



**Universitas Negeri Surabaya
Faculty of Education,
Educational Technology Undergraduate Study Program**

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date										
BASIC NATURAL SCIENCES (MKWU)	8620302158		T=2	P=0	ECTS=3.18	0	July 18, 2024										
AUTHORIZATION		SP Developer			Course Cluster Coordinator		Study Program Coordinator										
			Dr. Utari Dewi, S.Sn., 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																
		P.O															
	PO Matrix at the end of each learning stage (Sub-PO)																
	P.O	Week															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Short Course Description	This course discusses the implementation of basic science concepts which include understanding the development of the human mind, scientific methods, the earth and the universe, the diversity of living things, ecosystems, natural resources, technology, biotechnology, and environmental pollution through learning carried out by means of discussions. , assignments, presentations, questions and answers, as well as simple experiments about phenomena in nature																
References	Main :																
	1. Julianto. 2010. Konsep Dasar IPA 3 . Surabaya: Unipres Unesa. 2. TIM FMIPA. 2013. Sains Dasar. Surabaya: Unipres Unesa.																
	Supporters:																
Supporting lecturer	Dr. Kusumawati Dwiningsih, S.Pd., M.Pd. Bertha Yonata, 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. 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	Criteria: multiple choice answer key	Lecture Question and Answer Discussion 4 X 50			0%										

2	Understanding the nature of the human mind and its development	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	Criteria: multiple choice answer key	Lecture Question and Answer Discussion 4 X 50			0%
3	Understand the development and development of science	Describe the development of science Carry out the process of observing/observation Carry out simple experiments using the scientific method Explain the concepts of matter and energy Explain the stages of the development of science	Criteria: answer key	Lecture Question and answer Discussion Assignment Experiment 4 X 50			0%
4	Understand the development and development of science	Describe the development of science Carry out the process of observing/observation Carry out simple experiments using the scientific method Explain the concepts of matter and energy Explain the stages of the development of science	Criteria: answer key	Lecture Question and answer Discussion Assignment Experiment 4 X 50			0%
5	Understanding the earth and the universe	Identifying the size of the universe (microcosm and macrocosm) Identifying theories related to the solar system according to experts Identifying the division of time on earth Describing the division of seasons Identifying the layers of the atmosphere	Criteria: answer key	Discussion Presentation 4 X 50			0%
6	Understanding the earth and the universe	Identifying the size of the universe (microcosm and macrocosm) Identifying theories related to the solar system according to experts Identifying the division of time on earth Describing the division of seasons Identifying the layers of the atmosphere	Criteria: answer key	Discussion Presentation 4 X 50			0%
7	Understand the diversity of living things and their distribution	Explain the structure of the biosphere and its relationship with life Explain theories about the origin of life Explain the diversity of living things Explain the distribution patterns of living things	Criteria: answer key	Lecture Question and Answer Discussion 2 X 50			0%
8	understand the material from meetings 1-7	understand the material from meetings 1-7	Criteria: answer key	independent work 2 X 50			0%
9	Understanding living things in ecosystems	Students can describe the definitions and characteristics of populations and communities. Can explain the forms of natural ecosystems. Can explain the flow of energy and material cycles. Explain the forms of life patterns.	Criteria: answer key	Presentation Question and answer Discussion 2 X 50			0%

10	Understand natural resources and the environment	Classify natural resources into two, namely renewable and non-renewable. Explain the basic principles of preserving natural resources. Write down the factors that cause damage to natural resources and the environment. Efforts to preserve natural resources and the environment.	Criteria: answer key	Presentation Question and answer Discussion 4 X 50			0%
11	Understand natural resources and the environment	Classify natural resources into two, namely renewable and non-renewable. Explain the basic principles of preserving natural resources. Write down the factors that cause damage to natural resources and the environment. Efforts to preserve natural resources and the environment.	Criteria: answer key	Presentation Question and answer Discussion 4 X 50			0%
12	Understanding science and technology for human life	Students can explain the development of science and technology. Students can explain the relationship between matter and energy. Students can understand the benefits of technology for human life. Students can explain the positive and negative impacts of science and technology on student life.	Criteria: answer key	Presentation Question and answer Discussion 4 X 50			0%
13	Understanding science and technology for human life	Students can explain the development of science and technology. Students can explain the relationship between matter and energy. Students can understand the benefits of technology for human life. Students can explain the positive and negative impacts of science and technology on student life.	Criteria: answer key	Presentation Question and answer Discussion 4 X 50			0%
14	Understand technological developments	Explain the development of conventional biotechnology and modern biotechnology. Describe the equipment/materials needed for genetic engineering. Give examples of biotechnology applications in the fields of industry, health, environment, agriculture, and mining. Compare low level, middle level, and high level biotechnology based on procedures and products of genetic engineering activities.	Criteria: answer key	Presentation Question and answer Discussion 2 X 50			0%
15	Understand the sources, countermeasures and side effects of environmental pollution	Explain the sources, countermeasures and side effects of air pollution Explain the sources, countermeasures and side effects of water pollution Explain the sources, countermeasures and side effects of land pollution	Criteria: answer key	Presentation Question and answer Discussion 2 X 50			0%

16	UAS	UAS		2 X 50			0%
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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.