

Academic Program Description - Department of Geology
Wasit University / College of Science

1. Educational Institution	Wasit University / College of Science
2. Scientific Department / Center	Department of Geology
3. Academic or Professional Program Name	Bachelor of Geology
4. Final Certificate Name	Bachelor's Degree
5. Academic System	Courses
6. Accredited Accreditation Program	None
7. Other External Influences	1. Scientific research related to the department's specialization. 2. Internet networks. 3. Regular and digital libraries. 4. Data show. 5. PowerPoint.
8. Date of Description Preparation	1 st October 2025
9. Academic Program Objectives:	
1. Teaching the basics of Earth Science as a science that researches the physical characteristics of our planet, from earthquakes to raindrops, and floods to fossils. Earth sciences can be considered a branch of planetary sciences, but with a much older history. Earth sciences include four main branches of study: lithosphere, hydrosphere, atmosphere, and finally the biosphere. 2. Dealing on the basis of quotation and then learning to develop the student's mental capability.	

3. Developing the student's ability to collect information and apply it.
4. Encouraging scientific research and improving the student's discussion skills.
5. Developing the creative and intellectual skills of the department's students to enable them to deal scientifically in making decisions related to their specialization or enabling them to succeed in facing work problems.

10. Required Program Outcomes and Methods of Teaching, Learning, and Assessment:

Cognitive Objectives:

- Familiarize the student with the basics of Earth Science.
- Raise the student's capabilities to the level of understanding in the field relative to their specialization.
- Develop and elevate the student's cognitive abilities.

Program-Specific Skills Objectives:

- Teach the student how to become capable of logical thinking.
- Teach the student to analyze and employ the approved curriculum vocabulary.
- Develop the student's self-mental ability in the specialization, which is an important part of their field.
- Equip the student with communication skills and the effective use of modern educational technologies.

Affective Objectives:

- Direct questions that require answers within short time periods.
- Develop and support discussions inside the classroom.

General and Transferable Qualifying Skills:

- Basic communication skills through (sports activities, educational counseling, college conferences, department seminars, student research discussion seminars).
- Provide an appropriate educational climate for logical thinking through continuous guidance by professors during lectures and opening direct discussions with students.

11. Teaching and Learning Methods:

- Computer-supported teaching and subject presentation using displays.
- Assigning the student to write some research papers.
- Participation in conferences and scientific trips.
- Curricula, using the internet, display screens, and presentation programs.

Assessment Methods:

1. Daily and monthly tests.
2. Scientific research.
3. Conducting student seminars to determine their understanding of the material.
4. Preparing working papers and graduation research for the final stage.
5. Oral, monthly, and daily exams.

12. Program Structure

Third Stage: First Semester

Course / Subject Name	Theory (Hours)	Practical (Hours)	Units
Igneous Rocks	2	2	5
Geotectonics	2	2	5
Geochemistry 1	2	2	5
Geophysics 1	2	2	5
Geographic Information Systems (GIS)	2	2	5

Field Geology	2	2	5
Total Units			30

Third Stage: Second Semester			
Course / Subject Name	Theory (Hours)	Practical (Hours)	Units
Hydrogeology	2	2	5
Geology of Iraq	2	2	5
Stratigraphy	2	2	5
Geophysics 2	2	2	5
Geochemistry 2	2	2	5
Metamorphic Rocks	2	2	5
Total Units			30

Fourth Stage: First Semester			
Course / Subject Name	Theory (Hours)	Practical (Hours)	Units
Environmental Geology	2	2	3
Geochemistry	2	2	3
Geographic Information Systems (GIS)	2	2	3

Petroleum Geology	2	2	3
Quaternary Deposits	2	-	2
Well Logging	2	-	2
Total Units			16

Fourth Stage: Second Semester			
Course / Subject Name	Theory (Hours)	Practical (Hours)	Units
Surface Water Resources	2	2	3
Economic Geology	2	2	3
Engineering Geology	2	2	3
Graduation Project	2	-	2
Industrial Ores & Rocks	2	-	2
Field Course	2	-	4
Total Units			17

13. Planning for Personal Development

It is the first process of success, through: setting visions, visualizing objectives and programs, working on their implementation, and then continuous evaluation. This is done by including external training programs within the chain of external benefits and motivating students to independently and individually head towards these programs, courses, and specialized institutes, while the institution's role acts as an incentive and motivation through the teaching system.

14. Admission Standard (Setting regulations related to college or institute enrollment)

First: College Admission Requirements:

- Adopting student admission requirements according to the regulations of the Ministry of Higher Education and Scientific Research (Central Admission).
- Successfully passing any special test or personal interview deemed necessary by the College or University Council.
- Being medically fit for the applied specialization.

