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

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date
Colloquium	4520102105	Compulsory Study Program Subjects	**T=2 P=0 ECTS=3.18**	6	November 30, 2021

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	Prof. Tjipto Prastowo, Ph.D.	Prof. Dr. Munasir, S.Si., M.Si.	Prof. Dr. Munasir, S.Si., M.Si.

Learning model: Case Studies

Program Learning Outcomes (PLO)

PLO study program which is charged to the course

PLO-7	Communicate their ideas and/or research results in academic writing and speaking effectively.
PLO-12	Have the ability to improve their knowledge and be able to continue their studies to a higher level.

Program Objectives (PO)

PO - 1	Demonstrate independent, creative and open character as well as critical thinking skills in composing written compositions.
PO - 2	Understand the systematics of studies that discuss certain topics related to physics problems and alternative solutions.
PO - 3	Apply preferred methods and digital literacy skills to identify alternative solutions to physics problems.
PO - 4	Understand the important role of verbal communication skills in the scientific world.

PLO-PO Matrix

P.O	PLO-7	PLO-12
PO-1		
PO-2		
PO-3		
PO-4		

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
PO-1																
PO-2																
PO-3																
PO-4																

Short Course Description

Colloquium is a mandatory course for Physics Study Program students before their thesis. In this case, the Colloquium discusses the latest advances in physics research that are relevant to topics that might become students' thesis research topics. During lectures, the main task is brainstorming on certain topics through searching relevant literature studies under the guidance of the supervisor. The composition of the writing includes discussion that is relevant to the basic principles of physics that underlie a physical phenomenon discussed in selected references or literature and discussion of the important role of research studied for human life and the environment. At the end of the lecture, students are asked to carry out a presentation based on a Colloquium Report containing the chosen Thesis research topic, where research results in the form of experimental findings in the laboratory, numerical simulations, or observations in the field can be displayed.

References

Main :

1. Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students . Unpublished work.
2. Abdullah, M. 2011. Tuntunan Praktis Menulis Makalah Untuk Jurnal Ilmiah Internasional . Unpublished work.

Supporters:

1. Jurnal-Jurnal ilmiah nasional bereputasi yang relevan: https://scholar.google.com/
2. Jurnal-Jurnal Internasional bereputasi yang relevan: https://scholar.google.com/

Supporting lecturer	Dr. Zainul Arifin Imam Supardi, M.Si. Prof. Dr. Madlazim, M.Si. Prof. Tjipto Prastowo, Ph.D. Dr. Frida Ulfah Ermawati, M.Sc. Prof. Dr. Munasir, S.Si., M.Si. Dzulkiflih, S.Si., M.T. Diah Hari Kusumawati, S.Si., M.Si. Nugrahani Primary Putri, S.Si., M.Si. Endah Rahmawati, S.T., M.Si. Meta Yantidewi, S.Si., M.Si. Lydia Rohmawati, S.Si., M.Si. Dr. Rohim Aminullah Firdaus, S.Pd, M.Si Arie Realita, M.Si. Dr. Muhimmatul Khoiro, S. Si. Muhammad Nurul Fahmi, S.Si., M.Si.

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	Able to understand the important role of independent, creative and open character as well as critical thinking skills in composing written compositions.	Students are able to find information and study one of the latest and factual physics research topics that has been published in B-accredited national scientific journals or reputable international scientific journals (indexed by Scopus, Thomson Reuters).	**Criteria:** Quantitative **Form of Assessment** : Participatory Activities	Initial discussion on research topics of interest Question and answer 2 X 50	Initial discussion on research topics of interest Question and answer 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	3%
2	Able to understand the important role of independent, creative and open character as well as critical thinking skills in composing written compositions.	Students are able to find information and study one of the latest and factual physics research topics that has been published in B-accredited national scientific journals or reputable international scientific journals (indexed by Scopus, Thomson Reuters).	**Criteria:** Quantitative **Form of Assessment** : Participatory Activities	Initial discussion on research topics of interest Question and answer 2 X 50	Initial discussion on research topics of interest Question and answer 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	3%
3	Able to understand the important role of independent, creative and open character as well as critical thinking skills in composing written compositions.	Students are able to find information and study one of the latest and factual physics research topics that has been published in B-accredited national scientific journals or reputable international scientific journals (indexed by Scopus, Thomson Reuters).	**Criteria:** Quantitative **Form of Assessment** : Participatory Activities	Initial discussion on research topics of interest Question and answer 2 X 50	Initial discussion on research topics of interest Question and answer 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	3%

