FI564 Geophysical Exploration

Module name:	Geophysical Exploration	
Module level, if applicable:	Undergraduate	
Code:	FI564	
Sub-heading, if applicable:	-	
Classes, if applicable:	-	
Semester:	6th	
Module coordinator:	Nanang Dwi Ardi	
Lecturer(s):	Nanang Dwi Ardi	
Language:	Bahasa Indonesia	
Classification within the curriculum:	Elective course	
Type of Teaching	Contact hours per week during the semester	Class Size
1. Lecture (conceptual, contextual and problem-solving approaches through expository, discussions and field exploration). 2. Structured activities (assignments based on conceptual, contextual and problem-solving approaches) 3. Self-study (reading literature)	2 hours 30 minutes	20
Workload:	Total workload is 136 hours (4.8 ECTS) per semester which consists of 150 minutes lectures and a week for field camp exploration (1.2 ECTS), 180 minutes structured activities (1.5 ECTS), and 180 minutes self-study per week for 14 weeks (1.5 ECTS), 150 minutes for each exam (0.2 ECTS), and 360 minutes for each exam preparation (0.4 ECTS).	
Credit points:	4.8 ECTS	
Pre-requisites course(s):	Geological Geophysics	
Course Learning Outcomes (CLO):	After taking this course the students have ability to: CLO1. Explain importance survey design in earth exploration CLO2. Explain principle, acquisition, processing and modelling electrical method CLO3. Explain principle, acquisition, processing and modelling electromagnetic method CLO4. Explain principle, acquisition, processing and modelling gravity method CLO5. Explain principle, acquisition, processing and modelling magnetic method CLO6. Explain principle, acquisition, processing and modelling passive seismic method CLO7. Explain principle, acquisition, processing and	

<table>
<tr><td></td><td>modelling refraction seismic method
CLO8. Explain principle, acquisition, processing and modelling reflection seismic method
CLO9. Explain principle, acquisition, and processing well logging data
CLO10. Explain principle, acquisition, radiometric method
CLO11. Apply geophysical method in field exploration</td></tr>
<tr><td>Content:</td><td>Survey design, electrical method, electromagnetic method, gravity method, magnetic method, passive seismic method, refraction seismic method, reflection seismic method, well logging, radiometric method, field exploration</td></tr>
<tr><td>Study/exam achievements:</td><td>The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CLO</th><th>Assessment Object</th><th>Assessment Techniques</th><th>Weight</th></tr>
<tr><td>1</td><td>CLO1-CO10,

CLO11</td><td>Subject specific competence:
a. Individual assignments
b. Field exploration
c. Mid Exam
d. Final Exam</td><td>

Written test

Performance

Written test
Written test</td><td>

15%

25%

30%
30%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer, stream video conference, article, resistivity meter</td></tr>
<tr><td>Literature:</td><td>1. Milsom J., and Eriksen A., (2012). Field Geophysics, Fourth Edition. John Wiley and Sons, Ltd.
2. Dentith M., and Mudge S.T, (2014). Geophysics for the Mineral Exploration Geoscientist. Cambridge University Press USA.
3. Everett, M.E, (2013). Near-Surface Applied Geophysics. Cambridge University Press USA.</td></tr>
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CLO1				√								
CLO2				√								
CLO3				√								
CLO4				√								
CLO5				√								
CLO6				√								
CLO7				√								
CLO8				√								
CLO9							√					
CLO10					√							
CLO11					√							