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

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Advanced Innovative Learning	8420302258		**T=2**	**P=0**	**ECTS=3.18**	6	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	....	....	Mita Anggaryani, M.Pd., Ph.D.

Learning model	**Project Based Learning**																
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	Students can produce physics learning tools that support accelerated studies in the Bachelor of Physics Education.

References	**Main :**

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2. Arends, R. (2012). *Learning to teach* . New York: McGraw-Hill.
3. **Prahani, B.K., Jatmiko, B.,** Hariadi, B., ...Amelia, T., Lemantara, J. 2020. Blended web mobile learning (BWML) model to improve students higher order thinking skills. International Journal of Emerging Technologies in Learning, 2020, 15(11), pp. 42–55. (Journal Indexed by **Scopus**)
4. **Prahani, B.K., Jatmiko, B.,** Hariadi, B., ...Sagirani, T., Amelia, T. 2021. Development Blended Web Mobile Learning Model on COVID-19 Pandemic TEM Journal, 10(4), pp. 1879–1883. (Journal Indexed by **Scopus**)
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6. Abtokhi, A., **Jatmiko, B.,** Wasis, W. 2021. Evaluation of Self-Regulated Learning on Problem-Solving Skills in Online Basic Physics Learning During the Covid-19 Pandemic. Journal of Technology and Science Education, 11(2), pp. 541–555. (Journal Indexed by **Scopus**)
7. Akhdinirwanto, R.W., Agustini, R., **Jatmiko, B.** 2020. Problem-based learning with argumentation as a hypothetical model to increase the critical thinking skills for junior high school students. Jurnal Pendidikan IPA Indonesia, 2020, 9(3), pp. 340–350. (Journal Indexed by **Scopus**)
8. Saputro, S.D., Tukiran, Supardi, Z.A.I., **Jatmiko, B.** 2020. Conceptual framework of critical thinking skills for work and energy tests applied to physics learning. Periodico Tche Quimica, 17(36), pp. 798–815. (Journal Indexed by **Scopus**)
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10. Wahyuni, S., Erman, Sudikan, S.Y., **Jatmiko, B.** 2020. Edmodo-based interactive teaching materials as an alternative media for science learning to improve critical thinking skills of junior high school students. International Journal of Interactive Mobile Technologies, 14(9), pp. 166–181. (Journal Indexed by **Scopus**)
11. . Hariadi, B., Sunarto, M.J.D., Sudarmaningtyas, P., **Jatmiko, B.** 2019. Hybrid learning by using brilian applications as one of the learning alternatives to improve learning outcomes in college. International Journal of Emerging Technologies in Learning, 14(10), pp. 34–45. (Journal Indexed by **Scopus**)
12. . Wahyuni, S., Gusti Made Sanjaya, I., Erman, **Jatmiko, B.** 2019. Edmodo-based blended learning model as an alternative of science learning to motivate and improve junior high school students scientific critical thinking skills. International Journal of Emerging Technologies in Learning, 14(7), pp. 98–110. (Journal Indexed by **Scopus**)
13. . Suprapto, N., **Prahani, B.K.,** Deta, U.A. 2021. Top 100 Cited Publications in Physics Education in The Last Thirty Years: A Bibliometric Analysis. Library Philosophy and Practice, 2021, pp. 1–13. (Journal Indexed by **Scopus**)
14. . Rusmansyah, Yuanita, L., Ibrahim, M., Isnawati, **Prahani, B.K.** 2019. Innovative chemistry learning model: Improving the critical thinking skill and self-efficacy of pre-service chemistry teachers. Journal of Technology and Science Education, 9(1), pp. 59–76. (Journal Indexed by **Scopus**)
15. . Koyimah, Widodo, W., Suprapto, N., **Prahani, B.K.** 2020. Effectiveness of interactive microcontroller based speed sensors to improve students analytic thinking skills. International journal of online and biomedical engineering, 16(9), pp. 173–182. (Journal Indexed by **Scopus**)

Supporters:	

| **Supporting lecturer** | Dr. Dwikoranto, M.Pd.
Dr. Eko Hariyono, S.Pd., M.Pd.
Abu Zainuddin, S.Pd., M.Pd.
Nurita Apridiana Lestari, S.Pd., M.Pd.
Dr. Binar Kurnia Prahani, 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	Advanced Innovative Learning Overview			2 X 50			0%
2	Determining Current Topics in Physics Learning			2 X 50			0%
3	Workshop on Preparing Advanced Innovative Tools according to the thesis topic taken			2 X 50			0%
4	Workshop on Preparing Advanced Innovative Tools according to the thesis topic taken			2 X 50			0%

5	Workshop on Preparing Advanced Innovative Tools according to the thesis topic taken			2 X 50		0%
6	Workshop on Preparing Advanced Innovative Tools according to the thesis topic taken			2 X 50		0%
7	Workshop on Preparing Advanced Innovative Tools according to the thesis topic taken			2 X 50		0%
8	UTS			2 X 50		0%
9	Can create physics learning tools			2 X 50		0%
10	Can create physics learning tools			2 X 50		0%
11	Can create physics learning tools			2 X 50		0%
12	Can create physics learning tools			2 X 50		0%
13	Can create physics learning tools			2 X 50		0%
14	Can create physics learning tools			2 X 50		0%
15	Can create physics learning tools			2 X 50		0%
16						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** 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.