

Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences Bachelor of Science Education Study Program

Document Code

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				SEME	STER	LEAR	NING	PLAN	I		
Courses				CODE		Course I	amily	Credit W	/eight	SEMESTER	Compilation Date
Innovativ	ve Le	arning I		8420103107				T=3 P=	0 ECTS=4.77	4	July 18, 2024
AUTHOR	RIZAT	TION		SP Developer			Cou	Course Cluster Coordinator			am
									Prof. Dr. E	rman, M.Pd.	
Learning model	J	Project Based L	earning	J			•			•	
Program		PLO study prog	gram tl	nat is charge	ed to the cou	rse					
Learning Outcom		Program Objectives (PO)									
(PLO)		PLO-PO Matrix									
		P.O									
		PO Matrix at th	e end o	of each learr	ning stage (S	ub-PO)					
			P.	0			,	Week			
				1 2	3 4	5 6	7 8	9 10	11 12	13 14	15 16
Short Course Descript	tion	This course discu concept attainme Neuroscience an presentation of o by students orien particular learning	ent mode d learning peration nted tow	els, and discusing strategies a nal examples d ards each lea	ssion models o are also studie of each learnin rning model ar	of learning. d in this co g model in nd strategy	Apart from ourse. The a the form of The asses	that, STEN ssessment learning to sment acti	 STEAM, SET is carried out the carried out the color of the carried out the carrie	S, Digital, Bler hrough concep on developing n exercise in ii	nded Learning, t explanations, l learning tools
Referen	ces	Main :									
	 Arends, Richard I. 2012. Learning To Teach sixth Edition. New York: McGraw-Hill Book Company. Ibrahim, Muslimin. 2012. Konsep, Miskonsepsi, dan Cara Pembelajarannya. Surabaya: University Press Nur, Mohamad. 2000. Strategi-strategi Belajar. Surabaya: Pusat Sains dan Matematika Sekolah. Nur, Mohamad, Kardi Soeparman. 2000. Pembelajaran Langsung. Surabaya: Pusat Sains dan Matematika Sekolah. 						a Sekolah.				
		Supporters:									
			•								
Support lecturer		Prof. Dr. Erman, Dr. Dyah Astriani Tutut Nurita, S.Po Laily Rosdiana, S Enny Susiyawati, Dhita Ayu Perma	, S.Pd., d., M.Po S.Pd., M S.Si., N	l. .Pd. //.Sc., M.Pd., I	Ph.D.						
Week-	eac	al abilities of h learning ge b-PO)			luation	_	Help Learning, Learning methods, Student Assignments, [Estimated time]		thods, nments, time]	Learning materials [References	Assessment Weight (%)
	(Su	D-FO)	lr	ndicator	Criteria &	Form	Offline (offline)	Onlin	e (online)]	
(1)		(2)		(3)	(4)		(5)		(6)	(7)	(8)

			ı		1	1
1	Utilize learning resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group I. Create learning tools according to science learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning I group	1.Explain the characteristics of the presentation learning model 2.Explain the stages of the presentation learning model 3.Provide an example of implementing the presentation learning model in the classroom	Criteria: Written test related to knowledge of the presentation learning model with assessment using scoring guidelines based on weighting.	Student-centered learning approach (student-centered learning). Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, and device making exercises. 3 X 50		0%
2	Utilize learning resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group I. Create learning tools according to science learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning is in accordance with the learning models included in the Innovative Learning I group	1.Explain the characteristics of meaningful learning models 2.Explain the stages of a meaningful learning model 3.Provide examples of implementing meaningful learning carning models in the classroom	Criteria: Written test related to knowledge of meaningful learning models with assessment using scoring guidelines based on weighting.	Student-centered learning approach (student-centered learning). Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, and device making exercises. 3 X 50		0%
3	Utilize learning resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group. Create learning tools according to science learning models included in the Innovative Learning group. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning tools accordance with the learning models included in the Innovative Learning I group	1.Explain the characteristics of the direct learning model 2.Explain the stages of the direct learning model 3.Provide examples of the application of direct learning models in the classroom	Criteria: Written test related to knowledge of the direct learning model with assessment using scoring guidelines based on weighting.	Student-centered learning approach (student-centered learning). Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, and device making exercises. 3 X 50		0%

