

Identification	Subject	GEOL 203 General Geology- 6 ECTS
	Department	Petroleum Engineering
	Program	Undergraduate
	Term	Spring 2024
	Instructor	Arzu Aliyeva
	E-mail:	arzu.aliyeva@ufaz.az
	Classroom/hours	Saturday 11.50 – 15.10
	Office hours	
Prerequisites		
Language	English	
Compulsory/Elective	Elective	
Required textbooks and course materials	<ol style="list-style-type: none"> 1. Geology for Dummies by Alecia M. Spooner 2. Steven Earle Physical Geology – 2nd edition 3. David D. Pollard and Raymond C. Fletcher Fundamentals of Structural Geology Cambridge, 518 pages 	
Course Outline	<p>This course provides an introduction to the fundamental principles and concepts of geology. Students will explore the Earth's composition, structure, and dynamic processes, gaining an understanding of the geological forces that shape the planet. The course covers a range of topics, from minerals and rocks to plate tectonics, geological time, and Earth's history.</p> <p>The initial weeks of introduction to geology focus on establishing the significance of geology, exploring its historical development, and introducing students to the scientific methodology used in geological studies. This sets the groundwork for understanding the broader context of the course.</p>	
Course Objectives	<p><u>Specific Objectives of the Course:</u></p> <ul style="list-style-type: none"> - The course objectives for a General Geology course are to provide students with a comprehensive understanding of Earth's composition, structure, and dynamic processes. -Students will learn about minerals, rocks, plate tectonics, geological time, surface processes, structural geology, and Earth's history. -The course aims to develop hands-on skills in rock and mineral identification, map interpretation, and problem-solving. -Students will also gain an appreciation for the practical applications of geology in areas such as resource exploration, environmental management, and hazard mitigation. 	
Learning outcomes	<p>By the end of the course the students should be able to learn:</p> <ul style="list-style-type: none"> - Importance of General Geology in Petroleum Engineering - Understanding of Earths composition, structure, and dynamic geological processes - Explain the principles of plate tectonics and illustrate its role in shaping the Earth’s surface - Apply geological principles to solve problems and think critically about geological processes - Communicate geological concepts clearly and effectively through written reports and oral presentations. 	
Teaching methods	Lecture	X
	Group discussion	X

Evaluation	<i>Evaluation methods</i>	<i>Deadlines</i>	<i>Weighting (%)</i>
	Quiz	Week 4, 11	5
	Activity	10 May 2024	5
	Mini project	1st week of May 2024	10
	Presentation/Group Discussion		10
	Midterm Exam	Week 7	30
	Final Exam	Will be confirmed	40
	Total		100
Policy	<p>Quiz Each quiz will consist of 5 questions, and each question will be marked with 1 point. One quiz will be organized in the middle of the first semester and the midterm exam. The second quiz will be organized between the midterm exam and the final exam.</p> <p>Mini project The mini-project must consist of an abstract, introduction, objectives, methodology, results, discussion, conclusion, and references. The report must be no longer than 5-7 pages of A4 in portrait orientation, with a title and text size set to Arial 12. The mini-project must be presented. The mini-project report and presentation marks will be summarized and divided by 2 to obtain an average mark.</p> <p>Activity The students should participate in seminars, conferences, and other events related to their courses to build new connections between academic and non-academic institutions. By 10 May 2024, a one-page report on the students' activities will be required.</p> <p>Cheating/plagiarism Any form of plagiarism or cheating on a proposal, work plan, bibliography, presentation of literature review, or final report will result in the cancellation of the work. In this case, the student will receive a mark of naught without any further consideration. After identification of cheating or plagiarism, any chance will NOT be given for correction and rewriting report.</p> <p>Professional Behaviour Guidelines During class hours, students are expected to conduct themselves in a manner that fosters a positive academic and professional atmosphere. Unauthorized discussions and unethical conduct are strictly forbidden.</p> <p>Ethics Students must NOT be late to class. All mobile phones must be turned off and put away during the class.</p> <p>Email Use your Khazar University email account ONLY when contacting your professor. Student should include "Environmental Science Project" in the subject of any emails that he/she sends, at least for the first few emails. Generally, all emails will be responded to within 72 hours during weekdays (not</p>		

	including holidays).	
	<p>Illness Students with an illness may miss a quiz or presentation. This might be because the student needs to go to the hospital, recover at home, or attend regular medical appointments. In this case, the student must inform the instructor in advance about the illness and must present a document from their doctor. After considering the situation, the instructor may set a new date for the quiz or project presentation. Only one opportunity will be given to the student. The students who do not inform the instructor in advance will not be given a chance to retake the quiz or give a presentation.</p>	
Tentative Schedule		
Weeks	Topics	Reference books
Week 1	An Introduction to Geology: Development of the Geology, Earth's Spheres, Early Evolution of the Earth	Steven Earle Physical Geology – 2 nd edition
Week 2	Formation of the Universe and the Earth: Origin of the Earth as a Planet Earth's internal structure, Rocks, and the Rock Cycle	
Week 3	Plate Tectonics: Theory of Plate Tectonics Divergent Plate Boundaries and Seafloor Spreading Convergent Plate Boundaries and Subduction Transform Plate Boundaries Measurement of Plate Motion	
Week 4	Matter and Minerals: mineral properties the structure of minerals Physical properties of minerals Identification and physical properties of Minerals.	
Week 5	Magma, Igneous Rocks, and Intrusive Activity Effusive and Intrusive Igneous rocks and their generation	
Week 6	Clay minerals and their significance.	
Week 7	Midterm exam	
Week 8	Sedimentary rocks: classification of sedimentary rocks, generation mechanism of sedimentary rocks. Detrital and Chemical sedimentary rocks and their petrophysical properties Sedimentary structures	
Week 9	Quiz 1 Metamorphism and Metamorphic rocks	
Week 10	Geologic Time: Geologic time scale -Relative dating principles, Correlation of rock layers, Fossil evidence and dating with radioactivity	
Week 11	Geological Structures Stress and Strain, Folding, Fracturing and Faulting	
Week 12	Earthquake and Earthquake hazards. Seismology: The Study of Earthquake Waves Earthquake Belts and Plate Boundaries	
Week 13	Earth's interior Divergent Plate Boundaries: Origin and Evolution of Ocean Floor	

	Convergent boundaries: Origin of Mountains	
Week 14	Running water and groundwater	
Week 15	Discussion	

