SEMESTER LEARNING PLAN

Courses		CODE	Course Family		Credit Weight			SEMESTER	Compilation Date
Applied physics		8321302035			T=2	P=0	ECTS=3.18	5	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	....	....	Nia Kusstianti, S.Pd., M.Pd.

Learning model	Case Studies

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	The Applied Physics course examines concepts and principles/laws that explain the behavior of physical objects and their application in the fields of food, clothing and make-up. The study includes measurements and units, basic dynamics and physical properties of materials, temperature and heat, and electricity. Lectures are conducted in the form of presentations and discussions, modeling and guided exercises. Assessment is carried out in the form of assignments and written tests.

References	Main :	
	1. Giancoli. C Douglas. 2005. Fisika Jilid 1. Jakarta: Erlangga. Giancoli. C Douglas. 2005. Fisika Jilid 2. Jakarta: Erlangga.	
	Supporters:	

Supporting lecturer	Prof.Dr. Wahono Widodo, M.Si. Diah Wulandari, S.T., M.T.

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	Master the scientific method and carry out simple measurements, identify appropriate units, and convert units in the field of catering/fashion/make-up	Applying the steps of the scientific method to problem examples carefully Formulating non-standard units and standard units Measuring quantities needed in the field of catering/fashion/make-up	**Criteria:** 1.Correct: 100 2.The error value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%
2	Master the scientific method and carry out simple measurements, identify appropriate units, and convert units in the field of catering/fashion/make-up	Applying the steps of the scientific method to problem examples carefully Formulating non-standard units and standard units Measuring quantities needed in the field of catering/fashion/make-up	**Criteria:** 1.Correct: 100 2.The error value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%
3	perform measurements and quantitative analysis involving quantities in motion	Measure speed Create and read position-time and velocity-time tables and graphs Calculate quantities involved in motion Collaborate in solving problems	**Criteria:** 1.Correct: 100 2.Incorrect: the value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%

4	perform measurements and quantitative analysis involving quantities in motion	Measure speed Create and read position-time and velocity-time tables and graphs Calculate quantities involved in motion Collaborate in solving problems	**Criteria:** 1. Correct: 100 2. Incorrect: the value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%
5	carry out quantitative analysis related to Newton's laws of motion	Formulate Newton's I, II, and III laws from observations. Carry out simple quantitative analysis related to Newton's second law. Be diligent in solving problems	**Criteria:** 1. Correct: 100 2. The error value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%
6	carry out quantitative analysis related to Newton's laws of motion	Formulate Newton's I, II, and III laws from observations. Carry out simple quantitative analysis related to Newton's second law. Be diligent in solving problems	**Criteria:** 1. Correct: 100 2. The error value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%
7	utilize ICT to explore information on the application of concepts and principles/laws of physics in the field of food, fashion, make-up master the application of concepts and principles/laws of physics (especially units and measurements, kinematics and dynamics (in the field of food, clothing and make-up) solve problems in the field of food, fashion, and make-up by applying concepts and principles/laws of physics	1. master the application of the concepts of units and measurements, kinematics and dynamics in the fields of food, fashion and make-up 2. solve problems in the field of catering, fashion and make-up by applying the concepts of measurement, kinematics and dynamics in the field of food, fashion and make-up	**Criteria:** 1. That's right 100 2. Incorrect: reduced according to the level of error	UTS 2 X 50			0%
8	carry out quantitative measurements and analysis of material elasticity, as well as its application for product testing in the catering/fashion/make-up sector	Infer the elasticity limits of materials based on graphs. Relate elasticity, softness and crispness to the peak strength of materials	**Criteria:** 1. Correct: 100 2. Incorrect: reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%
9	Applying the concepts of cohesion, adhesion and absorption of materials in the fields of food, fashion and make-up	Applying the concept of cohesion and adhesion in the field of food, clothing, make-up. Applying the concept of absorption in the field of food, fashion, make-up.	**Criteria:** 1. Correct: 100 2. Wrong: 3. reduced according to the error rate	Presentation and discussion 2 X 50			0%
10	carry out quantitative analysis related to temperature, heat, and heat transfer	Formulate and apply a temperature scale with the principle of changes in linear physical quantities with changes in temperature. Carry out quantitative analysis related to heat energy and changes in temperature and changes in form. Carry out quantitative and qualitative analysis related to heat transfer.	**Criteria:** 1. Correct: 100 2. Incorrect: the value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%
11	carry out quantitative analysis related to temperature, heat, and heat transfer	Formulate and apply a temperature scale with the principle of changes in linear physical quantities with changes in temperature. Carry out quantitative analysis related to heat energy and changes in temperature and changes in form. Carry out quantitative and qualitative analysis related to heat transfer.	**Criteria:** 1. Correct: 100 2. Incorrect: the value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%
12	carry out quantitative analysis related to temperature, heat, and heat transfer	Formulate and apply a temperature scale with the principle of changes in linear physical quantities with changes in temperature. Carry out quantitative analysis related to heat energy and changes in temperature and changes in form. Carry out quantitative and qualitative analysis related to heat transfer.	**Criteria:** 1. Correct: 100 2. Incorrect: the value is reduced according to the level of error	Presentation, discussion, guided practice 2 X 50			0%

13	carry out quantitative analysis related to electrical circuits, electrical energy	Carry out quantitative analysis related to current and voltage in series and parallel circuits Design simple electrical circuits based on needs Carry out quantitative analysis related to electrical energy and electricity costs	**Criteria:** 1.Correct: 100 2.Incorrect: the value is reduced according to the level of error	Virtual practicumRepresentationDiscussionGuided practice 2 X 50			0%
14	carry out quantitative analysis related to electrical circuits, electrical energy	Carry out quantitative analysis related to current and voltage in series and parallel circuits Design simple electrical circuits based on needs Carry out quantitative analysis related to electrical energy and electricity costs	**Criteria:** 1.Correct: 100 2.Incorrect: the value is reduced according to the level of error	Virtual practicumRepresentationDiscussionGuided practice 2 X 50			0%
15	carry out quantitative analysis related to electrical circuits, electrical energy	Carry out quantitative analysis related to current and voltage in series and parallel circuits Design simple electrical circuits based on needs Carry out quantitative analysis related to electrical energy and electricity costs	**Criteria:** 1.Correct: 100 2.Incorrect: the value is reduced according to the level of error	Virtual practicumRepresentationDiscussionGuided practice 2 X 50			0%
16	According to Learning Outcomes	Apply physics concepts/principles to solve relevant problems in the fields of food, fashion and make-up	**Criteria:** 1.Correct: 100 2.Incorrect: the value is reduced according to the level of error	UAS 2 X 50			0%

Evaluation Percentage Recap: Case Study

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.