

Spring 2023

American University of Central Asia

General Geology AGEO/111

General Geology AGEO/111

Spring 2023 Syllabus

Lecturer: Assistant Prof. Cholponbek Ormukov

Email: ormukov_ch@auca.kg

Course schedule Tuesday 9:25

Thursday 9:25

Consultation of students:

Tuesday and Thursday from 13:00 - 15:00.

1 Course Description:

The lectures summarize the main problems and issues of geology and its constituent parts: mineralogy, petrography, lithology, geodynamic geology, geochronology. Endogenous and exogenous processes, magmatism, formation of intrusive and effusive rocks, their weathering, transport and redeposition of destroyed products are considered. The geological activity of surface flowing waters, rivers, underground waters, seas, lakes, swamps and glaciers is presented. Provides brief and basic information on the stage of formation and change of sedimentary rocks, metamorphism and igneous rocks. Little attention is paid to folded and fracture disturbances of rocks, vibrational movements of the earth's crust, neotectonics, where the issues of geodynamic phenomena (earthquakes, tsunamis) and possible ways of predicting them are touched upon. The foundations of self-organization of geological processes, life on Earth and the evolution of inert and living matter are given.

There will be two one-day weekend trips to the Chonkurchak Mountains (near Bishkek). In addition, we will visit Geological Museum at the Institute of Mining and Mining Technology (Bishkek).

Details to be announced.

2. Course Aims:

Transfer of knowledge and ideas about geological sciences to students; to teach students skills in theory, practice in geology; to acquaint with the methods of study used in geology to reconstruct the history of the development of the Earth and the earth's crust.

3 Course objectives:

The main tasks of studying the discipline: are the study of the structure and material composition of the Earth and the earth's crust; geodynamic processes that form the face of the Earth and forming various rocks; endogenous processes and their results; geological activity of exogenous agents; systematics and evolution of the organic world; basic methods for determining the age, conditions of formation and the sequence of bedding of rocks; history and patterns of the development of the earth's crust, from the earliest stages to the modern era.

4. Course Textbook:

Book 1: Physical Geology Steven Earle BCCAMPUS VICTORIA, B.C., CANAD 2015

5. Lecture: A typical class meeting will combine mini-lectures, discussions, group activities, multimedia presentations, and other demonstrations and activities to give you an opportunity to learn concepts in as active a manner as possible.

6. General course rules:

1. Students must attend all classes and participate in all activities. Absence is not an excuse for not completing homework and other tasks. Do not forget to complete each task before the start of the class and be prepared to classes.

2. All written assignments must be submitted to the course before the deadline. Tasks submitted after the deadline will not be accepted and evaluated. Late submission will be decreased by subtracting 50% of the grade received.

Absence does not relieve the student of the obligation to check the website and email in the assignment or correspond with the teacher to extend the deadline for completing the assignment.

3. Skip alerts: when a student skips classes due to illness or other valid reasons it is excused absence. If you miss the test / exam due to illness / emergency, please contact the lecturer before the test and present the medical certificate and authentication at the AUCA Medical Office. In this case, you will have the opportunity to test. In other cases, a missed test / exam will be counted as “zero”.

5. Review of work. Students who complete assignments on time are allowed to review them based on teacher feedback. The submitted documents and projects must comply with all the minimum requirements for assigning a rubric. If the assignment does not meet the minimum heading standards, it is considered incomplete work and must be completed by the student in order to be evaluated.

6. The class starts quickly at the appointed time. Being late for a lesson undermines the learning process and does not reflect superiority in the academic environment. Do not interfere with the class when leaving the room and returning back.

7. Laptops / tablets should not be used in the classroom without the approval of the instructor.

8. The use of a mobile phone is strictly prohibited. They should be silenced and removed throughout the lesson.

9. The presentation should be presented in class on the day they should. Late submission will be - 50% of the grade received.

10. Students are expected to follow university policies and student guidelines. All types of plagiarism are strictly prohibited.

7. Assignments/Assessment

Attendance - 10%

Attendance is required and is 10% of your final grade. To be successful in this course, you need to attend classes every time! Attendance sheets will be distributed in each lecture. Each unjustified absence will reduce your attendance score by 4%. If you become ill, you must notify the instructor and present an official document (certificate) from the doctor, especially if you are planning a presentation in the classroom or submit a written assignment. Four unjustified passes will result in an "F" for the entire course.

