



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

Document
Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																																																																			
Study the School Curriculum	8420103154		T=3	P=0	ECTS=4.77	3	July 18, 2024																																																																																			
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																																																																				
			Prof. Dr. Erman, M.Pd.																																																																																				
Learning model	Project Based Learning																																																																																									
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																																																																									
	PLO-6	Demonstrate religious and cultural values as well as academic ethics in carrying out their professional-related duties																																																																																								
	PLO-8	Make decisions based on data/information in order to complete tasks and evaluate the performance that has been done																																																																																								
	PLO-11	Design and conduct research about learning of integrated science, and acquire, analyze, and interpret the research data																																																																																								
	PLO-14	Demonstrate pedagogical knowledge of designing, implementing, and evaluating integrated science learning																																																																																								
	Program Objectives (PO)																																																																																									
	PO - 1	Have the ability to utilize ICT-based learning resources and learning media to support the implementation of Science Curriculum Review lectures																																																																																								
	PO - 2	Have knowledge about the School Mathematics and Natural Sciences Curriculum Study including understanding the curriculum, curriculum documents, curriculum components, curriculum aspects, material analysis (essential concepts and misconceptions), task analysis, and other aspects of the applicable curriculum																																																																																								
	PO - 3	Have behavior that reflects a responsible attitude in reviewing the School Science curriculum to identify essential concepts and determine strategies that are relevant to the characteristics of the material.																																																																																								
	PLO-PO Matrix																																																																																									
		<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>P.O</td> <td>PLO-6</td> <td>PLO-8</td> <td>PLO-11</td> <td>PLO-14</td> <td></td> <td></td> </tr> <tr> <td>PO-1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PO-2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PO-3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						P.O	PLO-6	PLO-8	PLO-11	PLO-14			PO-1							PO-2							PO-3																																																													
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PO Matrix at the end of each learning stage (Sub-PO)																																																																																										
	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td rowspan="2">P.O</td> <td colspan="16">Week</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>PO-1</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>PO-2</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>PO-3</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>						P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	PO-1																	PO-2																	PO-3																
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Short Course Description	This course examines the Study of the School Mathematics and Natural Sciences Curriculum including the definition of curriculum, curriculum documents, curriculum components, curriculum aspects, material analysis (misconceptions, predictions of material that is difficult for students or teachers to understand and material that is difficult to learn), task analysis, and other aspects of the applicable curriculum. This course is presented in theory and assignments.																																																																																									
References	Main :																																																																																									
	<ol style="list-style-type: none"> 1. Buku-buku Mata Pelajaran Matematika dan IPA SMP/MTs, SMA/MA, SMK 2. Yee, Lee Peng. 2006. Teaching Secondary School Mathematics a Resource Book. McGraw-Hill. 3. Goos, M., Stillman, G., Vale, C. 2007. Teaching Secondary School Mathematics Research and Practice for the 21st Century. Australia: Allen & Unwin.. 																																																																																									
	Supporters:																																																																																									

Supporting lecturer		Dr. Elok Sudiby, S.Pd.,M.Pd. Beni Setiawan, S.Pd., M.Pd., Ph.D. Aris Rudi Purnomo, S.Si., M.Pd., M.Sc. Wahyu Budi Sabtiawan, S.Si., M.Pd.,M.Sc.					
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	Explaining the curriculum definition for solving relevant problems, making strategic decisions based on data and information, being responsible for self-learning, assignments, and agreements with his team, by utilizing technology in solving problems	<ol style="list-style-type: none"> 1. Identifying the 2013 Curriculum and the Independent Curriculum 2. Analyzing the components of the 2013 curriculum and the Independent Curriculum 3. Creating indicators based on basic competencies (KD) 4. Create learning objectives from the prepared indicators 5. Develop Learning Objectives (TP) and Learning Objective Flow (ATP) 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p> <p>Form of Assessment : Participatory Activities</p>	Students carry out discussions regarding the comparison of the 2013 Curriculum with the Independent Curriculum from aspects of structure and regulations. 3 X 50	Students carry out discussions regarding the comparison of the 2013 Curriculum with the Independent Curriculum from aspects of structure and regulations. This implementation is carried out through the Zoom Meeting application and access to the Rumah Belajar website. 2 X 50	<p>Material: Curriculum definition, curriculum implementation</p> <p>References: <i>Ornstein, AC & Hunkins, FP (2018). Curriculum: Foundations, principles, and issues. Prentice-Hall.</i></p> <p>Material: Basic Competencies and Learning Achievements</p> <p>Library: 2013 Curriculum Document and Merdeka Curriculum</p>	5%
2	Analyze the depth of material according to the description in the curriculum to solve relevant problems, make strategic decisions based on data and information, be responsible for self-learning, assignments and agreements with the team, by utilizing technology in solving problems	<ol style="list-style-type: none"> 1. Analyze basic competencies and relevant material 2. Analyzing learning outcomes according to the depth of the material and the demands for mastery of learning (mastery learning) 3. Compile the results of curriculum analysis to be used in creating indicators and learning objectives 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Students learn according to the guidelines in Worksheet 1 regarding curriculum analysis from the aspects of basic competencies and learning outcomes. The results are used to formulate indicators and learning objectives. 3 X 50	Students learn according to the guidelines in Worksheet 1 regarding curriculum analysis from the aspects of basic competencies and learning outcomes. The results are used to formulate indicators and learning objectives. Assignments are collected via Vinesa (Unesa's digital platform) 2 X 50	<p>Material: Analysis of basic competencies and learning outcomes</p> <p>References: <i>2013 Curriculum Document and Merdeka Curriculum</i></p> <p>Material: Study the depth of the material</p> <p>Library: Books on Mathematics and Science subjects for SMP/MTs, SMA/MA, SMK</p>	5%