4	Utilize learning resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group I. Create learning tools according to science learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning is in accordance with the learning models included in the Innovative Learning I group	1.Explain the characteristics of the concept acquisition learning model 2.Explain the stages of the concept acquisition learning model 3.Provide examples of the application of concept acquisition learning model in the application of concept acquisition learning models in the classroom	Criteria: Written test related to knowledge regarding concept acquisition learning models with assessment using scoring guidelines based on weighting.	Student-centered learning approach (student-centered learning). Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, and device making exercises. 3 X 50		0%
5	Utilizing learning resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency Having knowledge of the characteristics of science learning models included in the Innovative Learning group I Creating learning tools according to the science learning models included in the Innovative Learning group I Carrying out science learning models included in the Innovative Learning models in accordance with the learning models in accordance with the learning models in the Innovative Learning I group	1.Explain the characteristics of the discussion learning model 2.Explain the stages of the discussion learning model 3.Provide examples of the application of the discussion learning model in the classroom	Criteria: Written test related to knowledge of the discussion learning model with assessment using scoring guidelines based on weighting.	Student-centered learning approach (student-centered learning). Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, and device making exercises. 3 X 50		0%
6	Utilize learning resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group I. Create learning tools according to science learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning I group	1.Explain the characteristics of STEM, STEAM, and SETS-oriented learning 2.Explains the stages of STEM, STEAM, and SETS oriented learning 3.Provide examples of the application of STEM, STEAM, and SETS-oriented learning in the classroom	Criteria: Written test related to knowledge regarding STEM, STEAM, and SETS oriented learning with assessment using scoring guidelines based on weighting.	Student-centered learning approach (student-centered learning). Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, and device making exercises. 3 X 50		0%

7	Utilize learning resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group I. Create learning tools according to science learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning I group	1.Explaining the characteristics of digital-oriented learning, blended learning and neuroscience 2.Explains the stages of Digital, Blended Learning and Neuroscience oriented learning 3.Provide examples of the application of Digital-oriented learning, Blended Learning and Neuroscience in the classroom	Criteria: Written test related to knowledge regarding Digital-oriented learning, Blended Learning and Neuroscience with assessment using scoring guidelines based on weighting.	Student-centered learning approach (student-centered learning). Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, and device making exercises. 3 X 50		0%
8	Utilize learning resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group I. Create learning tools according to science learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning I group	1.Explain the characteristics and application of the presentation learning model 2.Explain the characteristics and application of meaningful learning models 3.Explain the characteristics and application of the direct learning model 4.Explain the characteristics and application of the concept acquisition learning model 5.Explain the characteristics and application of the concept acquisition learning model 6.Explain the characteristics and application of the discussion learning model 6.Explain the characteristics and application of STEM-oriented learning. STEAM, and SETS 7.Explains the characteristics and application of Digital-oriented learning. Blended Learning and Neuroscience	Criteria: Written test related to knowledge of learning models within the scope of Innovative Learning 1 with assessment using scoring guidelines based on weighting.	student-centered learning (student-centered learning) (student-centered learning) 2 X 50		0%

