



**Universitas Negeri Surabaya**  
**Faculty of Mathematics and Natural Sciences**  
**Physics Education Undergraduate Study Program**

**Document Code**

**SEMESTER LEARNING PLAN**

<b>Courses</b>	<b>CODE</b>	<b>Course Family</b>	<b>Credit Weight</b>	<b>SEMESTER</b>	<b>Compilation Date</b>																																											
Physics Literacy	8420302245	Study Program Elective Courses	T=2 P=0 ECTS=3.18	4	July 17, 2024																																											
<b>AUTHORIZATION</b>	<b>SP Developer</b>		<b>Course Cluster Coordinator</b>	<b>Study Program Coordinator</b>																																												
	.....		.....	Mita Anggaryani, M.Pd., Ph.D.																																												
<b>Learning model</b>	<b>Project Based Learning</b>																																															
<b>Program Learning Outcomes (PLO)</b>	<b>PLO study program that is charged to the course</b>																																															
	<b>Program Objectives (PO)</b>																																															
	<b>PLO-PO Matrix</b>																																															
		P.O																																														
	<b>PO Matrix at the end of each learning stage (Sub-PO)</b>																																															
	P.O	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;"></td> <td colspan="15" style="text-align: center; border-bottom: 1px solid black;">Week</td> </tr> <tr> <td style="border-right: 1px solid black;"></td> <td style="border-right: 1px solid black; text-align: center;">1</td> <td style="border-right: 1px solid black; text-align: center;">2</td> <td style="border-right: 1px solid black; text-align: center;">3</td> <td style="border-right: 1px solid black; text-align: center;">4</td> <td style="border-right: 1px solid black; text-align: center;">5</td> <td style="border-right: 1px solid black; text-align: center;">6</td> <td style="border-right: 1px solid black; text-align: center;">7</td> <td style="border-right: 1px solid black; text-align: center;">8</td> <td style="border-right: 1px solid black; text-align: center;">9</td> <td style="border-right: 1px solid black; text-align: center;">10</td> <td style="border-right: 1px solid black; text-align: center;">11</td> <td style="border-right: 1px solid black; text-align: center;">12</td> <td style="border-right: 1px solid black; text-align: center;">13</td> <td style="border-right: 1px solid black; text-align: center;">14</td> <td style="border-right: 1px solid black; text-align: center;">15</td> <td style="border-right: 1px solid black; text-align: center;">16</td> </tr> </table>															Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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<b>Short Course Description</b>	This course is a course that develops knowledge and skills related to physics education literacy which examines national and international journals, special topics in physics education research, literature review, plagiarism, bibliometric analysis, library research, publications, and mini-projects related to library research .																																															
<b>References</b>	<b>Main :</b>																																															
	<ol style="list-style-type: none"> <li>1. Gary Holden, Gary Rosenberg, &amp; Kathleen Barker. 2005. Bibliometrics in Social Work. New York: Routledge.</li> <li>2. RONALD ROUSSEAU, LEO EGGHE, &amp; RAF GUNS. 2018. BECOMING METRIC-WISE: A Bibliometric Guide for Researchers. Chandos Publishing- Elsevier.</li> <li>3. Roberto Todeschini and Alberto Baccini . 2016. Handbook of Bibliometric Indicators Quantitative Tools for Studying and Evaluating Research. Wiley VCH Verlag GMBH.</li> <li>4. Nees Jan van Eck and Ludo Waltman. 2018. VOSViewer Manual Version 168. Universiteit Leiden, The Netherlands.</li> <li>5. Wasis, dkk. 2018. HoTs dan Literasi Sains (Konsep, Pembelajaran, dan Penilaiannya). Jombang: Kun Fayakun</li> </ol>																																															
	<b>Supporters:</b>																																															
<ol style="list-style-type: none"> <li>1. Arifin, M. S., Rachmat, Z., Laratmase, P., Muniarty, P., Sudirjo, F., Ilyas, M., ... &amp; Hartati, L. (2023). Sistem Informasi Manajemen. Global Eksekutif Teknologi.</li> <li>2. Susilawati, Ratnasari, Y., Jumadi. 2021. Dunia dekat dengan Fisika. Kudus: Badan Penerbit Universitas Muria Kudus</li> </ol>																																																
<b>Supporting lecturer</b>	Woro Setyarsih, S.Pd., M.Si. Prof. Nadi Suprpto, S.Pd., M.Pd., Ph.D. Mita Anggaryani, M.Pd., Ph.D. Mukhayyarotin Niswati Rodliyatul Jauharyah, S.Pd., M.Pd. Dr. Muhammad Satriawan, M.Pd. Nurita Apridiana Lestari, S.Pd., M.Pd. Utama Alan Deta, S.Pd., M.Pd., M.Si. Dr. Binar Kurnia Prahani, S.Pd., M.Pd. Muhammad Habibulloh, M.Pd. Dr. Oka Saputra, M.Pd																																															
<b>Week-</b>	<b>Final abilities of each learning stage (Sub-PO)</b>	<b>Evaluation</b>		<b>Help Learning, Learning methods, Student Assignments, [ Estimated time]</b>		<b>Learning materials [References]</b>	<b>Assessment Weight (%)</b>																																									
		<b>Indicator</b>	<b>Criteria &amp; Form</b>	<b>Offline ( offline )</b>	<b>Online ( online )</b>																																											