3	Analyze the depth of material according to the description in the curriculum to solve relevant problems, make strategic decisions based on data and information, be responsible for self-learning, assignments and agreements with the team, by utilizing technology in solving problems	<ol style="list-style-type: none"> Analyze basic competencies and relevant material Analyzing learning outcomes according to the depth of the material and the demands for mastery of learning (mastery learning) Compile the results of curriculum analysis to be used in creating indicators and learning objectives 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Students learn according to the guidelines in Worksheet 2 regarding curriculum analysis from the aspects of basic competencies and learning outcomes. The results are used to formulate indicators and learning objectives. 3 X 50	Students learn according to the guidelines in Worksheet 2 regarding curriculum analysis from the aspects of basic competencies and learning outcomes. The results are used to formulate indicators and learning objectives. Assignments are collected via Vinesa. 2 X 50	<p>Material: Analysis of basic competencies and learning outcomes</p> <p>References: 2013 <i>Curriculum Document and Merdeka Curriculum</i></p> <hr/> <p>Material: Study the depth of the material</p> <p>Library: <i>Books on Mathematics and Science subjects for SMP/MTs, SMA/MA, SMK</i></p>	5%
4	Develop learning objectives and flow of learning objectives to solve relevant problems, make strategic decisions based on data and information, be responsible for self-learning, assignments, and agreements with the team, by utilizing technology in solving problems	<ol style="list-style-type: none"> Formulate learning objectives according to the ABCD rules in accordance with the cognitive levels of Bloom's Taxonomy Arranging learning objectives into a flow of learning objectives according to the Independent Curriculum implementation guidelines 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Students read references about Bloom's Taxonomy and practice setting learning objectives according to ABCD rules. 3 X 50	Students read references about Bloom's Taxonomy and practice setting learning objectives according to ABCD rules. Activities were carried out using the Zoom Meeting application and online discussions. 2 X 50	<p>Material: Bloom's Taxonomy</p> <p>References: <i>Wilson, LO (2016). Anderson and Krathwohl Bloom's taxonomy revised understanding the new version of Bloom's taxonomy. The Second Principle, 1-8.</i></p> <hr/> <p>Material: Analysis of Learning Objectives and Flow of Learning Objectives</p> <p>References: 2013 <i>Curriculum Document and Merdeka Curriculum</i></p>	5%
5	Develop learning objectives and flow of learning objectives to solve relevant problems, make strategic decisions based on data and information, be responsible for self-learning, assignments, and agreements with the team, by utilizing technology in solving problems	<ol style="list-style-type: none"> Formulate learning objectives according to the ABCD rules in accordance with the cognitive levels of Bloom's Taxonomy Arranging learning objectives into a flow of learning objectives according to the Independent Curriculum implementation guidelines 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Students read references about Bloom's Taxonomy and practice setting learning objectives according to ABCD rules. 3 X 50	Students read references about Bloom's Taxonomy and practice setting learning objectives according to ABCD rules. Activities were carried out using the Zoom Meeting application and online discussions. 2 X 50	<p>Material: Bloom's Taxonomy</p> <p>References: <i>Wilson, LO (2016). Anderson and Krathwohl Bloom's taxonomy revised understanding the new version of Bloom's taxonomy. The Second Principle, 1-8.</i></p> <hr/> <p>Material: Analysis of Learning Objectives and Flow of Learning Objectives</p> <p>References: 2013 <i>Curriculum Document and Merdeka Curriculum</i></p>	5%

