



Universitas Negeri Surabaya
Faculty of Education,
Early Childhood Education Teacher Education Undergraduate Study
Program

Document
Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date																																
IAD (Basic Natural Sciences)	8620702167		T=2 P=0 ECTS=3.18	3	July 18, 2024																																
AUTHORIZATION	SP Developer		Course Cluster Coordinator	Study Program Coordinator																																	
	Kartika Rinakit Adhe, 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																																				
		<table border="1" style="margin: auto;"> <tr> <td style="width: 10%;">P.O</td> <td colspan="15"></td> </tr> </table>					P.O																														
P.O																																					
	<table border="1" style="margin: auto;"> <tr> <td rowspan="2" style="width: 10%;">P.O</td> <td colspan="15" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 5%;">1</td> <td style="width: 5%;">2</td> <td style="width: 5%;">3</td> <td style="width: 5%;">4</td> <td style="width: 5%;">5</td> <td style="width: 5%;">6</td> <td style="width: 5%;">7</td> <td style="width: 5%;">8</td> <td style="width: 5%;">9</td> <td style="width: 5%;">10</td> <td style="width: 5%;">11</td> <td style="width: 5%;">12</td> <td style="width: 5%;">13</td> <td style="width: 5%;">14</td> <td style="width: 5%;">15</td> <td style="width: 5%;">16</td> </tr> </table>					P.O	Week															1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P.O	Week																																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
Short Course Description	· Utilize ICT to search data/information to find and recognize problems and/or explore basic science concepts/principles. · Master the basic concepts of science and be able to apply them and utilize natural resources and science and technology in solving problems in everyday life. · Choose alternative solutions to problems in everyday life by utilizing basic science concepts/principles. Develop beautiful dream characters (faith, intelligence, independence, honesty, caring and tough) in learning activities and completing assignments.																																				
References	Main :																																				
	1. TIM FMIPA. 2013. <i>Sains Dasar</i> . Surabaya : Unipress IKIP Surabaya. Ahmadi Abu dan Supatmo A. 1998. <i>Ilmu Alamiyah Dasar</i> . Rineka cipta Harmoni, Ati. 1992. <i>Ilmu Alamiyah Dasar</i> . Gunadarma TIM. 2019. Panduan Pembelajaran Kebencanaan Untuk Mahasiswa di Perguruan Tinggi. Direktorat Jenderal Pembelajaran dan Kemahasiswaan Kementerian Riset Teknologi dan Pendidikan Tinggi.																																				
	Supporters:																																				
Supporting lecturer	Tutut Nurita, 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	Understanding the nature of the human mind and its development	1. Explain the meaning of basic science. 2. Explain the goals, functions, uses and scope of basic science in everyday life. 3. Explain the development of the human mind. 4. Explain the history of the development of human knowledge. (Strengthening Literacy) 5. Explain the physical development, nature and mind of humans. Growing faith in God and a caring attitude towards the environment after understanding the nature of the human mind and its development. (Character Growth)	Criteria: 1.4: correct description 2.3: the description is generally correct, there is one aspect where the explanation is incorrect 3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 4.1: the description is wrong	· Information and Discussion · Literacy Questions and answers 2 X 50			0%
2	Understanding the nature of the human mind and its development	1. Explain the meaning of basic science. 2. Explain the goals, functions, uses and scope of basic science in everyday life. 3. Explain the development of the human mind. 4. Explain the history of the development of human knowledge. (Strengthening Literacy) 5. Explain the physical development, nature and mind of humans. Growing faith in God and a caring attitude towards the environment after understanding the nature of the human mind and its development. (Character Growth)	Criteria: 1.4: correct description 2.3: the description is generally correct, there is one aspect where the explanation is incorrect 3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 4.1: the description is wrong	· Information and Discussion · Literacy Questions and answers 2 X 50			0%
3	Understand the development and development of science	1. Describe the development of natural sciences. (Strengthening Literacy) 2. Carrying out the observation/observation process 3. Carrying out simple experiments using the scientific method 4. Explaining the stages of scientific development. (Strengthening Literacy) Developing an intelligent, independent, honest, caring and tough attitude in the process of understanding the nature of science and implementing scientific methods. (Character Growth)	Criteria: 1.4: correct description 2.3: the description is generally correct, there is one aspect where the explanation is incorrect 3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 4.1: the description is wrong	· Literacy · Information and Discussion · Questions and Answers · 2 X 50 Experimental Assignment			0%