Second: Scientific Department Admission Requirements:

- Selecting the student's preference from multiple choices arranged by priority.
- General Secondary School admission average.
- The grade average of the specific course the student wishes to study in the department.
- The absorption capacity of the scientific department.

15. Key Information Sources about the Program

- Approved teaching methods curriculum at Wasit University.
- Various American and British programs for the University of Iowa, Arkansas, South Carolina, Leeds, and Birmingham.

وصف البرنامج الأكاديمي

قسم علوم الأرض
2025-2026

Field Geology Course Description

1. Course Name:	
Field Geology	
2. Course Code:	
3. Semester / Year:	
First Semester 3 rd Stage/ 2025–2026	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Attending	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 Hours for Theoretical part & 2 Hours for Experimental part per week	
7. Course administrator's name (mention all, if more than one name)	
Name: Head of Geological in wasit Government : Dia'a Kherbat Shather Email:	
8. Course Objectives	
Course Objectives	To prepare the student to: – Use a geological

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	student learns about the evolution of the structural movements that shaped the Earth's crust in Iraq over geological time.	Tectonic History of Iraq	Theoretical & Field	Discussion and asking questions
2	4	student learns to divide the structural movements that shaped the Earth's crust in Iraq over geological time.	Tectonic Division of Iraq	Theoretical & Field	Discussion and asking questions
3	4	The profile and tectonic structure of Iraq and the characteristics, faults and practical options of the Earth's crust.	Structural geology of Iraq	Theoretical & Field	Discussion and asking questions
4	4	It refers to the depression that began to take shape deep in front of the Zagros Mountains as a result of tectonic	Mesopotamia foredeep	Theoretical & Field	Discussion and asking questions

		loading and bovine loading.			
5	4	It deals with the sequence of rock layers of Iraq during the Paleozoic era, including depositional environments and their evolution through the early periods of the region's history.	The Stratigraphy of Iraq – Paleozoic Formations	Theoretical & Field	Discussion and asking questions
6	4	The history of the sedimentary civilization in Iraq is reviewed through the Triassic, Early Jurassic, etc., with respect for the changing environments of the pastoralists in that era.	The Stratigraphy of Iraq – Mesozoic, Triassic, L.Jurassic Formation	Theoretical & Field	Discussion and asking questions
7	4	First Exam			
8	4	The history of the sedimentary civilization in Iraq is reviewed through the Triassic, Early Jurassic, etc.,	The Stratigraphy of Iraq – Mesozoic, , M.L.Jurassic Formation	Theoretical & Field	Discussion and asking questions

		with respect for the changing environments of the pastoralists in that era.			
9	4	The history of the sedimentary civilization in Iraq is reviewed through the Triassic, Early Jurassic, etc., with respect for the changing environments of the pastoralists in that era.	The Stratigraphy of Iraq – Mesozoic, , M.L.Jurassic Formation	Theoretical & Field	Discussion and asking questions
10	4	It examines the sedimentary succession during the Tethonian-Aptian in Iraq and the evidence it provides for the transition between marine and shallow environments.	The Stratigraphy of Iraq – Mesozoic, L.Tithonian Aptian Formation	Theoretical & Field	Discussion and asking questions
11	4	It focuses on the sedimentary sequence from the Albanian	The Stratigraphy of Iraq – Mesozoic, Albanian, Early	Theoretical & Field	Discussion and asking questions

		to the early Turonian in Iraq and what it reveals about the evolution of marine environments during that period.	Turonian Formation		
12	4	The specific sequence portion of the Late Turonian to Danian evolution.	The Stratigraphy of Iraq – Late Turonian Danian Formation	Theoretical & Field	Discussion and asking questions
13	4	The specific sequence portion of the Late Turonian to Danian evolution.	The Stratigraphy of Iraq – Danian, Eocene Formation	Theoretical & Field	Discussion and asking questions
14	4	The specific sequence portion of the Late Eocene to -9Quaternary evolution.	The Stratigraphy of Iraq –Late Eocene Quaternary Formations	Theoretical & Field	Discussion and asking questions
15	4	Second Exam			
11. Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation					

وصف البرنامج الأكاديمي

قسم علوم الأرض
2025-2026

Course Description Form

1. Course Name:	
Environmental Geology	
2. Course Code:	
3. Semester / Year:	
The first – 2025/ 2026	
4. Description Preparation Date:	
1/10/2025	
5. Available Attendance Forms:	
Actual Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
(2 Hours Theory)and (2 hours practical)	
7. Course administrator's name (mention all, if more than one name)	
Name:	