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Students are able to understand the basic concepts of scientific literacy (physics)	<p>1. Students are able to explain the basics of scientific literacy.</p> <p>2. Students are able to provide examples of scientific literacy in the field of physics and physics education.</p> <p>3. Students are able to analyze natural phenomena and explain scientific facts based on physical explanations.</p> <p>4. Students are able to evaluate a person's/student's scientific literacy abilities based on aspects of scientific literacy competency.</p>	<p><b>Criteria:</b></p> <p>1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good</p> <p><b>Form of Assessment :</b> Participatory Activities, Portfolio Assessment</p>	Discussion and Repository 2 X 50		<p><b>Material:</b> Basics of scientific literacy</p> <p><b>Reference:</b> <i>Wasis, et al. 2018. HoTs and Scientific Literacy (Concept, Learning and Assessment). Jombang: Kun Fayakun</i></p>	3%
2	Students are able to manage information related to concepts, principles, laws and theories in the field of physics and physics education.	<p>1. Students are able to identify problems in real life.</p> <p>2. Students are able to identify concepts, facts, principles, laws and theories that can explain the phenomena/problems that have been identified.</p> <p>3. Students are able to explain scientific facts about the problems/phenomena being studied based on information collected from various sources</p>	<p><b>Criteria:</b></p> <p>1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good</p> <p><b>Form of Assessment :</b> Participatory Activities, Portfolio Assessment</p>	Assignments, discussions, and repository 2 X 50			3%
3	Students are able to study information in the field of physics and physics education sourced from national journals.	<p>1. Students are skilled in identifying the quality of national journals based on the SINTA ranking.</p> <p>2. Students are able to identify articles in national journals according to the topic they will study.</p> <p>3. Students are able to analyze the content of scientific articles sourced from national journals.</p>	<p><b>Criteria:</b></p> <p>1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good</p>	Discussion and Repository 2 X 50			0%
4	Students are able to study information in the field of physics and physics education sourced from national journals.	<p>1. Students are skilled in identifying the quality of national journals based on the SINTA ranking.</p> <p>2. Students are able to identify articles in national journals according to the topic they will study.</p> <p>3. Students are able to analyze the content of scientific articles sourced from national journals.</p>	<p><b>Criteria:</b></p> <p>1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good</p>	Discussion and Repository 2 X 50			0%

5	Students are able to study information in the field of physics and physics education sourced from international journals	1. Students are skilled in identifying the quality of international journals based on Scopus and Web of Science data. 2. Students are able to identify articles in international journals according to the topic they will study. 3. Students are able to analyze the content of scientific articles sourced from international journals. 4. Students are able to identify predatory journals through the Beal list.	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	Assignments, discussions, and repository 2 X 50			0%
6	Students are able to study information in the field of physics and physics education sourced from international journals	1. Students are skilled in identifying the quality of international journals based on Scopus and Web of Science data. 2. Students are able to identify articles in international journals according to the topic they will study. 3. Students are able to analyze the content of scientific articles sourced from international journals. 4. Students are able to identify predatory journals through the Beal list.	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	Assignments, discussions, and repository 2 X 50			0%
7	Students are able to study the latest physics education research topics	1. Students are able to identify the latest research topics in the field of physics education. 2. Students are able to study the latest physics education research topics	<b>Criteria:</b> 1.4 = Very Good 2.3 = OK 3.2 = Fairly Good 4.1 = Not Good	Discussion and Repository 2 X 50			0%
8	UTS	1-5	<b>Criteria:</b> UTS	2 X 50 exam			0%
9	Students are skilled at conducting literature reviews to examine current issues in physics education research.	1. Students are able to explain the literature review method in studying current issues in physics education research. 2. Students are skilled at conducting literature reviews to examine current issues in physics education research.	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	Practice, discussion, repository 2 X 50			0%
10	Students are able to examine various types of plagiarism.	1. Students are able to explain the basic concept of plagiarism. 2. Students are able to differentiate types of plagiarism. 3. Students are familiar with applications for checking plagiarism. 4. Students can review the results of checking plagiarism data using Turnitin (for example).	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	Discussion, repository, and modeling (examples of plagiarism that must be avoided) 2 X 50			0%
11	Students are skilled at carrying out bibliometric analysis.	1. Students are able to explain bibliometric analysis. 2. Students are able to operate VOSViewer software. 3. Students are skilled at carrying out bibliometric analysis with the help of VOSViewer.	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	Modeling 2 X 50			0%
12	Students are skilled in carrying out library research.	Students are skilled at carrying out library research according to the chosen research topic.	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	Modeling and practice 2 X 50			0%

13	Students are skilled at carrying out mini projects through library research.	1. Students are skilled at carrying out library research.2. Students are skilled at carrying out mini library research projects according to the topic they choose.	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	library research project 2 X 50			0%
14	Students are skilled at carrying out mini projects through library research.	1. Students are skilled at carrying out library research.2. Students are skilled at carrying out mini library research projects according to the topic they choose.	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	library research project 2 X 50			0%
15	Students are skilled at carrying out mini projects through library research.	1. Students are skilled at carrying out library research.2. Students are skilled at carrying out mini library research projects according to the topic they choose.	<b>Criteria:</b> 1.4 = Very Good 2.3 = Good 3.2 = Fairly Good 4.1 = Not Good	library research project 2 X 50			0%
16							0%

#### Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	3%
2.	Portfolio Assessment	3%
		6%

#### 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.