	Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences Undergraduate Mathematics Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Basic Concepts of Science	4420103181	Compulsory Study Program Subjects	T=3	P=0	ECTS=4.77	1	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	Laily rosdiana	.....	Prof. Dr. Raden Sulaiman, M.Si.

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		
References	**Main :**	
	Supporters:	
Supporting lecturer	Tutut Nurita, S.Pd., M.Pd. Laily Rosdiana, S.Pd., M.Pd. An Nuril Maulida Fauziah, S.Pd., M.Pd. Aris Rudi Purnomo, S.Si., M.Pd., M.Sc. Dyah Permata Sari, S.Pd., M.Pd. Ernita Vika Aulia, 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		1. Explain the nature of science. 2. Explain the scope of science	**Form of Assessment** : Participatory Activities	Cased based Learning (CBL), Presentation and Discussion 2x50			0%

2			**Form of Assessment** : Participatory Activities	guided inquiry 2x50			0%
3			**Form of Assessment** : Practice / Performance	Cased based Learning (CBL), Discussion and Practice 2x50			0%
4			**Form of Assessment** : Practice / Performance	Cased-based Learning (CBL), KPS 2x50			0%
5			**Form of Assessment** : Project Results Assessment / Product Assessment	Guided inquiry 2x50			0%
6			**Form of Assessment** : Project Results Assessment / Product Assessment	guided inquiry 2x50			0%
7			**Form of Assessment** : Participatory Activities, Portfolio Assessment	Offline: Case Based Learning 150 minutes			15%
8			**Form of Assessment** : Test	UTS		**Material:** UTS **Library:**	25%
9	Recognize the material world and its changes and how to investigate them	1. Explain the definition of matter 2. Provide material examples 3. Define material change 4. Analyze material changes 5. Analyze energy flow	**Criteria:** 1. 4: Description is correct 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: wrong description **Form of Assessment** : Participatory Activities	150 minutes of discovery, presentation and discussion		**Matter:** the concept of matter particles, changes in matter, and the energy that accompanies them. **References:**	5%

10	Recognize the material world and its changes and how to investigate them	1. Explain the definition of matter 2. Provide material examples 3. Define material change 4. Analyze material changes 5. Analyze energy flow	**Criteria:** 1. 4: Description is correct 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: wrong description **Form of Assessment** : Participatory Activities	150 minutes of discovery, presentation and discussion		**Matter:** the concept of matter particles, changes in matter, and the energy that accompanies them. **References:**	5%
11		1. Mention the values of science 2. Explain the relationship of science values in everyday life	**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: wrong description **Form of Assessment** : Participatory Activities	Case-based learning; 150 minute discussion		**Material:** the description is generally correct, there is more than one aspect where the explanation is incorrect. **References:**	10%
12	Explains the dimensions of cognitive processes and knowledge, and higher order thinking skills	1. Mentions the dimensions of cognitive processes and knowledge 2. Explain the dimensions of cognitive processes and knowledge 3. Analyzing the dimensions of cognitive processes and knowledge in relation to science research	**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 one aspect where the explanation is incorrect 4. 1: wrong description **Form of Assessment** : Participatory Activities	Cased based Learning (CBL), Practice, Presentation and Discussion 150 minutes		**Material:** Explains the dimensions of cognitive processes and knowledge, and higher order thinking skills **. Reference:**	15%
13				energy in everyday life offline			0%

14	Describe scientific literacy		**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 **Form of Assessment** : Participatory Activities	Cased-based Learning (CBL), discussion	energy and thermodynamics online	**Material:** science literacy and provide examples of how to develop it. **Literature:**	5%
15	Describe the history of the development of natural sciences to recognize that natural sciences are a human endevour	1.Explain the history of the development of IPA 2.Provide examples of science discoveries 3.Identifying the results of science discoveries based on the western paradigm	**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 **Form of Assessment** : Participatory Activities	Cased-based Learning (CBL), Discussion			5%
16			**Form of Assessment** : Test	Written Exam 100 minutes	energy and thermodynamics online	**Material:** Final Semester Exam **Literature:**	15%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	52.5%
2.	Portfolio Assessment	7.5%
3.	Test	40%
		100%

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** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities 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.