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

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
General Physics	4720103030		T=3	P=0	ECTS=4.77	1	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Dr. Amaria, M.Si.

Learning model	**Case Studies**

Program Learning Outcomes (PLO)

PLO study program that is charged to the course

Program Objectives (PO)

PO - 1	Students are able to understand and apply vector concepts and particle kinematics
PO - 2	Students are able to understand and apply vector concepts and particle kinematics

PLO-PO Matrix

P.O
PO-1
PO-2

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																

Short Course Description	This course discusses Vectors, Particle Kinematics, Particle Dynamics, Fluids, Thermophysics, Optics, Static and Dynamic Electricity, and Magnetism, through active learning with a combination of discussion methods, question and answer and carrying out laboratory activities.

References

Main :

1. Bueche, F.J., 2000, Schaum 19s Outline of College Physics, McGraw-Hill.
2. Sarojo, A.G., 2014, Seri Fisika Dasar Mekanika, edisi 5, Salemba Teknika.
3. Serway, R.A., and Jewett, J.W., 2010, Physics for Scientists and Engineers withModern Physics, Salemba Teknika.

Supporters:

Supporting lecturer	Diah Hari Kusumawati, S.Si., M.Si. Nugrahani Primary Putri, S.Si., M.Si. Endah Rahmawati, S.T., M.Si. Lydia Rohmawati, S.Si., M.Si. Dr. Muhammad Satriawan, M.Pd. Muhammad Habibbulloh, M.Pd. Dr. Fitriana, S.Si. Dr. Muhimmatul Khoiro, S. Si. Dr. Oka Saputra, 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	Students are able to understand and apply vector concepts	1.Students are able to classify basic quantities, derived quantities and their units 2.Students are able to apply vector operations in solving physics problems	**Criteria:** Get full marks if you can solve all the questions given	Lectures, discussions, assignments 2 X 50			0%
2	Students are able to understand the concept of particle kinematics	1.Students can identify quantities in various types of motion 2.Students can solve particle kinematics problems	**Criteria:** Get full marks if you can solve all the questions given	Lectures and discussions 2 X 50			0%
3	Students are able to understand and apply the concept of particle dynamics	1.Explain the concept of particle dynamics 2.Solving particle dynamics problems 3.Explain the concepts of work and energy 4.Apply the concepts of work and energy	**Criteria:** Get full marks if you can solve all the questions given	DiscussionQuestions and answersAssignmentsExperiments on the topic Newton's Law of Motion and the Friction Coefficient 2 X 50			0%
4	Students are able to understand and apply the concept of particle dynamics	1.Explain the concept of particle dynamics 2.Solving particle dynamics problems 3.Explain the concepts of work and energy 4.Apply the concepts of work and energy	**Criteria:** Get full marks if you can solve all the questions given	DiscussionQuestions and answersAssignment 2 X 50			0%
5	Students are able to understand the concepts of static and dynamic fluids	1.Analyze variables that influence fluid conditions 2.Solve problems related to static and dynamic fluid concepts	**Criteria:** Get full marks if you can solve all the questions given	Lectures Questions and answers Experimental assignments on the topic Stokes' Law 2 X 50			0%
6	Students are able to understand the concept of thermophysics	1.Explain the heat transfer process 2.Apply the laws of thermodynamics to physics problems	**Criteria:** Get full marks if you can solve all the questions given	Lectures Questions and answers Experiments on the topic of 2 X 50 Thermometer Information			0%
7	Students are able to understand the concept of thermophysics	1.Explain the heat transfer process 2.Apply the laws of thermodynamics to physics problems	**Criteria:** Get full marks if you can solve all the questions given	Discussion of Experimental Tasks on the topic Price of Water Calorimeter 2 X 50			0%
8	UTS		**Criteria:** Get full marks if you can solve all the questions given	2 X 50			0%
9							0%
10							0%
11							0%
12							0%
13							0%
14							0%
15							0%

16							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.