Dr. Aris Ansori, S.Pd., M.T. Heru Arizal, S.Pd., M.M., 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	Understand electronics concepts and be able to apply these concepts in everyday life	1. Explain the basic concepts of AC and DC electricity 2. Explain passive components in electronics 3. Explain active components in electronics 4. Discuss the working principles of electrical equipment in the household. (includes audio, video, AC, washing machine	**Form of Assessment** : Participatory Activities	Discussion of Problem Solving 2 X 50			2%
2	Understand electronics concepts and be able to apply these concepts in everyday life	1. Explain the basic concepts of AC and DC electricity 2. Explain passive components in electronics 3. Explain active components in electronics 4. Discuss the working principles of electrical equipment in the household. (includes audio, video, AC, washing machine	**Form of Assessment** : Participatory Activities	Discussion of Problem Solving 2 X 50			2%
3	Understand electronics concepts and be able to apply these concepts in everyday life	1. Explain the basic concepts of AC and DC electricity 2. Explain passive components in electronics 3. Explain active components in electronics 4. Discuss the working principles of electrical equipment in the household. (includes audio, video, AC, washing machine	**Form of Assessment** : Participatory Activities	Discussion of Problem Solving 2 X 50			0%
4	Modifying and assembling audio amplifiers	· Modifying the audio circuit to make it better · Assembling electronic components into an audio amplifier0	**Form of Assessment** : Participatory Activities	Discussion of Problem Solving Practice 2 X 50			0%

5	Modifying and assembling audio amplifiers	· Modifying the audio circuit to make it better · Assembling electronic components into an audio amplifier0	**Form of Assessment** : Participatory Activities	Discussion of Problem Solving Practice 2 X 50			2%
6	1. Design a simple electronic circuit with a transistor amplifier 2. Determine the electronic component specifications required for the electronic circuit	1. can make simple electronic circuits with transistor amplifiers 2. can determine the specifications of the electronic components needed	**Criteria:** 1. can determine the specifications of the electronic components needed correctly 2. can make simple electronic circuits with transistor amplifiers correctly **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion of Problem Solving Practice 2 X 50			10%
7	1. Design a simple electronic circuit with a transistor amplifier 2. Determine the electronic component specifications required for the electronic circuit	1. can make simple electronic circuits with transistor amplifiers 2. can determine the specifications of the electronic components needed	**Criteria:** 1. can determine the specifications of the electronic components needed correctly 2. can make simple electronic circuits with transistor amplifiers correctly **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion of Problem Solving Practice 2 X 50			5%
8	UTS		**Form of Assessment** : Project Results Assessment / Product Assessment	2 X 50			15%
9	Understand electronics concepts and be able to apply these concepts in laboratory and industrial equipment	Discuss the working principles of electronic equipment in laboratory equipment. Discuss the working principles of electronic equipment in industry	**Form of Assessment** : Practice / Performance	Discussion of Problem Solving 2 X 50			5%
10	Understand electronics concepts and be able to apply these concepts in laboratory and industrial equipment	Discuss the working principles of electronic equipment in laboratory equipment. Discuss the working principles of electronic equipment in industry	**Form of Assessment** : Practice / Performance	Discussion of Problem Solving 2 X 50			5%
11	Understand electronics concepts and be able to apply these concepts in laboratory and industrial equipment	Discuss the working principles of electronic equipment in laboratory equipment. Discuss the working principles of electronic equipment in industry	**Form of Assessment** : Practice / Performance	Discussion of Problem Solving 2 X 50			5%

12	Understand laboratory equipment repair troubleshooting techniques	Discuss technical methods for troubleshooting laboratory equipment repairs	**Form of Assessment** : Participatory Activities	Discussion of Problem Solving Practice 2 X 50			4%
13	Understand laboratory equipment repair troubleshooting techniques	Discuss technical methods for troubleshooting laboratory equipment repairs	**Form of Assessment** : Project Results Assessment / Product Assessment	Discussion of Problem Solving Practice 2 X 50			5%
14	Understand laboratory equipment repair troubleshooting techniques	Discuss technical methods for troubleshooting laboratory equipment repairs	**Form of Assessment** : Project Results Assessment / Product Assessment	Discussion of Problem Solving Practice 2 X 50			5%
15	Understand laboratory equipment repair troubleshooting techniques	Discuss technical methods for troubleshooting laboratory equipment repairs	**Form of Assessment** : Test	Discussion of Problem Solving Practice 2 X 50			10%
16			**Form of Assessment** : Project Results Assessment / Product Assessment				25%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	10%
2.	Project Results Assessment / Product Assessment	65%
3.	Practice / Performance	15%
4.	Test	10%
		100%

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.