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

Geophysics

Electromagnetic

Geophysics

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GADJAH MADA UNIVERSITY
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
MFG-2105	*Geophysical Electromagnetics*	*T: 2*	*P:-*	*Odd*	*Mandatory*		*Basic Physics 1*

Course Brief Description	This Geophysical Electromagnetics course presents theoretical and methodological foundations of field theory in the field of geophysics. After attending this course, students are expected to be able to understand the basic theory of electromagnetism / electricity-magnetism, as a foundation for further courses, for example Geo-electrical and Electromagnetic Methods.	
Graduate Learning Outcomes (CPL) Charged to MK	***CPL-2***	**Mastery of general knowledge:** Graduates are able to apply basic science (mathematics, physics, chemistry, biology, geology), and geophysics in general and their relationship with other sciences such as geology, geodesy, geochemistry, geography, computing and information technology
Course Learning Outcomes (CPMK)	**After completing the learning of this course, students are expected to be able to:**	
	CPMK-1	Students understand vector definitions, field theory, electromagnetic theory (e.g. Maxwell's equations) [CPL-2]

CPL mapping with CPMK

	CPMK1
CPL-2	

The Relationship of CPMK with Learning Materials and Forms, as well as Time Allocation

	Learning Materials	Forms of Learning	Time Allocation
CPMK-1	Introduction	Presentations,	2 Hours
CPMK-1	Vector Analysis	Presentations,	4 Hours
CPMK-1	Static Electricity	Presentations,	4 Hours
CPMK-1	Static Magnets	Presentations,	4 Hours
	UTS/Project Task Results/Case Analysis		
CPMK-1	Magnetic fat on materials	Presentations,	2 Hours
CPMK-1	Electromagnetic radiation	Presentations,	4 Hours
CPMK-1	Maxwell's equation	Presentations,	4 Hours
CPMK-1	Helmholtz equation	Presentations,	4 Hours
	UAS/ Project Task Results/ Case Analysis		

Learning Methods	Student centered Learning, Presentation
Student Learning Experience	Students listen to the lecturer's explanation when the lecturer presents, then continues the discussion / question and answer.

Access Learning Media / LMS and Offline &; Online Percentage	LCD, paper, Simaster (e-learning), 100% offline
Assessment Methods and Alignment with CPMK	

Assessment Techniques	Assessment Percentage	Criteria/Indicators	CPMK1
Participatory Activities*)			
Project Results/ Case Study Results/ PBL Results*)			
Cognitive			
Assignment	30	Answer key	
Quiz	30	Answer key	
UTS	20	Answer key	
UAS	20	Answer key	
Total	100		

*) can also be obtained from UTS or UAS which is the result of participatory activities or *project* / 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. Michael Zhdanov, 2009, Geophysical Electromagnetic Theory and Methods, Elsevier, eBook ISBN: 9780080931760.
Name of Lecturer (*Team Teaching*)	1. Sintia Windhi Niasari 2. Budi Eka Nurcahya

Authorization	**Drafting Date**	**Course Coordinator**	**Coordinator of Expertise (if any)**	**Head of Study Program**
	Aug 16, 2022	 Dr.rer.nat. Sintia Windhi Niasari. M.Eng.	Dr. rer.nat. Ade Anggraini, M.T.	 Dr. Sudarmaji, MSi.