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

Geophysical Thesis

MFG 4101/ 6 credits

Mentoring Team:

Supervisor(s)

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 4101	*Thesis*	*T: 6*	*P: -*	Complete	*Mandatory*	Minimum 130 credits

Course Brief Description	After completing the Thesis course, students are expected to: 1. Able to conduct geophysical research and earth science scientifically reported in the form of a thesis. 2. Able to convey the results of research and analysis in the form of thesis writing 3. Able to explain and account for the results of research and analysis in the form of presentations at the thesis examination session 4. Able to describe research results in scientific paper publications and uploaded on university websites. 5. Able to maintain and develop networks with mentors, colleagues, peers both inside and outside the institution.	
Graduate Learning Outcomes (CPL) Charged to MK	***CPL-1***	**Good Attitude**: Graduates are honest, disciplined, curious, critical, confident, independent, emotionally mature, cooperative, and trustworthy. Uphold norms, values, morals, religion, general ethics and professional ethics, and actively play a role in the global movement of sustainable development and behave professionally
	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-3	**Operational and comprehensive skills**: Graduates are able to apply all geophysical methods (seismic, gravitational, magnetic, electrical, electromagnetic, and thermic methods) 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-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.
	CPL-6	**Managerial skills and self-development:** Graduates are able to update their competencies, namely by life-long learning in line with the latest geophysical conditions to compete nationally and

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<tr><td></td><td></td><td>international by upholding UGM values (Pancasila: Divinity, Humanity, Unity, Peoplehood, Justice, and Science: universality, objectivity, freedom, respect for reality and truth)</td></tr>
<tr><td rowspan="6">Course Learning Outcomes (CPMK)</td><td colspan="2">After completing the learning of this course, students are expected to be able to:</td></tr>
<tr><td>CPMK-1</td><td>Conducting geophysical research and earth science scientifically [CPL-1, CPL-2, CPL-3, CPL-4]</td></tr>
<tr><td>CPMK-2</td><td>Presenting the results of research and analysis in the form of thesis writing [CPL-4, CPL-5]</td></tr>
<tr><td>CPMK-3</td><td>Explain and account for the results of research and analysis in the form of presentations at the thesis examination session [CPL-1, CPL-5]</td></tr>
<tr><td>CPMK-4</td><td>Describe the results of research in scientific paper publications [CPL-1, CPL-5]</td></tr>
<tr><td>CPMK-5</td><td>Maintain and develop networks with mentors, colleagues, peers both inside and outside the institution [CPL-6]</td></tr>
<tr><td>CPL mapping with CPMK</td><td colspan="2">
<table>
<tr><th></th><th>CPMK-1</th><th>CPMK-2</th><th>CPMK-3</th><th>CPMK-4</th><th>CPMK-5</th></tr>
<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>
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<tr><td>CPL-6</td><td></td><td></td><td></td><td></td><td>√</td></tr>
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<tr><td rowspan="6">CPMK link with Learning Materials and Forms, as well as Time Allocation</td><td></td><td>Learning Materials</td><td>Forms of Learning</td><td>Time Allocation</td></tr>
<tr><td>CPMK-1</td><td>Conducting geophysical research and earth science scientifically</td><td>Mentoring and Assignment</td><td rowspan="5">300 working hours Or 75 working days</td></tr>
<tr><td>CPMK-2</td><td>Deliver the results of research and analysis in the form of thesis writing</td><td>Mentoring and Assignment</td></tr>
<tr><td>CPMK-3</td><td>Expose and account for the results of research and analysis in the form of presentations at the thesis examination session</td><td>Mentoring and Assignment</td></tr>
<tr><td>CPMK-4</td><td>Describe research results in scientific paper publications</td><td>Mentoring and Assignment</td></tr>
<tr><td>CPMK-5</td><td>Raise and develop networks with mentors, colleagues, peers both in</td><td>Mentoring and Assignment</td></tr>
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		deep And at Outside the institution		
Learning Methods				
Student Learning Experience	Conduct research, conduct analysis, write scientific papers, draw conclusions, presentations			
Access Learning Media / LMS and Offline &; Online Percentage	Laptop/Computer,LCD, Paper			

Assessment Methods and Alignment with CPMK

Assessment Techniques	Assessment Percentage	Criteria/ Indicators	CPMK-1	CPMK-2	CPMK-3	CPMK-4	CPMK-5
Participatory Activities*)							
***Project Results*/Case Study Results/PBL Results*)**	**100**	**Thesis exam scores**	√	√	√	√	√
Cognitive							
Assignment							
Quiz							
UTS							
UAS							
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	
Name of Lecturer (*Team Teaching*)	Lecturer Team of Geophysics Study Program UGM

Authorization	**Drafting Date**	**Course Coordinator**	**Coordinator of Expertise (if any)**	**Head of Study Program**
	2022	Lecturer Team of Geophysics Study Program UGM		 Dr. Sudarmaji, MSi