

**PROGRAM PLAN AND SEMESTER
LEARNING ACTIVITIES
(RPKPS)
SCHOOL YEAR 2021/2022**



Physical
Geophysics
Basic Physics Practicum I
MFG 1013/ 1 SKS

Mentoring Team:
Basic Physics lab teaching team

**UNIVERSITAS GADJAH MADA
FACULTY OF MATHEMATICS AND
NATURAL SCIENCES
2021**



Gadjah Mada University
 Faculty of Mathematics and Natural Sciences
 Department of Physics / S1 Geophysics Study Program
 Academic Year 2021/2022


Document Code:

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SEMESTER LEARNING PROGRAM AND ACTIVITY PLAN (RPKPS)

Course Code	Course Name	Weight (credit)		Semester	Course Status	Prerequisite Courses
MFF 1013	Practicum Basic Physics	T: -	P:1		Mandatory	-
Course Brief Description	<p>Basic Physics Practicum I is a compulsory course of 1 credit in the 2021 Curriculum of the S1 Physics Study Program FMIPA UGM. The general purpose of organizing this MK is to provide mastery of knowledge related to material physics. In the 2021 curriculum, the MK Physics Study Program is associated with competence in Knowledge aspect (CPL 2), general skill aspect (CPL 3), aspects of specific skills (CPL 4) and aspects of long life learning / self-development (CPL 5) The learning objectives of this Basic Physics Practicum course can be seen from The desired learning outcomes are so that: 1. Students are able to explain the concepts underlying mechanical phenomena in physics and Connecting with its basic concept 2. Students are able to explain concepts of heat and thermodynamic phenomena and linking with acquired basic concepts. 3. Students are able to deliver results His experiments in the form of written reports 4. Students can work well individually or in groups in carrying out Learning experiments carried out based on a face-to-face schedule in the laboratory for 8 weeks, With each week meetings held for 180 minutes. The stages Done is to do the theory of error before the start of practicum. Then Practicum activities and then are used for response or assessment End of practicum. Evaluation for students for course assessment is carried out summative and formative. Summatively manifested in written form, both in the form of pretest, practicum reports and responses carried out in practicum series. The evaluation is formatively manifested in the form of practicum in groups and independent activities writing practicum reports. Process Monitoring is carried out by looking at student activities during the practicum process, Such as: presence in practicum, proficiency in mastering tools, and understanding of the material being presented and student performance In doing independent assignments in the form of practicum reports given.</p>					
Learning Achievement Ran Graduates (CPL) that Charged n on MK	CPL1	Good Attitude: Graduates have honest, disciplined, curious, critical, confident, independent, emotionally mature, cooperative, and trustworthy. Uphold norms, values, morals, religion, general ethics and professional and actively play a role in the global sustainable movement development and professional behavior				
	CPL2	Mastery of knowledge: Graduates are able to apply basic science (mathematics, physics, chemistry, biology, geology), and Geophysics in general and its relation to the sciences others such as geology, geodesy, geochemistry, geography, and information technology				
	CPL3	Operational and comprehensive skills: Graduates are able apply all geophysical methods (methods				

		seismic, gravitational, magnetic, electrical, electromagnetic and thermic) for energy exploration (e.g. oil and gas, coal, geothermal), mining materials (e.g. iron, copper, gold, silver, tin) and groundwater and mitigation disaster																											
Achievement of Course Learning (CPMK)	After completing the learning of this course, students are expected to be able to:																												
	<i>CPMK-1</i>	Students are able to explain concepts based on optical phenomena and connect with basic concepts [CPL-1, CPL-2]																											
	<i>CPMK-2</i>	Students are able to explain the concepts of electrical phenomena and connect with the basic concepts that [CPL-1 CPL-2]																											
	<i>CPMK-3</i>	Students are able to explain the concepts of mechanical phenomena and connect with the basic concepts that have been obtained [CPL-1 CPL-2]																											
	<i>CPMK-4</i>	Students are able to submit the results of their experiments in the form of written reports [CPL-1, CPL-3]																											
	<i>CPMK-5</i>	Students can work either individually or in groups in carrying out experiments [CPL-1 CPL-3]																											
CPL Mapping with CPMK	<table border="1"> <thead> <tr> <th></th> <th>CPMK 1</th> <th>CPMK 2</th> <th>CPMK 3</th> <th>CPMK 4</th> <th>CPMK 5</th> </tr> </thead> <tbody> <tr> <td>CPL-1</td> <td>√</td> <td>√</td> <td>√</td> <td>√</td> <td>√</td> </tr> <tr> <td>CPL-2</td> <td>√</td> <td>√</td> <td>√</td> <td></td> <td></td> </tr> <tr> <td>CPL-3</td> <td></td> <td></td> <td></td> <td>√</td> <td>√</td> </tr> </tbody> </table>						CPMK 1	CPMK 2	CPMK 3	CPMK 4	CPMK 5	CPL-1	√	√	√	√	√	CPL-2	√	√	√			CPL-3				√	√
	CPMK 1	CPMK 2	CPMK 3	CPMK 4	CPMK 5																								
CPL-1	√	√	√	√	√																								
CPL-2	√	√	√																										
CPL-3				√	√																								
CPMK link with Material and Form of Learning, as well as Time Allocation		Learning Materials	Forms of Learning	Time Allocation																									
	CPMK1 CPMK2 CPMK3 CPMK4 CPMK 5	1. Gravitational acceleration 2. Long expansion coefficient 3. Boyle's Law 4. Water Cooling 5. Muffled vibration 6. Spring constant 7. Water flow in capillary pipes 8. Oscillations of rods 9. Heat-Electric Equivalence	CBL	180 minutes every time you meet UM practice																									
UAS/ Project Task Results/ Case Analysis Results																													
Learning Method	CBL																												
Student Learning Experience n	Listen to dose explanations and discussions																												

Access Media Learning ran/ LMS and Offline &; Online Percentage	Slides and reference books							
Assessment Methods and Alignment with CPMK	Assessment Techniques	Percentage of Assessment	Criterion / Indicator	CPMK -1	CPMK-2	CPMK -3	CPMK -4	CPMK-5
	Participatory Activities^o	20						
	Project Results/Case Study Results/PBL Results^o							
	Cognitive							
	Assignment	40		√	√	√	√	√
	Quiz	10		√	√	√		
	UTS							
	UAS	30		√	√	√	√	√
	Total	100						
	can also be obtained from UTS or UAS which is the result of participatory activities or <i>project</i> / case study results. In accordance with IKU 7, the percentage of participatory activities and project results/case studies/PBL results is at least 50%.							
Reference List	1. Basic Physics Practicum Handbook I							
Name of Lecturer Pengampu (Team Teaching)	Basic Physics Laboratory Team							
Authorization	Drafting Date	Course Coordinator			Coordinator of Expertise (if applicable)		Program Head Study	
	2022						 Dr. Sudarmaji, M Si	