



**Universitas Negeri Surabaya  
Faculty of Education,  
Basic Education Masters Study Program**

Document  
Code

## SEMESTER LEARNING PLAN

<b>Courses</b>	<b>CODE</b>	<b>Course Family</b>	<b>Credit Weight</b>			<b>SEMESTER</b>	<b>Compilation Date</b>																																																																		
Science Analysis for Elementary Education	8612202632		T=2	P=0	ECTS=4.48	2	July 18, 2024																																																																		
<b>AUTHORIZATION</b>	<b>SP Developer</b>		<b>Course Cluster Coordinator</b>			<b>Study Program Coordinator</b>																																																																			
	.....		.....			Neni Mariana, S.Pd., M.Sc., Ph.D.																																																																			
<b>Learning model</b>	<b>Case Studies</b>																																																																								
<b>Program Learning Outcomes (PLO)</b>	<b>PLO study program that is charged to the course</b>																																																																								
	<b>Program Objectives (PO)</b>																																																																								
	<b>PO - 1</b>	Able to solve problems analytically in the praxis of science and technology in the field of basic education through an interdisciplinary approach.																																																																							
	<b>PO - 2</b>	Work together and have social sensitivity and concern for society and the environment.																																																																							
	<b>PLO-PO Matrix</b>																																																																								
		<table border="1" style="margin: auto;"> <tr><td>P.O</td></tr> <tr><td>PO-1</td></tr> <tr><td>PO-2</td></tr> </table>						P.O	PO-1	PO-2																																																															
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<b>PO Matrix at the end of each learning stage (Sub-PO)</b>																																																																									
	<table border="1" style="margin: auto;"> <thead> <tr> <th rowspan="2">P.O</th> <th colspan="16">Week</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th> </tr> </thead> <tbody> <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> </tbody> </table>						P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	PO-1																	PO-2																
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<b>Short Course Description</b>	This course facilitates students to understand the nature of science and be able to think scientifically, understand, analyze and communicate facts, concepts, principles, laws and theories of physics, biology and basic chemistry.																																																																								
<b>References</b>	<b>Main :</b>																																																																								
	<ol style="list-style-type: none"> <li>1. Giancoli, D., (2014). Physics: Principles with Application . 7th ed. Illinois: Pearson Education Inc.</li> <li>2. Ackroyd, J. E., Anderson, M., Berg, C., Martin, B. E.. (2009). Physics. Toronto: Pearson Education Canada</li> <li>3. Walker, J., Halliday, D., Resnick, R. (2014). Fundamental of Physics. 10th ed. New Jersey: John Wiley &amp; Sons, Inc.</li> <li>4. Campbell, N.A., Reece, J.B., &amp; Mitchell, L.G. (2002). Biologi. Jilid 1. Edisi Kelima. Alih Bahasa: Wasmen. Jakarta: Penerbit Erlangga.</li> <li>5. Campbell, N.A., Reece, J.B., &amp; Mitchell, L.G. (2003). Biologi. Jilid 2. Edisi Kelima. Alih Bahasa: Wasmen. Jakarta: Penerbit Erlangga.</li> <li>6. Campbell, N.A., Reece, J.B., &amp; Mitchell, L.G. (2004). Biologi. Jilid 3. Edisi Kelima. Alih Bahasa: Wasmen. Jakarta: Penerbit Erlangga.</li> <li>7. Chang, Raymond. (2005). Kimia Dasar Konsep-Konsep Inti . Edisi 3. Jakarta: Erlangga.</li> </ol>																																																																								
	<b>Supporters:</b>																																																																								

Supporting lecturer		Dr. Julianto, S.Pd., 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			<b>Forms of Assessment :</b> Participatory Activities, Portfolio Assessment, Practice / Performance, Tests	(5) Lecturer and student discussions about these concepts in one of the fields of physics, biology and chemistry of basic education. (2x50 minutes)  Assignment: Analyze the truth of concepts in the fields of physics, biology or basic chemistry  TS BM = (1 1) x (3X60) = 6x60 minutes  per 1 credit 50 minutes face to face 60 structured assignments 60 independent study 100 minutes	(6) Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: studying teaching materials, searching for and reading books and articles in national/international journals, and analyzing the truth of concepts (2x50 minutes) 100 minutes		0%

