

Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences Physics Education Undergraduate Study Program

Document Code

SEMESTER LEARNING PLAN

Courses		CODE		Course Fa	amily		Cree	dit Wei	ight	SEMESTER	Compilation Date		
Eldas II F	Pract	icum		8420301242		Compulsor Program S			T=0	P=1	ECTS=1.59	4	January 31, 2024
AUTHOR	RIZAT	ION		SP Develope	er			Cour	se Cl	uster (Coordinator	Study Program	n Coordinator
							Drs. Imam Sucahyo, M.Si.			yo, M.Si.	Mita Anggaryani, M.Pd., Ph.D.		
Learning model	I	Case Studies		ł									
Program		PLO study prog	gram t	hat is charge	ed to the cou	irse							
Learning Outcom		Program Objec	tives (PO)									
(PLO)		PLO-PO Matrix											
	P.0												
		PO Matrix at th	e end	of each learr	ning stage (S	Sub-PO)							
			Р	0				Week					
				1 2	3 4	5 6	7	8	9	10	11 12	13 14	15 16
				II	II	II	I					1 1 1	
Short Course Descript	tion	Basic Electronics JFET amplifier, e Electronic Circuits	. Opera										
Referen	ces	Main :											
1. Tim Elektronika 2. Sutrisno. 1978. 3. Tooley, M. 200 4. Boylestad, R., 5. Floyd, T. L. 202		1978. И. 2006 d, R., а	Elektronika 2. . Electronics C nd Nashelsky,	Teori dan Pen Circuit: Fundan L. Electronics	erapannya. nentals and Devices an	Penerb Applica	it ITB itions.	Band Third	lung Editio	n. Elsevier Lt			
		Supporters:											
Supporting lecturer Abd. Kholiq, S.Pd., M.T. Meta Yantidewi, S.Si., M			И.Т. I., М.Т.										
				Evaluation				Help Learning, Learning methods, Student Assignments, [Estimated time]			ods, nents,		Assessment Weight (%)
	(Su	b-PO)	h	ndicator	Criteria a	& Form	Offli offli		C	Online	(online)	[References]	
(1)		(2)		(3)	(4))	(5	5)		(6)	(7)	(8)

1	Able to analyze measurement data during the Grounded Emitter Amplifier practicum	 Students can use multimeter, oscilloscope and AFG measuring instruments correctly Students can find experimental data on the emitter amplifier being grounded correctly Students can analyze experimental data on properly grounded emitter amplifiers 	 Criteria: Students are able to use multimeter, oscilloscope and AFG measuring instruments correctly. Students are able to find experimental data on the emitter amplifier being grounded correctly. Students are able to analyze experimental data on grounded emitter amplifiers correctly. Form of Assessment : Participatory Activities 		Online (120 minutes)	Material: Earthed emitter amplifier Reference: Sutrisno. 1978. Electronics 2. Theory and Application. ITB Bandung Publisher Material: Earthed emitter amplifier References: Boylestad, R., and Nashelsky, L. Electronics Devices and Circuits: Theory. Seventh Edition. Prentice Hall.	4%
2	Able to analyze measurement data during the Grounded Emitter Amplifier practicum	 Students can use multimeter, oscilloscope and AFG measuring instruments correctly Students can find experimental data on the emitter amplifier being grounded correctly Students can analyze experimental data on properly grounded emitter amplifiers 	 Criteria: Students are able to use multimeter, oscilloscope and AFG measuring instruments correctly. Students are able to find experimental data on the emitter amplifier being grounded correctly. Students are able to analyze experimental data on grounded emitter amplifiers correctly. Form of Assessment : Practical Assessment, Practice/Performance 	Practicum in basic electronics laboratory in groups. (120 minutes)		Material: Earthed emitter amplifier Reference: Sutrisno. 1978. Electronics 2. Theory and Application. ITB Bandung Publisher Material: Earthed emitter amplifier References: Boylestad, R., and Nashelsky, L. Electronics Devices and Circuits: Theory. Seventh Edition. Prentice Hall.	6%

