



**Universitas Negeri Surabaya**  
**Faculty of Mathematics and Natural Sciences**  
**Master of Science Education Study Program**

Document Code

## SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Science Education for Sustainable Development	8410102230	Study Program Elective Courses	T=2	P=0	ECTS=4.48	1	August 15, 2023
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
	Mita Anggaryani, Ph.D.		Dr. Eko Hariyono, S.Pd., M.Pd.			Dr. Eko Hariyono, S.Pd., M.Pd.	

Learning model	Project Based Learning
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Program Learning Outcomes (PLO)	PLO study program that is charged to the course
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Program Objectives (PO)	
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PO - 1	Mastering the concept of science education for sustainable development.
PO - 2	Able to identify science education problems that are developing in society
PO - 3	Mastering Rethinking Education Economic, environmental and social pillars of sustainable education in Indonesia
PO - 4	Understanding the Curriculum Framework of ESD and SDGs
PO - 5	Mastering the Key Competence of ESD
PO - 6	Understanding the Asia-Pacific ESD Teacher Competency Framework
PO - 7	Evaluating Good Practice Teachers on Education for ESD
PO - 8	Able to produce learning products to support science education for sustainable development

PLO-PO Matrix	
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PO Matrix at the end of each learning stage (Sub-PO)	
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<b>Short Course Description</b>	This course discusses the concept of science education for sustainable development. More scientific concepts are applied in an effort to build thinking skills and creativity to solve problems that develop in society. The focus of this course is to provide learning experiences in solving various science education problems in accordance with the SDGs. This is very important to do as part of the study program's efforts to provide students with provisions related to developing educational trends.																																																																																																																																																																																									
<b>References</b>	<b>Main :</b> 1. 1. Environmental Engineering for the 21st Century Addressing Grand Challenges (2019)																																																																																																																																																																																									
	<b>Supporters:</b>																																																																																																																																																																																									
<b>Supporting lecturer</b>	Dr. Eko Hariyono, S.Pd., M.Pd. Mita Anggaryani, M.Pd., Ph.D.																																																																																																																																																																																									
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 )																																																																																																																																																																																					
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1	1.Describe the course syllabus 2.Describe Continuing Education 3.Describes the 17 goals of Continuing Education	1.Able to describe the nature of sustainable education correctly 2.Able to describe the 17 goals of Continuing Education correctly	<b>Criteria:</b> Individual  <b>Form of Assessment :</b> Participatory Activities		Discussion about the nature of science education. 13.00-14.40		2%																																																																																																																																																																																			
2	Describe issues and trends for ESD	1.Able to describe Issues and Trends for ESD correctly 2.Able to correctly identify ESD problems in Indonesia	<b>Criteria:</b> Individual  <b>Form of Assessment :</b> Participatory Activities		Discussion related to the application of science education in everyday life		2%																																																																																																																																																																																			

3	1.Describing Rethinking Education 2.Analyzing Economic, environmental and social pillar indicators of sustainable education in Indonesia	1.Able to describe rethinking education correctly 2.Able to analyze the pillar indicators of sustainable education: economic, environmental and social in Indonesia correctly	<b>Criteria:</b> Individual  <b>Form of Assessment :</b> Participatory Activities, Portfolio Assessment		Online Discussion		2%
4	Describe the Curriculum Framework of ESD and SDGs	able to describe the Curriculum Framework of ESD and SDGs well and correctly	<b>Criteria:</b> Individual  <b>Form of Assessment :</b> Participatory Activities		online discussion		2%
5	Describe the Key Competence of ESD	Able to describe the Key Competence of ESD correctly	<b>Criteria:</b> Individual  <b>Form of Assessment :</b> Participatory Activities		Online discussion		2%
6	Describe the Asia-Pacific ESD Teacher Competency Framework	Able to write essays on the Asia-Pacific ESD Teacher Competency Framework topic well	<b>Criteria:</b> Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Discussing the Asia-Pacific ESD Teacher Competency Framework from various relevant and reliable sources 100		5%
7	1.Describing Good Practice Teachers on Education for ESD 2.Analyzing Teaching and Learning for a Sustainable Future	1.Able to describe Good Practice Teacher on Education for ESD correctly 2.Able to analyze Teaching and Learning for a Sustainable Future well	<b>Criteria:</b> Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Discussing Good Practice Teachers on Education for ESD from various relevant and reliable sources 100		5%
8	UTS	Individual	<b>Criteria:</b> Able to write a paper on the theme of sustainable science education as Indonesia's long-term development strategy  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		UTS		20%
9	1.Describe the Key Competence of ESD 2.Designing Sustainable Science Learning	Able to describe the Key Competence of ESD correctly	<b>Criteria:</b> 1.Individual 2.Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Designing Sustainable Science Learning by paying attention to the Key Competence of ESD 100		5%

10	1.Describe the Key Competence of ESD 2.Designing Sustainable Science Learning	Able to describe the Key Competence of ESD correctly	<b>Criteria:</b> 1.Individual 2.Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Designing Sustainable Science Learning by paying attention to the Key Competence of ESD 100		5%
11	1.Describe the Curriculum Framework of ESD and SDGs 2.Preparing Teaching Materials for Sustainable Science Learning	Able to organize sustainable science learning teaching materials correctly	<b>Criteria:</b> 1.Individual 2.Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Preparing Sustainable Science Learning Teaching Materials by taking into account the Curriculum referred to 100		5%
12	1.Describe the Curriculum Framework of ESD and SDGs 2.Preparing Teaching Materials for Sustainable Science Learning	Able to organize sustainable science learning teaching materials correctly	<b>Criteria:</b> 1.Individual 2.Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Preparing Sustainable Science Learning Teaching Materials by taking into account the Curriculum referred to 100		5%
13	1.Describe the Key Competence of ESD 2.Developing a Sustainable Science Learning Evaluation	Able to prepare continuous science learning evaluations properly and correctly	<b>Criteria:</b> 1.Individual 2.Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Develop a Continuous Science Learning Evaluation that is tailored to the achievement of Key Competence of ESD 100		5%
14	1.Describe the Key Competence of ESD 2.Developing a Sustainable Science Learning Evaluation	Able to prepare continuous science learning evaluations properly and correctly	<b>Criteria:</b> 1.Individual 2.Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Develop a Continuous Science Learning Evaluation that is tailored to the achievement of Key Competence of ESD 100		5%
15		1.Able to design physical-based sustainable science learning media well 2.Able to design IT-based sustainable science learning media well	<b>Criteria:</b> 1.Individual 2.Group  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment		Designing physical or IT-based sustainable science learning media 100		5%

16	1.Designing Sustainable Science Learning 2.Preparing Teaching Materials for Sustainable Science Learning Evaluation 3.Developing a Sustainable Science Learning Evaluation 4.Designing Sustainable Science Learning Media	Able to complete assignments in the form of learning products to support science education for sustainable development well	<b>Criteria:</b> Individual  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment	UAS 100		25%
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**Evaluation Percentage Recap: Project Based Learning**

No	Evaluation	Percentage
1.	Participatory Activities	9%
2.	Project Results Assessment / Product Assessment	90%
3.	Portfolio Assessment	1%
		100%

**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.