2			<p><b>Forms of Assessment :</b> Participatory Activities, Portfolio Assessment, Practice / Performance, Tests</p>	<p>(5) Lecturer and student discussions about these concepts in one of the fields of physics, biology and chemistry of basic education. (2x50 minutes)</p> <p>Assignment: Analyze the truth of concepts in the fields of physics, biology or basic chemistry</p> <p>TS BM = (1 1) x (3X60) = 6x60 minutes</p> <p>per 1 credit 50 minutes face to face 60 structured assignments 60 independent study 100 minutes</p>	<p>(6) Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)</p> <p>Asynchronous: studying teaching materials, searching for and reading books and articles in national/international journals, and analyzing the truth of concepts (2x50 minutes) 100 minutes</p>		0%
3			<p><b>Form of Assessment :</b> Participatory Activities</p>	<p>Student presentations and discussions related to the results of concept analysis in the fields of physics, biology and chemistry of basic education through presentations. (2x50 minutes) 100 minutes</p>	<p>Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)</p> <p>Asynchronous: provide feedback on other groups' assignments and evaluate their own group's performance in written form. (2x50 minutes) 100 minutes</p>		0%
4			<p><b>Form of Assessment :</b> Participatory Activities</p>	<p>Student presentations and discussions related to the results of concept analysis in the fields of physics, biology and chemistry of basic education through presentations. (2x50 minutes) 100 minutes</p>	<p>Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)</p> <p>Asynchronous: provide feedback on other groups' assignments and evaluate their own group's performance in written form. (2x50 minutes) 100 minutes</p>		0%

5			<b>Form of Assessment :</b> Participatory Activities	Student presentations and discussions related to problems or misconceptions in the fields of physics, biology and chemistry of basic education through presentations. (2x50 minutes)	Synchronous: No online lectures.  Asynchronous: Reading book and article references, finding relevant problems.  Asynchronous: Reading book and article references, finding relevant problems. 100 minutes		0%
6			<b>Form of Assessment :</b> Participatory Activities	Student presentations and discussions related to problems or misconceptions in the fields of physics, biology and chemistry of basic education through presentations. (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: provide feedback on other groups' assignments and evaluate their own group's performance in written form. (2x50 minutes)		0%
7			<b>Form of Assessment :</b> Participatory Activities	Student presentations and discussions related to problems or misconceptions in the fields of physics, biology and chemistry of basic education through presentations. (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: provide feedback on other groups' assignments and evaluate their own group's performance in written form. (2x50 minutes)		0%
8			<b>Form of Assessment :</b> Participatory Activities	work on uts questions for 2x50 minutes	work on uts questions for 2x50 minutes		0%
9			<b>Form of Assessment :</b> Participatory Activities	Lecturer and student discussion (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: reading articles and books (2x50 minutes)		0%
10			<b>Forms of Assessment :</b> Participatory Activities, Project Results Assessment / Product Assessment, Practices / Performance	Lecturer and student discussion (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: reading references. (2x50 minutes)		0%

11			<b>Forms of Assessment :</b> Participatory Activities, Project Results Assessment / Product Assessment, Practices / Performance	Lecturer and student discussion (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: reading references. (2x50 minutes)		0%
12			<b>Form of Assessment :</b> Participatory Activities	Student discussion with the team to draft a written analysis report and provide an assessment of other groups' analysis studies (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: reading references. (2x50 minutes)		0%
13			<b>Form of Assessment :</b> Participatory Activities	Student discussion with the team to draft a written analysis report and provide an assessment of other groups' analysis studies (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: reading references. (2x50 minutes)		0%
14			<b>Form of Assessment :</b> Participatory Activities	Student discussion with the team to draft a written analysis report and provide an assessment of other groups' analysis studies (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: reading references. (2x50 minutes)		0%
15			<b>Form of Assessment :</b> Participatory Activities	Student presentations, discussions and reflections. (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: provide feedback on other groups' assignments and evaluate their own group's performance in written form. (2x50 minutes)		0%
16			<b>Form of Assessment :</b> Participatory Activities, Project Results Assessment / Product Assessment	Student presentations, discussions and reflections. (2x50 minutes)	Synchronous: The same activities as the offline method but carried out via zoom meeting. (2x50 minutes)  Asynchronous: provide feedback on other groups' assignments and evaluate their own group's performance in written form. (2x50 minutes)		0%

**Evaluation Percentage Recap: Case Study**

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** 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.