9 Utilize learni resources ar to support the design and implementat innovative so learning that relevant to achieving structure competency knowledge of characteristic science learn models incluent the Innovative Learning ground competency competency knowledge of characteristic science learn models incluent the Innovative Learning ground carry out modeling. So learning is in accordance the learning included in the Innovative Learning included in the Innovativ	various learning strategies 2.Explain the characteristics of each learning strategy 3.Provide examples of implementing learning strategy 3.Provide examples of implementing learning strategies in the classroom the classroom	Criteria: Written test related to knowledge of learning strategies with assessment using scoring guidelines based on weighting.	Student-centered learning approach. Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, analyzing tools. 3 X 50			0%
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Utilize learning resources and ICT to support the design and implementation of immovative science learning that is achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in the Innovative Learning is in the Innovative Learning is in the Innovative Learning in I group 1. Enthic component is of good with converting the tool is science learning models included in the Innovative Learning is in the Innovative Learning is in the Innovative Learning in I group 1. Earning with the tool is assessment instruments. 3. Score 3: The tool confirms to the format, each component is written correctly, the tool is developed according to SK, KD, indicators and objectives, the tool contains learning activities that match the syntax, develops appropriate assessment instruments. 3. Score 3: The tool confirms to the format, each component is written correctly, the tool is developed according to the format, each component is written correctly, the tool is developed according to the format, each component is written correctly, the tool is developed according to the format, each component is written correctly, the tool is developed according to the format, each component is written correctly, the tool is developed according to the format, each component is written correctly, the tool is developed according to the format, each component is written correctly, the tool is developed according to the format, each component is written correctly, the tool is developed according to the format, each component is written correctly, the tool was developed not according to the format, each component is written correctly, the tool was developed not according to the format, each component is written correctly, the tool was developed not according to the format, each component is written correctly, the tool was developed not according to the format, each component is according to the format, each component is written correctly		 		T	T	T	ı	
SK, KD, indicators and objectives, the tool contained learning activities that matched the syntax, the appropriate assessment instrument was not developed. 5.Score 1: The	10	resources and ICT to support the design and implementation of innovative science learning that is relevant to achieving student competency. Have knowledge of the characteristics of science learning models included in the Innovative Learning group I. Create learning tools according to science learning models included in the Innovative Learning group I. Carry out modeling. Science learning is in accordance with the learning models included in the Innovative Learning is in accordance with the learning models included in the Innovative Learning	components of learning tools 2.Explain the characteristics of good learning tools 3.Develop good learning tools using appropriate learning models, approaches	1.Rubric 2.Score 4: The tool conforms to the format, each component is written correctly, the tool is developed according to SK, KD, appropriate indicators and objectives, the tool contains learning activities that match the syntax, develops appropriate assessment instruments. 3.Score 3: The tool conforms to the format, each component is written correctly, the tool is developed according to the SK, KD, indicators and objectives, the tool contains learning activities that match the syntax, develops appropriate assessment instruments. 4.Score 2: The tool conforms to the format, each component is written correctly, the tool was developed not according to the SK, KD, indicators and objectives, the tool was developed not according to the SK, KD, indicators and objectives, the tool contained learning activities that matched the syntax, the appropriate assessment instrument was not developed.	centered learning approach. Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, analyzing tools.			0%

11	Make decisions in	1.Analyze	Criteria:	Student-			0%
	designing and	appropriate	1.Rubric	centered			
	implementing	material for	2.Score 4: The tool	learning			
	innovative science learning that is	one learning	conforms to the	approach.			
	relevant to	model	format, each	Deductive			
	competencies,	2.Develop	component is	learning			
	subject matter		•	method.			
	characteristics and	learning tools	written correctly,	Learning			
	student	that are	the tool is	strategy in			
	characteristics in a	appropriate to	developed	the form			
	peer teaching format. Have a	the specified	according to SK,	of			
	responsible attitude	learning	KD, appropriate	literature			
	by implementing	materials and	indicators and	searches,			
	learning that is	models	objectives, the	discussion			
	relevant to		tool contains	of learning			
	students'		learning activities	results,			
	competencies and characteristics.		that match the	analyzing			
	Create learning		syntax, develops	tools.			
	tools according to		appropriate	3 X 50			
	the science		assessment				
	learning models		instruments.				
	included in the		3.Score 3: The tool				
	group. Innovative Learning 1		conforms to the				
	Modeling science		format, each				
	learning in		component is				
	accordance with		· ·				
	the learning models		written correctly,				
	included in the		the tool is				
	Innovative Learning I group		developed				
	1 group		according to the				
			SK, KD,				
			indicators and				
			objectives, the				
			tool contains				
			learning activities				
			that match the				
			syntax, develops				
			appropriate				
			assessment				
			instruments.				
			4.Score 2: The tool				
			conforms to the				
			format, each				
			component is				
			written correctly,				
			the tool was				
			developed not				
			·				
			according to the				
			SK, KD,				
			indicators and				
			objectives, the				
			tool contained				
			learning activities				
			that matched the				
			syntax, the				
			appropriate				
			assessment				
			instrument was				
			not developed.				
			5.Score 1: The				
			device is written,				
			but does not				
			match the format				
	1		i	ĺ	i	1	