6	Communicate the results of preparing learning objectives and the flow of learning objectives to solve relevant problems, make strategic decisions based on data and information, be responsible for self-learning, tasks, and agreements with his team, by utilizing technology in solving problems	<ol style="list-style-type: none"> 1. Deliver workshop results completely and correctly 2. Applying the value of responsibility to the workshop results delivered 3. Respond to audience questions and suggestions 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p> <p>Form of Assessment : Participatory Activities</p>	Students communicate the results of their work (workshop) in turns. Other students conveyed questions and suggestions to the students making the presentation. 3 X 50	Students communicate the results of their work (workshop) via a 10 minute video. Students submit questions and suggestions via the chat column in the Zoom Meeting application. 2 X 50	<p>Material: Bloom's Taxonomy References: <i>Wilson, LO (2016). Anderson and Krathwohl Bloom's taxonomy revised understanding the new version of Bloom's taxonomy. The Second Principle, 1-8.</i></p> <hr/> <p>Material: Curriculum regulations Reference: 2013 Curriculum Document and Merdeka Curriculum</p> <hr/> <p>Material: Sufficiency of material Library: Books on Mathematics and Science subjects for SMP/MTs, SMA/MA, SMK</p>	10%
7	Communicate the results of preparing learning objectives and the flow of learning objectives to solve relevant problems, make strategic decisions based on data and information, be responsible for self-learning, tasks, and agreements with his team, by utilizing technology in solving problems	<ol style="list-style-type: none"> 1. Deliver workshop results completely and correctly 2. Applying the value of responsibility to the workshop results delivered 3. Respond to audience questions and suggestions 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p> <p>Form of Assessment : Participatory Activities</p>	Students communicate the results of their work (workshop) in turns. Other students conveyed questions and suggestions to the students making the presentation. 3 X 50	Students communicate the results of their work (workshop) via a 10 minute video. Students submit questions and suggestions via the chat column in the Zoom Meeting application.	<p>Material: Bloom's Taxonomy References: <i>Wilson, LO (2016). Anderson and Krathwohl Bloom's taxonomy revised understanding the new version of Bloom's taxonomy. The Second Principle, 1-8.</i></p> <hr/> <p>Material: Curriculum regulations Reference: 2013 Curriculum Document and Merdeka Curriculum</p> <hr/> <p>Material: Sufficiency of material Library: Books on Mathematics and Science subjects for SMP/MTs, SMA/MA, SMK</p>	10%
8	Sub-CMPK 1st to 7th Meetings	Accuracy and mastery according to the UTS assessment indicators (assessment rubric).	<p>Criteria: Accuracy and mastery according to the UTS assessment indicators (assessment rubric).</p>	Mid-Semester Evaluation/Mid-Semester Examination (UTS) 2 X 50			0%

9	Analyze the problems of implementing the science curriculum in secondary schools to solve relevant problems, make strategic decisions based on data and information, be responsible for self-learning, assignments, and agreements with the team	<ol style="list-style-type: none"> 1. Discuss curriculum implementation problems with the team 2. Prepare project proposals with a systematic plan 3. Applying proposal writing using PUEBI and academic principles 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Students prepare a project proposal regarding curriculum implementation problems in secondary schools in terms of the preparation aspect for teaching and learning practices (PBM) 3 X 50	Students prepare project proposals regarding curriculum implementation problems in secondary schools in terms of preparation for teaching and learning practices (PBM). Proposals are uploaded via Vinesa. 2 X 50	<p>Material: Sufficiency of material Library: Books on <i>Mathematics and Science subjects for SMP/MTs, SMA/MA, SMK</i></p> <hr/> <p>Material: Curriculum implementation References: <i>Ornstein, AC & Hunkins, FP (2018). Curriculum: Foundations, principles, and issues. Prentice-Hall.</i></p> <hr/> <p>Material: Curriculum issues References: <i>Goos, M., Stillman, G., Vale, C. 2007. Teaching Secondary School Mathematics Research and Practice for the 21st Century. Australia: Allen & Unwin..</i></p>	10%
10	Observing curriculum implementation problems in schools in accordance with proposals that have been prepared for solving relevant problems, making strategic decisions based on data and information, being responsible for one's own learning, assignments, and agreements with the team	<ol style="list-style-type: none"> 1. Develop appropriate questions for observing problems at school 2. Write down the results of the interview according to the questions asked 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p>	Students conduct interviews with junior high school science teachers and analyze the results of observations as a basis for formulating solutions. Results uploaded on vinesa. 3 X 50	Students conduct interviews with junior high school science teachers via the Google Meet application and analyze the results of observations as a basis for formulating solutions. Results uploaded on vinesa. 2 X 50	<p>Material: Sufficiency of material Library: Books on <i>Mathematics and Science subjects for SMP/MTs, SMA/MA, SMK</i></p> <hr/> <p>Material: Curriculum implementation References: <i>Ornstein, AC & Hunkins, FP (2018). Curriculum: Foundations, principles, and issues. Prentice-Hall.</i></p>	5%
11	Presenting a problem solving plan based on interview results by making strategic decisions based on data and information, being responsible for self-learning, tasks, and agreements with his team	<ol style="list-style-type: none"> 1. Communicate the LKPD design in accordance with the curriculum implementation in the observed school 2. Design the LKPD design in the form of a flow diagram 	<p>Criteria: Accuracy and mastery according to assessment indicators (assessment rubric)</p>	Presenting a problem solving design in the form of a Student Worksheet (LKPD) formulation in accordance with the implementation of the curriculum in the observed school 3 X 50	Presenting a problem solving design in the form of a Student Worksheet (LKPD) formulation in accordance with the implementation of the curriculum in the school being observed. The presentation is made via a 5 minute video. This activity is carried out asynchronously by utilizing Vinesa. 2 X 50	<p>Material: Implementation of LKPD References: <i>Goos, M., Stillman, G., Vale, C. 2007. Teaching Secondary School Mathematics Research and Practice for the 21st Century. Australia: Allen & Unwin..</i></p>	10%

