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

Geophysical

Meteorology

MFG 4605/2 credits

Mentoring Team:

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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:** .....

SEMESTER LEARNING PROGRAM AND ACTIVITY PLAN (RPKPS)

Course Code	Course Name	Weight (credit)		Semester	Course Status	Prerequisite Courses
MFG 4605	*Meterologist*	*T: 2*	*P:*	*Odd*	*Choice*	*Thermodinamic*

Course Brief Description	After attending this lecture, students can explain the basics of meteorology, climatology, dynamics of the earth's atmosphere, the relationship between land and water, cloud formation, rain, extreme weather and knowledge of weather forecasts.	
Graduate Learning Outcomes (CPL) Charged n in 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.
	CPL-4	**Application and analysis skills**: Graduates are able to carry out and manage a geophysical survey which includes scientific steps in the acquisition, processing and interpretation of data for the exploration of natural resources both for energy (e.g. oil and gas, coal, for energy exploration (e.g. oil and gas, coal, geothermal), mining materials (eg: iron, copper, gold, silver, tin) as well as groundwater and disaster mitigation.
	CPL-5	**Synthesis and Evaluation Skills:** Graduates are able to interpret geophysical data in the form of solving advanced and reverse problems (inverse problems) in an integrated manner that have ambiguous characters, carry out interpretation by making models and / or solving simple forward and reverse problems and are skilled in the use of computers both for the purposes of solving geophysical problems and for communication and internet access.
Course Learning Outcomes (CPMK)	**After completing the learning of this course, students are expected to be able to:**	
	CPMK-1	students are able to explain the basics of knowledge about the earth's atmosphere and interactions in it [CPL-2]
	CPMK-2	Students are able to explain the basis of weather monitoring, cloud formation and precipitation. [CPL-2, CPL-4]
	CPMK-3	students are able to do weather forecasts from weather satellite data [CPL-5]

CPL Mapping with CPMK

	CPMK1	CPMK2	CPMK3
CPL-2	√	√	
CPL-4		√	√
CPL-5			√

The Relationship of CPMK		Learning Materials	Forms of Learning	Time Allocation

With learning Material and Form, as well as Time Allocation	***CPMK-1***	Lecture contract, Earth's atmosphere, Role and composition, Earth's atmospheric structure: Earth's atmospheric layers, Weather and climate	TCL - SCL mixed	2 Hours
	CPMK-1	Earth's warming by the sun, temperature and heat transfer, Balance of absorbs and emissions, Greenhouse effect, Energy balance on earth, seasons, Local seasonal variations	TCL - SCL mixed	2 Hours
	CPMK-1	Air temperature and life, daily air temperature variation, daily air temperature measurement	TCL - SCL mixed	2 Hours
	CPMK-2	Clouds and humidity, Evaporation, condensation, and saturation points, Humidity, Measuring humidity, Dew, Fog, and other types of clouds	TCL - SCL mixed	2 Hours
	CPMK-2	Atmospheric stability, cloud formation, precipitation processes, Types of precipitation, measuring precipitation	TCL - SCL mixed	2 Hours
	CPMK-2	Wind and air pressure, atmospheric air pressure, air pressure reading, upper air chart, surface chart, force acting on wind, wind measurement	TCL - SCL mixed	2 Hours
		Atmospheric circulation	TCL - SCL mixed	2 Hours
	UTS/Project Task Results/Case Analysis Results			
	CPMK-1 CPMK-2	Winds in Indonesia	TCL - SCL mixed	2 Hours
	CPMK-3	Weather prediction	TCL - SCL mixed	2 Hours
	CPMK-3	Storms, lightning and tornadoes	TCL - SCL mixed	2 Hours
	CPMK-3	Measurement of meteorological parameters with simple tools	TCL - SCL mixed	2 Hours
	CPMK-3	Practical weather forecasting is presented in stages		
	CPMK-3	Measurement of meteorological parameters: temperature, air pressure, humidity, and AWS	TCL - SCL mixed	2 Hours
	CPMK-3	Search weather information, intuitive weather prediction, weather prediction using weather information and weather satellites	TCL - SCL mixed	2 Hours
	UAS/ Project Task Results/ Case Analysis			
Learning Methods	TCL - SCL mixed			
Student Learning Experience	Study, discussion, Q&A			
Access to Learning Media/ LMS	Slides and reference books			

and Offline &; Online Percentage								
Assessment Methods and Alignment with CPMK	**Assessment Techniques**	**Assessment Percentage**	**Criteria/ Indicator**	**CPMK-1**	**CPMK-2**	**CPMK-3**	**CPMK-4**	**CPMK-5**
	Participatory Activities[*)]							
	***Project* Results / Case Study / PBL Results** [*)]	**40**						
	Cognitive							
	Assignment							
	Quiz							
	UTS	**30**						
	UAS	**30**						
	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. Bigg, G.R., 1996. The Oceans and Climate, Cambridge UniversityPress. 2. Trinberth, K.E., 1992. Climate System Modeling, Cambridge UniversityPress.							
Name of Lecturer (*Team Teaching*)								

Authorization	**Drafting Date**	**Course Coordinator**	**Coordinator of Expertise (if applicable)**	**Head of Study Program**
	2020			Dr.. Sudarmaji,MSi