4	Able to understand previous studies that discuss certain issues related to physics problems and possible alternative solutions.	Students are able to find information and study one of the latest and factual physics research topics that has been published in B-accredited national scientific journals or reputable international scientific journals (indexed by Scopus, Thomson Reuters).	**Criteria:** Quantitative **Form of Assessment** : Participatory Activities	Initial discussion on research topics of interest Question and answer 2 X 50	Initial discussion on research topics of interest Question and answer 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	3%
5	Able to understand previous studies that discuss certain issues related to physics problems and possible alternative solutions.	Students are able to find information and study one of the latest and factual physics research topics that has been published in B-accredited national scientific journals or reputable international scientific journals (indexed by Scopus, Thomson Reuters).	**Criteria:** Quantitative **Form of Assessment** : Participatory Activities	Initial discussion on research topics of interest Question and answer 2 X 50	Initial discussion on research topics of interest Question and answer 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	3%
6	Able to understand the important role of digital literacy skills to identify alternative solutions to physics problems.	Students are able to find information and study one of the latest and factual physics research topics that has been published in B-accredited national scientific journals or reputable international scientific journals (indexed by Scopus, Thomson Reuters).	**Criteria:** Quantitative **Form of Assessment** : Participatory Activities	Initial discussion on research topics of interest Question and answer 2 X 50	Initial discussion on research topics of interest Question and answer 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	3%
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8	Students are able to find information and study one of the latest and factual physics research topics that has been published in B-accredited national scientific journals or reputable international scientific journals (indexed by Scopus, Thomson Reuters).	1. Students are able to find information and study one of the latest and factual physics research topics from various relevant scientific journals: National or internationally reputable 2. Have prepared a draft article or proposal for research: Review results from several relevant scientific journals	**Criteria:** Quantitative **Form of Assessment** : Portfolio Assessment	Presentation, Discussion and questions and answers 2 X 50	Presentation, Discussion and questions and answers 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	30%
9	Able to understand the important role of effective communication, both verbal and written, to support scientific behavior and performance.	1. Students are able to find information and study one of the latest and factual physics research topics from various relevant scientific journals: National or internationally reputable 2. Have prepared a draft article or proposal for research: Review results from several relevant scientific journals	**Criteria:** Quantitative **Form of Assessment** : Portfolio Assessment	Presentation, Discussion and questions and answers 2 X 50	Presentation, Discussion and questions and answers 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	3%
10	Able to understand the important role of effective communication, both verbal and written, to support scientific behavior and performance.	1. Students are able to find information and study one of the latest and factual physics research topics from various relevant scientific journals: National or internationally reputable 2. Have prepared a draft article or proposal for research: Review results from several relevant scientific journals	**Criteria:** Quantitative **Form of Assessment** : Portfolio Assessment	Presentation, Discussion and questions and answers 2 X 50	Presentation, Discussion and questions and answers 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	2%

11	Able to write concisely and clearly about certain topics related to physics problems chosen as topic plans for thesis research.	1. Students are able to find information and study one of the latest and factual physics research topics from various relevant scientific journals: National or internationally reputable 2. Have prepared a draft article or proposal for research: Review results from several relevant scientific journals	**Criteria:** Quantitative **Form of Assessment** : Portfolio Assessment	Presentation, Discussion and questions and answers 2 X 50	Presentation, Discussion and questions and answers 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	2%
12	Able to write concisely and clearly about certain topics related to physics problems chosen as topic plans for thesis research.	1. Students are able to find information and study one of the latest and factual physics research topics from various relevant scientific journals: National or internationally reputable 2. Have prepared a draft article or proposal for research: Review results from several relevant scientific journals	**Criteria:** Quantitative **Form of Assessment** : Portfolio Assessment	Presentation, Discussion and questions and answers 2 X 50	Presentation, Discussion and questions and answers 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	2%
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14	Able to communicate effectively and clearly during a scientific presentation on a particular topic chosen to be the topic plan for the thesis research	1. Students are able to find information and study one of the latest and factual physics research topics from various relevant scientific journals: National or internationally reputable 2. Have prepared a draft article or proposal for research: Review results from several relevant scientific journals	**Criteria:** Quantitative **Form of Assessment** : Portfolio Assessment	Presentation, Discussion and questions and answers 2 X 50	Presentation, Discussion and questions and answers 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	3%
15	Able to communicate effectively and clearly during a scientific presentation on a particular topic chosen to be the topic plan for the thesis research	1. Students are able to find information and study one of the latest and factual physics research topics from various relevant scientific journals: National or internationally reputable 2. Have prepared a draft article or proposal for research: Review results from several relevant scientific journals	**Criteria:** Quantitative **Form of Assessment** : Participatory Activities, Portfolio Assessment	Presentation, Discussion and questions and answers 2 X 50	Presentation, Discussion and questions and answers 2 x 50	**Material:** Methods for writing scientific papers and methods for searching scientific sources: reputable national and international journals. **References:** *Prastowo, T. & Madlazim. 2013. Lecture Notes on Research Methodology for Physics Students. Unpublished work.* **Material:** Sinta indexed journals **Library:** *Relevant reputable national scientific journals: https://scholar.google.com/...* **Material:** Scopus indexed journals and DOI **Library:** *Relevant reputable international journals: https://scholar.google.com/...*	5%
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Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	38.5%
2.	Portfolio Assessment	61.5%

	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** 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.