			1			
3	Able to analyze	1.Students can	Criteria:	Practicum	Material:	5%
	measurement data	use	1.Students are able	in basic	Groundee	
	during the			electronics	emitter (C	
	Grounded Emitter	multimeter,	to use multimeter,	laboratory	amplifier	(_)
	Amplifier practicum	oscilloscope	oscilloscope and	in groups.	circuit wit	h
	with feedback	and AFG	AFG measuring	(120	feedback	
		measuring	instruments		Reader	
		instruments	correctly.	minutes)		
		correctly.	2.Students are able		: Sutrisno	
		2.Students can	to find		1978.	
			experimental data		Electronic	
		find			Theory a	nd
		experimental	on grounded		Application	n.
		data on	emitter amplifiers		ITB Band	ung
		grounded	with correct		Publisher	
		emitter	feedback.			
		amplifiers with	3.Students are able		Material:	
		correct	to analyze		Groundee	
		feedback.	experimental data			
					emitter (C	·=)
		3.Students can	on grounded		amplifier	L .
		analyze	emitter amplifiers		circuit wit	
		experimental	with feedback		feedback	
		data on a	correctly.		Reference	
		grounded	-		Tooley, N	1.
		emitter	Form of Assessment :		2006.	
		amplifier with	Practice / Performance		Electronic	s
					Circuit:	
		feedback			Fundame	ntals
		correctly.			and	
					Applicatio	ns
					Third Edi	
					Elsevier l	
					Lisevier	
					<u></u>	
					Material:	
					Groundee	ł
					emitter (C	E)
					amplifier	,
					circuit wit	h
					feedback	
					Reference	
					Boylestad	
					and	, , , ,
						V 1
			1		Nashelsk Electronic	
			1			
			1		Devices a	แน
			1		Circuits:	
			1		Theory.	
					Seventh	
					Edition.	
			1		Prentice	Hall.
			1			
			1		Material:	
			1		Groundee	
			1			
			1		emitter (C	· =)
			1		amplifier	
			1		circuit wit	
			1		feedback	
			1		Referenc	es
			1		: Floyd, 7	Ľ
			1		2012.	
						s
					Electronic	s

4	Able to analyze	1 Churchensterne	Critoria	Online	Matorial	5 04
4	measurement data	1.Students can	Criteria:	(120 minutes)	Material: Grounded	5%
	during the	use	1.Students are able	(IZO Minutes)	emitter (CE)	
	Grounded Emitter	multimeter,	to use multimeter,		amplifier	
	Amplifier practicum	oscilloscope	oscilloscope and		circuit with	
	with feedback	and AFG	AFG measuring		feedback	
		measuring	instruments			
		instruments	correctly.		Reader	
		correctly.	2.Students are able		: Sutrisno.	
		2.Students can	to find		1978.	
		find	experimental data		Electronics 2.	
			on grounded		Theory and	
		experimental	0		Application.	
		data on	emitter amplifiers		ITB Bandung	
		grounded	with correct		Publisher	
		emitter	feedback.		p	
		amplifiers with	3.Students are able		Material:	
		correct	to analyze		Grounded	
		feedback.	experimental data		emitter (CE)	
		3.Students can	on grounded		amplifier	
		analyze	emitter amplifiers		circuit with	
		experimental	with feedback		feedback	
		data on a	correctly.		References:	
			conecuy.		Tooley, M.	
		grounded	Form of Assessment :		2006.	
		emitter	Practical Assessment		Electronics	
		amplifier with			Circuit:	
		feedback			Fundamentals	
		correctly.			and	
		-			Applications.	
					Third Edition.	
					Elsevier Ltd.	
					Elsevier Llu.	
					p	
					Material:	
					Grounded	
					emitter (CE)	
					amplifier	
					circuit with	
					feedback	
					References:	
					Boylestad, R.,	
					and	
					Nashelsky, L.	
					Electronics	
					Devices and	
					Circuits:	
					Theory.	
					Seventh	
					Edition.	
					Prentice Hall.	
					Frenuce Hall.	
					Material:	
					Grounded	
					emitter (CE)	
					amplifier	
					circuit with	
					feedback	
					References	
					: Floyd, TL	
					2012.	
					Electronics	
					Devices.	
			1	1	DEVICES.	
					Prentice Hall	

				1 I	- I I	
5	Able to analyze measurement data during JFET Characteristics practicum.	 Students can use multimeter, oscilloscope and AFG measuring instruments correctly. Students can find experimental data on JFET characteristics correctly. Students can analyze experimental data on JFET characteristics correctly. 	Criteria: 1.Students are able to use multimeter, oscilloscope and AFG measuring instruments correctly. 2.Students are able to find experimental data on JFET characteristics correctly. 3.Students are able to analyze experimental data on JEET characteristics correctly. Form of Assessment : Practice / Performance	Practicum in basic electronics laboratory in groups. (120 minutes)	Material: JFET Characteristics Reader: Sutrisno. 1978. Electronics 2. Theory and Application. ITB Bandung Publisher Material: JFET Characteristics References: Tooley, M. 2006. Electronics Circuits: Fundamentals and Applications. Third Edition. Elsevier Ltd. Material: JFET Characteristics References: Boylestad, R., and Nashelsky, L. Electronics Devices and Circuits: Theory. Seventh Edition. Prentice Hall. Material: JFET Characteristics References: Boylestad, R., and Nashelsky, L. Electronics Devices and Circuits: Theory. Seventh Edition. Prentice Hall. Material: JFET Characteristics References: Floyd, TL 2012. Electronics Devices. Prentice Hall	5%

