



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

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																																																																																				
Basic Concepts of Science	8420203230	Compulsory Study Program Subjects	T=0	P=0	ECTS=0	1	July 18, 2024																																																																																																				
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																																																																																					
	Beni Setiawan		Muhamad Arif Mahdiannur			Dr. Endah Budi Rahaju, M.Pd.																																																																																																					
Learning model	Project Based Learning																																																																																																										
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																																																																																										
	Program Objectives (PO)																																																																																																										
	PO - 1	Utilizing science and technology as a tool for developing science																																																																																																									
	PO - 2	Mastering the nature and scope of science, science as inquiry, KPS, analysis of aspects of science content, thinking skills and literacy																																																																																																									
	PO - 3	Skilled in carrying out scientific inquiry activities with the content and context of the SMP/MTS curriculum																																																																																																									
	PO - 4	Developing student attitudes that are responsible, open to criticism, cooperative and care about time																																																																																																									
	PLO-PO Matrix																																																																																																										
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>P.O</td></tr> <tr><td>PO-1</td></tr> <tr><td>PO-2</td></tr> <tr><td>PO-3</td></tr> <tr><td>PO-4</td></tr> </table>						P.O	PO-1	PO-2	PO-3	PO-4																																																																																															
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PO Matrix at the end of each learning stage (Sub-PO)																																																																																																											
	<table border="1" style="margin-left: auto; margin-right: 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> <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> <tr><td>PO-4</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																	PO-3																	PO-4																
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Short Course Description	This course discusses the nature and scope of science, science as inquiry, science process skills (KPS), aspects of science content, the function of science in developing thinking skills and scientific literacy. Lectures are conducted using discussion, discovery learning and project methods.																																																																																																										
References	Main :																																																																																																										

<ol style="list-style-type: none"> 1. Kemdikbud. 2008. BSE IPA SMP CTL. Jakarta: Kemdikbud. 2. Kemdikbud. 2016. BS IPA SMP K13. Jakarta: Kemdikbud. 3. NRC. 2012. National Science Education Standards. Washington: NAP. 4. Rutherford, F.J. & Ahlgreb, A. 1990. Science for All American. New York: Oxford University Press. 5. Suryanti, Mintohari, Widodo, W. 2004. Pengembangan Pembelajaran IPA. Surabaya: Unesa University Press. 6. Tim MIPA Unesa. 2007. Sains Dasar. Surabaya: Unesa University Press. 							
Supporters:							
Supporting lecturer		Beni Setiawan, S.Pd., M.Pd., Ph.D. Dhita Ayu Permata Sari, S.Pd., M.Pd. Wahyu Budi Sabtiawan, S.Si., M.Pd., M.Sc. Muhamad Arif Mahdiannur, S.Pd., M.Pd. Fikky Dian Roqobih, 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			Form of Assessment : Participatory Activities	Cased-based Learning (CBL), Presentation and Discussion 3 x 50'			0%
2			Form of Assessment : Participatory Activities	Criteria: 1. Test: 2.4: the description is correct 3.3: the description is generally correct, there is one aspect where the explanation is incorrect 4.2: the description is generally correct, there is more than one aspect where the explanation is incorrect 5.1: the description is incorrect 6. Rubric: Grade A if the observation results are described accurately according to observations, the resulting inference is logical and based on observations, presentation in different representations is carried out (eg tables, graphs, charts, etc.). Every reduction in product quality results in a reduction in value of 2x50'		Material: Inquiry in Science Library : <i>Unesa MIPA Team. 2007. Basic Science. Surabaya: Unesa University Press.</i>	0%

3			Forms of Assessment : Participatory Activities, Practical Assessment, Practical / Performance	Simple practicum 3 x 50'			0%
4				Formulating problems, hypotheses, controlling variables, analyzing data, and concluding 3 x 50'			0%
5				Observe physical systems, take measurements, create a simple mathematical model 3 x 50'			0%
6				Observe physical systems, take measurements, create a simple mathematical model 3 x 50'			0%
7				Describe the characteristics of life, diversity of life, interdependence, flow of matter and energy, and evolution 3 x 50'			0%
8				UTS 3 x 50'			0%
9				Explaining the concept of material particles, changes in matter, and the energy that accompanies them 3 x 50'			0%
10			Form of Assessment : Participatory Activities	Explaining the concept of material particles, changes in matter, and the energy that accompanies them 3 x 50'			0%
11				Provide examples of science values that are useful in life 3 x 50'			0%
12				Explaining the dimensions of cognitive processes and knowledge, and higher order thinking skills 3 x 50'			0%

13				Explaining the dimensions of cognitive processes and knowledge, and higher order thinking skills 3 x 50'			0%
14			Form of Assessment : Participatory Activities	Disaster Mitigation 3 x 50'			0%
15			Form of Assessment : Participatory Activities	Disaster Mitigation 3 x 50'			0%
16			Form of Assessment : Test	area 3 x 50'			0%

Evaluation Percentage Recap: Project Based Learning

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** 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.**