Lectures activities – 15%

Participation means more than good attendance. Reading has a significant role in the development of students' analytical and critical thinking. You should be prepared to discuss readings during each workshop, as indicated in the schedule. Most of the materials that I give in my lectures can also be found in books, so if you systematically read the literature, you will have a good chance of writing tests successfully. The book is difficult in places, so I would suggest the following strategy:

1. Read the assigned text before each lecture.
2. Take notes during the lecture, referring to my PowerPoint lecture slides.

Labs – 25%

The lab is an important part of this class and makes up 36% of your total class score. There will be 8 labs, the duration of each is one week. Most of the work will be done in groups, but apart from that there will be more individual work that you will have to complete yourself. If you fail to make a lab on time, you will lose 25% assigned for the lab.

Term tests – 25%

During the semester there will be 2 tests. These tests will be consisting of questions from past lectures and laboratory exercises. These tests can be considered as preparatory processes for the final exam. I will announce the specific coverage of each test one week before the tests, and the announcement will be posted on the classroom site. Testing will cover laboratory exercises as well as lecture material. Tests should be completed in the allotted time.

Final exam – 25%

The final exam is a multi-choice test based on the lecture book Structural geology. In case of academic dishonesty, you will receive zero for the job. The test and exam will cover laboratory exercises as well

as lecture material. Testing should be completed at the scheduled time. Students should have colored pencils, an eraser, and a calculator with them.

8. EVALUATION SCHEME

Attendance - 10%

Lectures activities - 15%

Labs - 25%

Term tests – 25%

Final exam – 25%

9. Grading system

Your final grade will be determined as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
>90	86-89	82-85	78-81	74-77	70-73	66-69	62-65	58-61	54-57	50-53	<50

10. 2023 Spring Course Calendar – Lecture Sessions (subject to change)

Schedule of lecture and laboratory topics: subject to change with notice:

11. EVALUATION SCHEME

Attendance - 10%

Lectures activities - 15%

Labs - 25%

Term tests – 25%

Final exam – 25%

9. Grading system

Your final grade will be determined as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
>90	86-89	82-85	78-81	74-77	70-73	66-69	62-65	58-61	54-57	50-53	<50

12. 2023 Spring Calendar – Lecture Sessions (subject to change)

Schedule of lecture and laboratory topics: subject to change with notice:

Month	Day	Lecture titles	Lab titles
January	17/19	Introduction to Geology (Book 1, Chapter 1, p 11-18)	Mineral properties
January	24/26	The Origin of Earth and the Solar System (Book 1, Chapter 22, p 562-582)	Mineral identification
January/February	31/02	Earth's Interior and Geophysical Properties (Book 1, Chapter 9, p 230-250)	Mineral classification
February	07/09	Minerals (Book 1, Chapter 2, p 28-58)	Igneous rocks LAB QUIZ 1: minerals and mineral propertie
February	14/16	Volcanism and Igneous Rocks (Book 1, Chapter 4, p 85-117)	Rocks and Minerals LAB QUIZ 2: minerals and mineral propertie
February	21/23	Metamorphism and Metamorphic Rocks (Book 1, Chapter 7, p 176-201)	Sedimentary rocks LAB QUIZ 3: minerals and mineral propertie
		Midterm exam	
February/March	28/02	Sediments and Sedimentary Rocks (Book 1, Chapter 6, p 145-174)	Landslides and other mass movements
March	07/09	Weathering and Soil (Book 1, Chapter 5, p 119-143)	Trip to geological museum
March	14/16	Measuring Geological Time (Earth's History) (Book 1, Chapters 8, p 204-228)	Reading topographic maps and aerial photos
March	21/23	Plate Tectonics (Book 1, Chapters 10 p 252-282)	Trip to Institute Seismology

March	28/30	Earthquakes (Book 1, Chapters 11 p 283-314)	Field observation of geological structures
		Midterm exam	
April	04/06	(Geological structures Book 1, Chapter 12, 316-333)	Field trip to Ala-Archa river valley
April	11/13	Groundwater (Book 1, Chapter 14 p 361-381)	Trip to Borehole
April	18/20	Streams and Floods (Book 1, Chapter 13, p335-359)	Stream profiles
April	25/27	Glaciation (Book 1, Chapter 16 p 410-435)	Work with glaciers catalog
May	02/04	Geological resource (Book 1, Chapter 20p 507-529)	Student projects
May	11	Climate Change (Book 1, Chapter 19p 484-505)	Student project
May		Final exam	