4	Understand the development and development of science	<p>1. Describe the development of natural sciences. (Strengthening Literacy)</p> <p>2. Carrying out the observation/observation process</p> <p>3. Carrying out simple experiments using the scientific method</p> <p>4. Explaining the stages of scientific development. (Strengthening Literacy)</p> <p>Developing an intelligent, independent, honest, caring and tough attitude in the process of understanding the nature of science and implementing scientific methods. (Character Growth)</p>	<p>Criteria:</p> <p>1.4: correct description</p> <p>2.3: the description is generally correct, there is one aspect where the explanation is incorrect</p> <p>3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect</p> <p>4.1: the description is wrong</p>	<p>· Literacy · Information and Discussion · Questions and Answers ·</p> <p>2 X 50 Experimental Assignment</p>			0%
5	Understanding the earth and the universe	<p>1. Identify the size of the universe (microcosm and macrocosm). (Literacy Strengthening)</p> <p>2. Identify theories related to the solar system according to experts. (Literacy Strengthening)</p> <p>3. Identify the division of time on earth.</p> <p>4. Describe the division of seasons.</p> <p>5. Identify the layers of the atmosphere.</p> <p>6. Develop an attitude of faith in God in understanding the earth and the universe. (Character Growth)</p>	<p>Criteria:</p> <p>1.4: correct description</p> <p>2.3: the description is generally correct, there is one aspect where the explanation is incorrect</p> <p>3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect</p> <p>4.1: the description is wrong</p>	<p>Discussion Presentation</p> <p>2 X 50</p>			0%
6	Understanding the earth and the universe	<p>1. Identify the size of the universe (microcosm and macrocosm). (Literacy Strengthening)</p> <p>2. Identify theories related to the solar system according to experts. (Literacy Strengthening)</p> <p>3. Identify the division of time on earth.</p> <p>4. Describe the division of seasons.</p> <p>5. Identify the layers of the atmosphere.</p> <p>6. Develop an attitude of faith in God in understanding the earth and the universe. (Character Growth)</p>	<p>Criteria:</p> <p>1.4: correct description</p> <p>2.3: the description is generally correct, there is one aspect where the explanation is incorrect</p> <p>3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect</p> <p>4.1: the description is wrong</p>	<p>Discussion Presentation</p> <p>2 X 50</p>			0%

7	Understand the diversity of living things and their distribution	1. Explain the structure of the biosphere and its relationship with life 2. Explain theories about the origin of life 3. Explain the diversity of living things 4. Explain the distribution patterns of living things 5. Develop an attitude of faith in God in understanding the diversity of living things. (Character Growth)	Criteria: 1.4: correct description 2.3: the description is generally correct, there is one aspect where the explanation is incorrect 3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 4.1: the description is wrong 5.4: complete paper with accurate sources 6.3: complete paper with inaccurate sources 7.2: complete paper with inaccurate sources 8.1: the paper is incomplete and the sources are inaccurate	Information and Discussion Questions and answers 2 X 50			0%
8	Understanding the human mind and its development Understanding the development and development of science Understanding the earth and the universe Understanding the diversity of living things and their distribution	1. State the meaning of basic science 2. Explain the purpose, function, use and scope of basic science in everyday life 3. Explain the development of the human mind 4. Explain the history of the development of human knowledge 5. Explain the physical development, nature and mind of humans 6. Explain the structure of the biosphere and its relationship with life 7. Explain theories about the origin of life 8. Explain the diversity of living things	Criteria: 1.4: correct description 2.3: the description is generally correct, there is one aspect where the explanation is incorrect 3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 4.1: the description is wrong	UTS 2 X 50			0%
9	Understanding living things in ecosystems	1. Describe the definition and characteristics of populations and communities. 2. Explain and give examples of the forms of natural ecosystems. 3. Can explain the flow of energy and material cycles. 4. Explain the forms of life patterns. 5. Develop an intelligent and environmentally conscious attitude. (Character Growth)	Criteria: 1.4: correct description 2.3: the description is generally correct, there is one aspect where the explanation is incorrect 3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 4.1: the description is wrong	. Presentation · Question and answer Discussion 2 X 50			0%

