



COURSE SYLLABUS OF PHYSICS EDUCATION STUDY PROGRAMME
FACULTY OF EDUCATIONAL SCIENCES
UIN SYARIF HIDAYATULLAH JAKARTA

Document Code
MH-PFIS

COURSE	CODE	CORE MODULE	WEIGHT (CREDITS)	WORKLOAD FOR EACH MODULE (IN MINUTES)	SEMESTER	COMPILATION DATE
BASIC PHYSICS PRACTICUM I	FST6097112	Compulsory	1 SKS 1.5 ECTS	<ul style="list-style-type: none"> Lecture : Laboratory course: 160.0 Project work: Independent task: Structured task: Internship: Total : 160	1	September 4, 2023
Language details	Indonesian					
Teaching methods	Project Based Learning (PjBL), Cooperative Learning (CL)					
Type of Examination	<ul style="list-style-type: none"> Participation (Attendance / Quiz): 10% Observation (Practice / Assignment): 30% Performance (Presentation): Oral Test (Group Assignment): Midterm Exam: 30% Final Exam: 30% 					
Module Coordinator	Reza Ruhbani Amarulloh, S.Pd, M.Pd					
Lecturer	Reza Ruhbani Amarulloh, S.Pd, M.Pd Fuji Hernawati Kusumah, S.Pd, M.Si					
Course Requirements	Have or are currently taking the FST6097119 Basic Physics course					
Learning Outcomes	PROGRAMME LEARNING OUTCOME (PLO)					
	PLO1 Graduates have expertise in physics and physics learning with an approach that is appropriate to Indonesia's social, cultural and environmental context. PLO2 Graduates have the ability to manage, develop and utilize technology in physics learning PLO3 Graduates have the ability to solve physics education problems using scientific methods PLO2 Graduates have the ability to manage, develop and utilize technology in physics learning					
	Intended Learning Outcome (ILO)					
	CPL01 Mastering Professionalism skills in Physics Education: Mastering basic educational concepts, learning theories, and physics and mathematics concepts to design, implement, and evaluate innovative physics learning by utilizing information technology and the environment; able to plan, implement and evaluate innovative physics learning, utilize ICT and the surrounding environment to develop students' critical thinking skills and scientific attitudes, apply mathematical models in explaining physical phenomena, demonstrate independent and quality performance, be responsible for achieving group work results, carry out supervision and evaluation, as well as communicating effectively both written and verbally in educational and research contexts, as well as demonstrating good leadership and administrative skills; and demonstrate faith and devotion to God Almighty and uphold religious, moral and ethical values in every action. CPL02 Mastering Physics Laboratory Management and Operational skills: Mastering the concepts and principles of physics laboratory management that integrates technology and the environment; able to utilize and manage a physics laboratory to support physics learning with the integration of technology and the environment, manage and operate a school laboratory efficiently, ensure the safety and effectiveness of education, be able to identify problems, formulate hypotheses, develop appropriate solutions using scientific methods, demonstrate independent and quality performance, responsible for achieving group work results, carrying out supervision and evaluation, and communicating effectively in an educational context; as well as respecting human values, working together in teams, and showing social responsibility and concern.					
	Course Learning Outcome (CLO)					
	CPMK01.29.06 Mastering the principles and concepts of Introduction to Laboratory Equipment, Testing initial knowledge of Basic Physics Practicum 1, Basic Measuring Instruments Practicum, Momentum and Impulse Practicum, Moment of Inertia Practicum, Archimedes' Principle Practicum, Static Friction and Kinetic Friction Practicum, Length Expansion Practicum, Aircraft Practicum Atwood, Calorimeter Practicum, Twisted Swing Practicum, Simple Harmonic Motion Practicum of a Simple Pendulum, Hooke's Law Practicum with logical, critical and independent thinking and upholding religious, moral and ethical values CPMK02.29.64 Mastering the concepts and principles of Introduction to Laboratory Equipment, Initial knowledge test for Basic Physics Practicum 1, Basic Measuring Instruments					

	<p>Practicum, Momentum and Impulse Practicum, Moment of Inertia Practicum, Archimedes' Principle Practicum, Static Friction and Kinetic Friction Practicum, Length Expansion Practicum, Plane Practicum Atwood, Calorimeter Practicum, Twisted Swing Practicum, Simple Harmonic Motion Practicum of a Simple Pendulum, Hooke's Law Practicum. by using scientific methods collaboratively and responsibly</p> <p>Sub-CLO</p> <p>SUB-CPMK01.29.06.02.01 Students can identify and use physics laboratory equipment correctly.</p> <p>SUB-CPMK01.29.06.02.02 Students can answer initial knowledge questions related to basic physics practicum 1.</p> <p>SUB-CPMK01.29.06.02.03 Students can use basic measuring instruments in the context of physics experiments precisely and accurately.</p> <p>SUB-CPMK01.29.06.02.04 Students can carry out experiments related to the concepts of momentum and impulse.</p> <p>SUB-CPMK01.29.06.02.05 Students can carry out experiments related to the concept of moment of inertia.</p> <p>SUB-CPMK01.29.06.02.06 Students can carry out experiments related to Archimedes' Principle.</p> <p>SUB-CPMK01.29.06.02.07 Students can carry out experiments related to the concepts of static friction and kinetic friction.</p> <p>SUB-CPMK01.29.06.02.08 Students can carry out experiments related to the concept of length expansion.</p> <p>SUB-CPMK01.29.06.02.09 Students can carry out the Atwood Aircraft Practicum well.</p> <p>SUB-CPMK01.29.06.02.10 Students can do the Calorimeter Practicum well.</p> <p>SUB-CPMK01.29.06.02.11 Students can do Twisted Swing Practicum well.</p> <p>SUB-CPMK01.29.06.02.12 Students can carry out Practical Simple Harmonic Motion of a Simple Pendulum</p> <p>SUB-CPMK01.29.06.02.13 Students can carry out experiments related to Hooke's Law.</p> <p>SUB-CPMK01.29.06.02.14 Students can develop basic physics practical teaching aids 1 SUB-CPMK02.29.63 Students can demonstrate a responsible attitude towards work carried out independently.</p> <p>SUB-CPMK02.29.64.03.01 Students can operate physics laboratory equipment.</p> <p>SUB-CPMK02.29.64.03.02 Students can conduct research and write the results in the form of a research report</p> <p>SUB-CPMK02.29.64.03.03 Students can display independent and measurable work performance of adequate quality</p> <p>SUB-CPMK02.29.64.03.04 Students can be responsible for assignments and work, complete assignments effectively and efficiently, and always fulfill promises.</p>
Brief Description of the Course	This course is a Compulsory course in the Physics Education Program. The topics covered in this course include Classical Mechanics; Thermodynamics; Vibrations and Waves. The type of lecture used is Practicum with the method Project Based Learning (PjBL), Cooperative Learning (CL), conducted through Interactive, Collaborative.
Scientific Integration	<p>2. develop and enrich the theories, substances and objects of scientific study;</p> <p>3. change or create a new theory;</p> <p>4. reconstructing auxiliary sciences;</p> <p>5. direct research topics;</p>
Research and Community Service Integration	
Learning Materials	Classical Mechanics; Thermodynamics; Vibrations and Waves
References	<p>1. Zemansky, S. (2000). Fisika untuk Universitas Jilid I. Jakarta: Erlangga</p> <p>2. Petunjuk Praktikum Fisika Dasar I</p>