12	Make decisions in	1.Analyze	Criteria:	Student-		0%
	designing and	appropriate	1.Score	centered		
	implementing		2.Rubric	learning		
	innovative science	material for		approach.		
	learning that is	one learning	3.4	Deductive		
	relevant to	model	4.The device is in			
	competencies,	2.Develop	accordance with	learning		
	subject matter	learning tools	the format, each	method.		
	characteristics and	that are	component is	Learning		
	student			strategy in		
	characteristics in a	appropriate to	written correctly,	the form		
	peer teaching format. Have a	the specified	the device is	of		
	responsible attitude	learning	developed	literature		
	by implementing	materials and	according to the	searches,		
	learning that is	models	SK, KD,	discussion		
	relevant to	models	appropriate	of learning		
	students'					
	competencies and		indicators and	results,		
	characteristics.		objectives, the	analyzing		
	Create learning		device contains	tools.		
	tools according to		learning activities	3 X 50		
	the science		that match the			
	learning models		syntax, develops			
	included in the					
	group. Innovative		appropriate			
	Learning I		assessment			
	Modeling science		instruments.			
	learning in		5.3			
	accordance with the learning models		6.The tools are in			
	included in the		accordance with			
	Included in the Innovative Learning					
	I group		the format, each			
	i group		component is			
			written correctly,			
			the tools are			
			developed			
			•			
			according to the			
			SK, KD,			
			appropriate			
			indicators and			
			objectives, the			
			tools contain			
			learning activities			
			_			
			that match the			
			syntax, develop			
			appropriate			
			assessment			
			instruments.			
			7.2			
			8.The device			
			conforms to the			
			format, each			
			component is			
			written correctly,			
			the device is			
			developed not			
			according to the			
			SK, KD,			
			indicators and			
			objectives, the			
			device contains			
			learning activities			
			that match the			
			syntax, the			
			appropriate			
			assessment			
			instrument is not			
			developed.			
			9.1			
			10.The device is			
			written, but does			
			not match the			
			i normatch the	I	I	
			format			

13	Make decisions in	1.Analyze	Criteria:	Student-			0%
	designing and	appropriate	1.Score	centered			
	implementing		2.Rubric	learning			
	innovative science	material for		approach.			
	learning that is	one learning	3.4	Deductive			
	relevant to	model	The device is in				
	competencies,	2.Develop	accordance with	learning			
	subject matter	learning tools	the format, each	method.			
	characteristics and	that are	component is	Learning			
	student			strategy in			
	characteristics in a	appropriate to	written correctly,	the form			
	peer teaching format. Have a	the specified	the device is	of			
	responsible attitude	learning	developed	literature			
	by implementing	materials and	according to the	searches,			
	learning that is	models	SK, KD,	discussion			
	relevant to	models	appropriate	of learning			
	students'						
	competencies and		indicators and	results,			
	characteristics.		objectives, the	analyzing			
	Create learning		device contains	tools.			
	tools according to		learning activities	3 X 50			
	the science		that match the				
	learning models		syntax, develops				
	included in the		-			[
	group. Innovative		appropriate				
	Learning I		assessment			[
	Modeling science		instruments.				
	learning in		5.3				
	accordance with the learning models		6.The tools are in				
	included in the		accordance with				
	Innovative Learning						
	I group		the format, each				
	, group		component is			[
			written correctly,				
			the tools are				
			developed				
			according to the				
			SK, KD,				
			appropriate				
			indicators and				
			objectives, the				
			tools contain				
			learning activities				
			_				
			that match the				
			syntax, develop				
			appropriate				
			assessment				
			instruments.			[
			7.2			[
			8.The device				
			conforms to the				
			format, each			[
			component is			[
			written correctly,				
			the device is				
			developed not				
			according to the				
			SK, KD,				
			indicators and			[
			objectives, the				
			device contains				
			learning activities				
			•			[
			that match the			[
			syntax, the				
			appropriate			[
			assessment			[
			instrument is not				
						[
			developed.				
			9.1				
			10.The device is			[
			written, but does				
	1		· ·		1		
	1		not match the				
			not match the format				