6	Able to analyze	1.Students can	Criteria:		Online	Material:	5%
	measurement data during JFET Characteristics practicum.	 I.Students can use multimeter, oscilloscope and AFG measuring instruments correctly. 2.Students can find experimental data on JFET characteristics correctly. 3.Students can analyze experimental data on JFET characteristics correctly. 	 1.Students are able to use multimeter, oscilloscope and AFG measuring instruments correctly. 2.Students are able to find experimental data on JFET characteristics correctly. 3.Students are able to analyze experimental data on JFET characteristics correctly. Form of Assessment : Practical Assessment 		(120 minutes)	JFET Characteristics Reader: Sutrisno. 1978. Electronics 2. Theory and Application. ITB Bandung Publisher Material: JFET Characteristics References: Tooley, M. 2006. Electronics Circuits: Fundamentals and Applications. Third Edition. Elsevier Ltd. Material: JFET Characteristics References: Boylestad, R., and Nashelsky, L. Electronics Devices and Circuits: Theory. Seventh Edition. Prentice Hall. Material: JFET Characteristics Reference: Boylestad, R., and Nashelsky, L. Electronics Devices and Circuits: Theory. Seventh Edition. Prentice Hall. Material: JFET Characteristics Reference: Floyd, TL 2012. Electronics Devices. Prentice Hall	
7	Able to analyze measurement data during JFET Amplifier practicum.	 Students can use multimeter, oscilloscope and AFG measuring instruments correctly. Students can find the experimental data for the JFET amplifier correctly. Students can analyze JFET amplifier experimental data correctly. 	Criteria: 1.Students are able to use multimeter, oscilloscope and AFG measuring instruments correctly. 2.Students are able to find the JFET amplifier experimental data correctly. 3.Students are able to analyze JFET amplifier experimental data correctly. Form of Assessment : Practical Assessment, Practice/Performance	Practicum in basic electronics laboratory in groups. (120 minutes)			6%
8	Midterm Exam/Midterm Evaluation	Students present data from the practicum results that have been carried out in the form of a practicum report (lab report).	Criteria: Students are able to present data from practicum results that have been carried out in the form of a practicum report (lab report). Form of Assessment : Portfolio Assessment, Practical Assessment		Online (120 minutes)		8%

9	Able to analyze measurement data during inverting Operational Amplifier (OP-Amp) practicum.	 Students can use multimeter, oscilloscope and AFG measuring instruments correctly. Students can find inverting Operational Amplifier (OP- Amp) experimental data correctly. Students can analyze inverting and non-inverting Operational Amplifier (OP- Amp) experimental data correctly. 	Criteria: 1.Students are able to use multimeter, oscilloscope and AFG measuring instruments correctly. 2.Students are able to find inverting Operational Amplifier (OP- Amp) experimental data correctly. 3.Students are able to analyze inverting and non- inverting Operational Amplifier (OP- Amp) experimental data correctly Form of Assessment : Practice / Performance	Practice	Material: Inverting and non-inverting Operational Amplifiers (OP-Amp). Reader: Sutrisno. 1978. Electronics 2. Theory and Application. ITB Bandung Publisher Material: Inverting and non-inverting Operational Amplifiers (OP-Amp). References: Tooley, M. 2006. Electronics Circuits: Fundamentals and Applications. Third Edition. Elsevier Ltd. Material: Inverting and non-inverting Operational Amplifiers (OP-Amp). References: Fundamentals and Applications. Third Edition. Elsevier Ltd. Material: Inverting and non-inverting Operational Amplifiers (OP-Amp). References: Basic Electronics Team. 2010. Basic Electronics Practical Guide 2. Surabaya: JDS	5%
10						0%
11						0%
12						0%
13						0%
14						0%
15						0%
16						0%

Evaluation Percentage Recap: Case Study

Evaluation refeemage Recap. Case Stu							
No	Evaluation	Percentage					
1.	Participatory Activities	4%					
2.	Portfolio Assessment	4%					
3.	Practical Assessment	20%					
4.	Practice / Performance	21%					
		49%					

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.
- 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.