12	Testing LKPD designs that suit the school's needs for solving relevant problems, making strategic decisions based on data and information, being responsible for self-learning, assignments, and agreements with the team	1.Prepare the necessary tools completely 2.Write down the data needed to show the success of the LKPD 3.Carry out trials in accordance with the procedures outlined in the proposal	Criteria: Accuracy and mastery of performance assessment indicators (assessment rubric).	Students test work procedures for the 3 X 50 LKPD development project	Students test work procedures for the LKPD development project. The test results are made in the form of recordings with a resolution of 480 pixels and uploaded via a link on Vinesa. 2 X 50	Material: Implementation of LKPD Library: Books on <i>Mathematics and Science Subjects for SMP/MTs, SMA/MA, SMK</i>	5%
13	Testing LKPD designs that suit the school's needs for solving relevant problems, making strategic decisions based on data and information, being responsible for self-learning, assignments, and agreements with the team	1.Prepare the necessary tools completely 2.Write down the data needed to show the success of the LKPD 3.Carry out trials in accordance with the procedures outlined in the proposal	Criteria: Accuracy and mastery of performance assessment indicators (assessment rubric).	Students test work procedures for the 3 X 50 LKPD development project	Students test work procedures for the LKPD development project. The test results are made in the form of recordings with a resolution of 480 pixels and uploaded via a link on Vinesa.	Material: Implementation of LKPD Library: Books on <i>Mathematics and Science Subjects for SMP/MTs, SMA/MA, SMK</i>	5%
14	Connecting the results of the LKPD trial with the needs for implementing the curriculum in the schools observed as a problem solving effort in accordance with the results of objective observations	1.Analyzing the results of the LKPD trial with the problems of implementing the curriculum in the schools observed 2.Show evidence of the success of the LKPD trial	Criteria: Accuracy and mastery according to product assessment indicators (assessment rubric). Form of Assessment : Project Results Assessment / Product Assessment	Students present LKPD (products) that have been tested 3 X 50	Students present LKPD (products) that have been tested using video presentations and uploaded on Vinesa 2 X 50	Material: Curriculum implementation References: <i>Ornstein, AC & Hunkins, FP (2018). Curriculum: Foundations, principles, and issues. Prentice-Hall.</i>	5%
15	Connecting the results of the LKPD trial with the needs for implementing the curriculum in the schools observed as a problem solving effort in accordance with the results of objective observations	1.Analyzing the results of the LKPD trial with the problems of implementing the curriculum in the schools observed 2.Show evidence of the success of the LKPD trial	Criteria: Accuracy and mastery according to product assessment indicators (assessment rubric). Form of Assessment : Project Results Assessment / Product Assessment	Students present LKPD (products) that have been tested 3 X 50	Students present LKPD (products) that have been tested using video presentations and uploaded on Vinesa	Material: Curriculum implementation References: <i>Ornstein, AC & Hunkins, FP (2018). Curriculum: Foundations, principles, and issues. Prentice-Hall.</i>	5%
16		Accuracy and mastery according to the UAS assessment indicators (assessment rubric).		Final School Examination (UAS) 2 X 50			0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	40%
2.	Project Results Assessment / Product Assessment	15%
3.	Test	10%
		65%

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.
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.