10. Course Structure

Week	Hours	Unit or subject name/ Theoretical	Learning method/ practical	Evaluation method
1	4	Introduction, Environmental Geology	Increased salinity of the Euphrates River water	Interpreting previous studies and drawing a graph showing the increase in river salinity
2	4	Minerals and rocks and their relationship to environmental geology	How to find the most important pollutants with toxic heavy metals in the sediments of the Euphrates River	Interpretation of previous studies, drawing a diagram showing pollution by toxic heavy metals in the river, and discussion
3	4	Earth's structure and plate tectonics	Environmental geology of Sawa Lake	Daily preparation and oral exam and Discussion
4	4	Earthquakes and related environmental risks	Landslides at the Qattara Maaam of Imam Ali in northwest Karbala	Daily preparation and oral exam and Discussion
5	4	Volcanoes and related environmental risks	Sources of air pollution	Daily preparation and oral exam and Discussion
6	4	First Exam		

14	4	Global Warming	Study of desertification and drought samples from Iraq	Daily preparation and oral exam and Discussion
15	4	Second exam.	Second exam.	Exam.

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Unpublished Phd and MSC theses
Main references (sources)	Environmental Geology Book 2017. Gh Attia Zarak, Lafta Salman Kazem, Mahmood Fadel Abd. Ministry of Higher Education and Scientific Research, Tikrit University
Recommended books and references (scientific journals, reports...)	The Iraqi Geological Journal published by the Iraqi Geologists union Publications and reports of the Iraqi Geological Survey

وصف البرنامج الأكاديمي

قسم علوم الأرض
2025-2026

Course Description Form

1. Course Name:	
Stratigraphy	
2. Course Code:	
Department of Geology / Third Stage	
3. Semester / Year:	
The second – 2025/ 2026	
4. Description Preparation Date:	
1/10/2025	
5. Available Attendance Forms:	
Actual Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 Hours Theory	
7. Course administrator's name (mention all, if more than one name)	

10. Course Structure				
Week	Hours	Unit or subject name /Theoretical	Learning method /practical	Evaluation method
1	2	Definition of Stratigraphy	Principle of Stratigraphy	Daily preparation and oral exam and Discussion
2	2	Introduction to stratigraphy	Uniformitarianism	Daily preparation and oral exam and Discussion
3	2	Classification of stratigraphic units	Superposition	Daily preparation and oral exam and Discussion
4	2	lithostratigraphic units	Law of original horizontality	Daily preparation and oral exam and Discussion
5	2	lithostratigraphic units	Cross cutting relation	Daily preparation and oral exam and Discussion
6	2	Soil stratigraphic units	Lateral continuity	Daily preparation and oral exam and Discussion
7	2	Biostratigraphic units	Law of faunal and floral succession	Exam.

				and Discussion
13	2	Lateral relationship	Litho-correlation	Daily preparation and oral exam and Discussion
14	2	Facies	Bio-correlation	Daily preparation and oral exam and Discussion
15	2	Exam	Exam	Exam.

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports.... etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Al-Omari, Farouk Sanallah and Nader, Amer Daoud, 2001, Historical Guidelines, Dar Al-Kutub for Printing and Publishing, University of Mosul, p. 628.

1. Course Title	Geology of Iraq
2. Course Code	Department of Earth Sciences - Third Stage
3. Semester / Year	Second Semester 2023-2024
4. Date Description Prepared:	20/1/2024
5. Available Attendance Forms	In-person
6. Credit Hours (Total) / Units (Total)	(2) Theory hours + 2 Practical hours weekly
7. Course Coordinator Name (if more than one, mention all)	Name: Senior Chief Geologist Dhiya Kharbat Shadhar Email: dhiyaalmouswy@yahoo.com

8. Course Objectives

Course Objectives:

1. The course aims to introduce the student to the geology and tectonics of Iraq, as well as the sedimentary cycles in the region during geological time, while observing the impact of orogenic movements and their

Week	Hours	Required Learning Outcomes	Unit / Topic Name / Theoretical Material	Practical Material	Evaluation Method
8	4		Theory: Tectonic evolution in Iraq	Practical	Daily preparation, daily exams, and discussion
9	4		Theory: Tectonic evolution in Iraq	Practical	Daily preparation, daily exams, and discussion
10	4		Theory: Geological formations of the Paleozoic Era	Practical	Daily preparation, daily exams, and discussion
11	4		Theory: Geological formations of the Mesozoic Era	Practical	Daily preparation, daily exams, and discussion
12	4		Theory: Geological formations of the Mesozoic Era	Practical	Daily preparation, daily exams, and discussion
13	4		Theory: Geological formations of the Cenozoic Era	Practical	Daily preparation, daily exams, and discussion
14	4		Theory: Geological formations of the Cenozo		

Hydrogeology Course Description

1. Course Name	
Hydrgeology	
2. Course Code	
Department of Geology / Third Stage	
3. Semester / Year	
Second Semester (2025-2026)	
4. Description Preparation Date:	
10/9/2025	
5. Available Attendance Forms	
Actual Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
(2 Hours Theory)and (2 hours practical)	
7. Course administrator's name (mention all, if more than one name)	

