



Bachelor Program in Geophysics

Faculty of Mathematics and Natural Sciences
HASANUDDIN UNIVERSITY

20. Structural Geology

Module Name	:	Structural Geology
Module Level	:	Bachelor
Code, if applicable	:	23H06131103
Subtitle, if applicable	:	-
Courses, if applicable	:	Geophysics
Semester(s) in which the module is taught	:	V (Fifth Semester)
Module coordinator(s)	:	Prof. Dr. Ir. Muh. Altin Massinai, MT., Surv.
Lecturer(s)	:	- Prof. Dr. Ir. Muh. Altin Massinai, MT., Surv. - Muhammad Fawzy Ismullah Massinai, S.Si, M.T
Language	:	Bahasa (Indonesian language)
Relation to curriculum	:	Elective courses in the third 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 bending and deformation of the Earth, identify their causes, and explain their effects on the shape and structure of rocks, as well as the phenomena that lead to them; CLO 2. Students are able to apply fundamental geological principles to effectively communicate geological



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		phenomena related to geological structures to the wider community; 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. Structural Geology in Life and Its Relationship with Other Sciences 2. Deformation 3. Mohr’s Diagram 4. Geological Structures: Joints, Faults, and Folds 5. Kink Method and Cross-Section Restoration from Field Data																														
Study and examination requirements		Participants are marked based on their performance in theory: Case Study (85%), Assignment (15%). 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 project or case study and assignments. The project or case study is conducted in a group or individually and requires students to apply theoretical																														



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	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.
Reading list	1. Main References: 1. Billing, M.P., 1986. Structural Geology, Third edition, Prentice-Hall of India. 2. Davis, J.H., 1984. Structural Geology of Rock and Region, John Wiley & Sons Inc. 3. Ragan, D.M., 1973. Structural Geology: An Introduction to Geometrical Techniques, 2nd Edition. 4. Asikin Sukendar, 1979. Basic Structural Geology, ITB. 5. Hobbs, B.E., Means, W.D., & Williams, P.E., 1976. An Outline of Structural Geology, Wiley. Additional References: 1. Massinai, Muhammad Altin, 2005. Tectonic Geomorphology, Pustaka Ilmu. 2. Relevant international journals (last 5 years).
Revision last date	July 1 st , 2025