



Bachelor Program in Geophysics

Faculty of Mathematics and Natural Sciences

HASANUDDIN UNIVERSITY

8. Basic Geology

Module Name	:	Basic Geology
Module Level	:	Bachelor
Code, if applicable	:	23H06110603
Subtitle, if applicable	:	-
Courses, if applicable	:	Basic Geology
Semester(s) in which the module is taught	:	II (Second Semester)
Module coordinator(s)	:	Prof. Dr. Ir. Muh. Altin Massinai, MT., Surv.
Lecturer(s)	:	Prof. Dr. Ir. Muh. Altin Massinai, MT., Surv., Makhrani, S.Si. M.Si, Syamsuddin, S.Si.,MT., Muhammad Fawzy Ismullah Massinai, S.Si, M.T
Language	:	Bahasa (Indonesian language)
Relation to curriculum	:	Compulsory course in the second year for Bachelor Degree in Geophysics
Type of teaching, contact hours	:	This course is delivered through Lectures (i.e., Project/Case-based learning), complemented by structured assignments (paper review, project/case evaluation) and independent study. Contact hours consist of 150 minutes lectures per week, plus 180 minutes per week for each of the following: structured assignments and independent study
Workload	:	Total workload is 135 hours per semester, consisting of 38 hours for lectures, and 48.5 hours each for structured assignments and independent study
Credit points	:	3 SKS (4.8 ECTS)
Requirements according to the examination regulations	:	Students are eligible to attend the examination if their absences are less than 20% of the lectures
Recommended prerequisites	:	-
Module objectives/intended learning outcomes	:	After completion of this module, students will be able to: CLO 1. Students are able to analyze the process of earth formation and the structure of the earth's interior; identify minerals and rocks; linking rocks to geological time; distinguish geological processes; analyze the symptoms of volcanism and seismicity; CLO 2. Students are able to map rocks and minerals; apply basic geological concepts.



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		The following is the mapping of the ILO and the CLO of this course: <table><tr><td></td><td>ILO 4</td><td>ILO 8</td><td>ILO 9</td><td>ILO 14</td></tr><tr><td>CLO 1</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr><tr><td>CLO 2</td><td></td><td></td><td></td><td>✓</td></tr></table>		ILO 4	ILO 8	ILO 9	ILO 14	CLO 1	✓	✓	✓		CLO 2				✓															
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CLO 2				✓																												
Content	:	1. Formation of the Earth and Earth's interior, 2. Minerals and types of rocks, 3. Geological time, 4. Geological processes and changes in the landscape, 5. Formation of mountains, 6. Volcanism and seismic activity, 7. Geological mapping																														
Study and examination requirements		Participants are marked based on their performance in theory: Case Study (55%), Assignments (10%), and Written Examination (35%). Students are marked based on their percentage of points obtained and based on the following grade scale: <table><tr><th>Percentage of Achievement</th><th>Grade</th><th>Conversion Value</th></tr><tr><td>85 – 100</td><td>A</td><td>4.00</td></tr><tr><td>80 - <85</td><td>A-</td><td>3.75</td></tr><tr><td>75 - < 80</td><td>B+</td><td>3.5</td></tr><tr><td>70 - < 75</td><td>B</td><td>3.0</td></tr><tr><td>65 - < 70</td><td>B-</td><td>2.75</td></tr><tr><td>60 - < 65</td><td>C+</td><td>2.5</td></tr><tr><td>50 - < 60</td><td>C</td><td>2.00</td></tr><tr><td>40 - < 50</td><td>D</td><td>1.00</td></tr><tr><td>< 40</td><td>E</td><td>0.00</td></tr></table>	Percentage of Achievement	Grade	Conversion Value	85 – 100	A	4.00	80 - <85	A-	3.75	75 - < 80	B+	3.5	70 - < 75	B	3.0	65 - < 70	B-	2.75	60 - < 65	C+	2.5	50 - < 60	C	2.00	40 - < 50	D	1.00	< 40	E	0.00
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40 - < 50	D	1.00																														
< 40	E	0.00																														
Exams and assessment formats		Assessment in this course consists of a case study, assignments, and written examination. The case study is conducted in a group or individually and requires students to																														



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	apply theoretical concepts to analyze and solve a problem, presented in the form of a written report. Assignments are completed individually and may include problem-solving tasks, data processing, or short essays; these are submitted in written form and may involve graphical or computational outputs. The written examination (<i>closed-book</i>, written) evaluates students' understanding of fundamental concepts covered by CLO 1 and CLO 2.
Reading list	Main References: 1. Ludman, A. & Coch, N.K. 1992. Physical Geology. Mc. Graw – Hill Additional References: 1. Press, F. & Siever. R. 1986. Earth, Fourth Edition. W.H. Freeman and Company. 2. Katili, J.A., Marks. P. 1963. Geologi, Departemen Urusan Research Nasional, Jakarta. 3. Smith. & Pun. 2006. Earthworks. Prentice Hall. 4. Tarbuck. & Lutgens. 2000. Earth Science. Prentice Hall. 5. Hamblin. 1989. The Earth Dynamic System. Mc Milan. 6. Spooner. & Alecia M. 2011. Geology for Dummies. Wiley-Blackwell. 7. Pellant, C. 2010. Rocks and Minerals. Dorling Kindersley Ltd. 8. Hefferan, K. & O'Brien, J. 2010. Earth Materials. Wiley-Blackwell. 9. Jerram, D. & Petford, N. 2011. The Field Description of Igneous Rocks 2nd Edition. Wiley-Blackwell. 10. Rothery, D.A. 2016. Geology: A Complete Introduction. Hodder & Stoughton General Division. 11. Relevant reputable international journals published in the last 5 years.
Last revision date	July 1 st , 2025