10	Understand natural resources and the environment	1. Classify natural resources into two, namely renewable and non-renewable. 2. Explain the basic principles of preserving natural resources. 3. Write down the factors that cause damage to natural resources and the environment. 4. Efforts to preserve natural resources and the environment. (Character Growth) 5. Develop an intelligent and caring attitude towards the environment. (Character Growth)	Criteria: 1.4: correct description 2.3: the description is generally correct, there is one aspect where the explanation is incorrect 3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 4.1: the description is wrong 5.4: complete paper with accurate sources 6.3: complete paper with inaccurate sources 7.2: complete paper with inaccurate sources 8.1: the paper is incomplete and the sources are inaccurate	· Presentation · Question and answer Discussion 2 X 50			0%
11	Understanding science and technology for human life		Criteria: 1.4: complete paper with accurate sources 2.3: complete paper with inaccurate sources 3.2: complete paper with inaccurate sources 4.1: the paper is incomplete and the sources are inaccurate	· Discussion and Literacy · Question and Answer Presentation 2 X 50			0%
12	Understand the development of biotechnology	1. Explain the development of conventional biotechnology and modern biotechnology (Strengthening Literacy) 2. Describe the equipment/materials needed for genetic engineering 3. Provide examples of biotechnology applications in the fields of industry, health, environment, agriculture and mining 4. Compare low level, middle level, and high level biotechnology based on procedures and products of genetic engineering activities 5. Developing an intelligent and caring attitude in responding to developments in biotechnology. (Character Growth)	Criteria: 1.4: complete paper with accurate sources 2.3: complete paper with inaccurate sources 3.2: complete paper with inaccurate sources 4.1: the paper is incomplete and the sources are inaccurate	· Discussion and Literacy · Question and Answer Presentation 2 X 50			0%

13	Understand the sources, countermeasures and side effects of environmental pollution	1. Explain the sources, countermeasures and side effects of air pollution 2. Explain the sources, countermeasures and side effects of water pollution 3. Explain the sources, countermeasures and side effects of land pollution (Character Growth) 4. Develop an intelligent, independent, honest, attitude and care about the environment. (Character Growth)	Criteria: 1.4: correct description 2.3: the description is generally correct, there is one aspect where the explanation is incorrect 3.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 4.1: the description is wrong 5.4: complete paper with accurate sources 6.3: complete paper with inaccurate sources 7.2: complete paper with inaccurate sources 8.1: the paper is incomplete and the sources are inaccurate	· Discussion · Presentation Question and answer 2 X 50		0%
14	Understanding natural disasters and their mitigation.	1. Describe the types and characteristics of natural disasters (earthquakes, tsunamis, volcanic eruptions, landslides, floods, flash floods). 2. Identify signs of impending natural disasters (earthquakes, tsunamis, volcanic eruptions, landslides, floods, flash floods). 3. Analyze disaster response actions according to the characteristics of natural disasters that occur during natural disasters (earthquakes, tsunamis, volcanic eruptions, landslides, floods, flash floods). 4. Analyze the impact of natural disasters (earthquakes, tsunamis, volcanic eruptions, landslides, floods, flash floods). 5. Describe how to recover (rehabilitate) after natural disasters (earthquakes, tsunamis, volcanic eruptions, landslides, floods, flash floods). 6. Develop attitudes of faith, intelligence, independence, honesty, caring and resilience in facing natural disasters. (Character Growth)	Criteria: 1.4: complete paper with accurate sources 2.3: complete paper with inaccurate sources 3.2: complete paper with inaccurate sources 4.1: the paper is incomplete and the sources are inaccurate	· Discussion and literacy · Question and answer presentation 2 X 50		0%

15	Understanding natural disasters and their mitigation.	Describe the types and characteristics of natural disasters (drought, extreme weather (tornado), extreme waves and abrasion, forest and land fires, epidemics and disease outbreaks, technological failures). Identify signs of impending natural disasters (drought, extreme weather (tornado), extreme waves and abrasion, forest and land fires, epidemics and disease outbreaks, technological failures). Analyze disaster response actions according to the characteristics of natural disasters that occur during natural disasters (drought, extreme weather (tornado), extreme waves and abrasion, forest and land fires, epidemics and disease outbreaks, technological failures). Analyzing the impact of natural disasters (drought, extreme weather (tornado), extreme waves and abrasion, forest and land fires, epidemics and disease outbreaks, technological failures). Describe how to recover (rehabilitate) after natural disasters (drought, extreme weather (tornado), extreme waves and abrasion, forest and land fires, epidemics and disease outbreaks, technological failures). 1. Develop an attitude of faith, intelligence, independence, honesty, caring and resilience in facing natural disasters. (Character Growth)	Criteria: 1.4: complete paper with accurate sources 2.3: complete paper with inaccurate sources 3.2: complete paper with inaccurate sources 4.1: the paper is incomplete and the sources are inaccurate	· Discussion and literacy · Question and answer presentation 2 X 50			0%
16							0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

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.
- 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.
- 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.
- 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.
- Forms of assessment:** test and non-test.
- 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.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 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%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.