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14	Make decisions in	1.Planning a	Criteria:	Student-			0%
	designing and implementing	learning	1.Score	centered			
	innovative science	simulation	2.Rubric	learning			
	learning that is	with a	3.4	approach.			
	relevant to	predetermined	Peer teaching is	Deductive			
	competencies,	learning	carried out	learning			
	subject matter characteristics and	model	coherently with	method. Learning			
	student	Carrying out	appropriate	strategy in			
	characteristics in a	learning	intonation and	the form			
	peer teaching	simulations	emphasis, with	of			
	format. Have a responsible attitude	(peer	the help of ppt	literature			
	by implementing	teaching) with	media according	searches,			
	learning that is	predetermined	to media criteria,	discussion			
	relevant to students'	learning	tools that are	of learning			
	competencies and	models	arranged	results,			
	characteristics.		correctly,	analyzing			
	Create learning		formulating	tools. 3 X 50			
	tools according to the science		suggestions for	3 X 30			
	learning models		improvement 5.3				
	included in the		6.Peer teaching is				
	group. Innovative		carried out in a				
	Learning I Modeling science		carried out in a coherent manner				
	learning in		without				
	accordance with		appropriate				
	the learning models included in the		intonation and				
	Innovative Learning		emphasis, with				
	I group		the help of ppt				
			media according				
			to media criteria,				
			correctly				
			arranged tools,				
			formulating				
			suggestions for				
			improvement				
			7.2				
			Peer teaching is				
			carried out less				
			coherently with				
			inappropriate				
			intonation and				
			emphasis, with				
			the help of ppt				
			media according				
			to media criteria,				
			tools arranged				
			correctly, formulating				
			suggestions for				
			improvement				
			9.1				
			10.Peer teaching				
			was carried out,				
			but was not				
			coherent and/or				
			did not				
			emphasize				
			important				
			aspects of the				
			device, was not				
			assisted by ppt				
			media, the				
			device was				
			arranged				
			incorrectly,				
			unable to				
			formulate				
			suggestions for				
			improvement				

15	Make decisions in designing and implementing innovative science learning that is relevant to competencies, subject matter characteristics and student characteristics in a peer teaching format. Have a responsible attitude by implementing learning that is relevant to students' competencies and characteristics. Create learning tools according to the science learning models included in the group. Innovative Learning I Modeling science learning in accordance with the learning models included in the Innovative Learning I group	1.Planning a learning simulation with a predetermined learning model 2.Carrying out learning simulations (peer teaching) with predetermined learning models	Criteria: 1. Score 2. Rubric 3. 4 4. Peer teaching is carried out coherently with appropriate intonation and emphasis, with the help of ppt media according to media criteria, tools that are arranged correctly, formulating suggestions for improvement 5. 3 6. Peer teaching is carried out in a coherent manner without appropriate intonation and emphasis, with the help of ppt media according to media criteria, correctly arranged tools, formulating suggestions for improvement 7. 2 8. Peer teaching is carried out less coherently with inappropriate intonation and emphasis, with the help of ppt media according to media criteria, tools arranged correctly, formulating suggestions for improvement 9. 1 10. Peer teaching was carried out, but was not coherent and/or did not emphasize important aspects of the device, was not assisted by ppt media, the device was arranged incorrectly, unorbulate suggestions for improvement	Student-centered learning approach. Deductive learning method. Learning strategy in the form of literature searches, discussion of learning results, analyzing tools. 3 X 50		0%
16						0%

Evaluation Percentage Recap: Project Based Learning

	idation i ore	ontago recot
No	Evaluation	Percentage
		∩%

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.
- 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.
- 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.