

## Course Description Form

<b>1. Course Name:</b>					
Geology					
<b>2. Course Code:</b>					
GEOL132					
<b>3. Semester / Year:</b>					
Second semester –spring / first stage / -2023-2024					
<b>4. Description Preparation Date:</b>					
1/2/2024					
<b>5. Available Attendance Forms:</b>					
Compulsory					
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>					
Theory 2 – practical 3 /3.5 units					
<b>7. Course administrator's name (mention all, if more than one name)</b>					
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Mr. Ahmed Samir Ghanim					
<b>8. Course Objectives</b>					
Course Objectives Study the fundamental of geology, such as study minerals, rocks and weathering. study the relation between geology and soil, study surface and ground water and finally learning about geological structure and the important geological formation .			Practical Study geological and topographical Map  Identify different crystal, minerals and rocks, -various lab exercises about surface and ground water and geological Structure		
<b>9. Teaching and Learning Strategies</b>					
Strategy Reactive lectures Critical thinking discussion Require to do Several Homework's and Write scientific report for different task during the semester		Practical: group work and cooperation among students. -learn various academic skills. -Do Homework, discussion in the lab and Brings different of rocks and minerals samples - Geological field trip.			
<b>10. Course Structure</b>					
<b>Week</b>	<b>Hours</b>	<b>Required Learning Outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>

1	2theory	A1: explain Geology and its relationship With other Sciences A2: identify atmosphere Hydrosphere Lithosphere and Biosphere	Introduction To geology and its branches.	Listening , Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	B6: Use Topography Map and it Characterizes  B7: draw and Interpretation of topography Map	geological And topographical Map	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
2	2theory	A3: listed Crust, Mantle and Core  A4: the different Between Oceanic and continental Crust .	The structure of the earth from core to crust	Listening Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	B8: draw cross Section for Topographic map  B9: draw cross Section for Geological Map	drawing cross Section of geological map	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
3	2theory	C1: define crystal and its related to of minerals  C2: explain properties Of crystal C3: compare Crystal System	<i>Crystal Systems</i>	Listening Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	C8: explain Cubic, Tetragonal, Orthorhombic Crystal system C9: explain Monoclinic, Triclinic, Hexagonal Crystal system		Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams

4	2theory	A5 : Define the Minerals structural of minerals B1 : different Properties of minerals	Minerals And its chemical and Physical properties	Listening Data show using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practica	B10 : evaluation color and Streak of minerals ,luster , cleavage Fracture properties Of minerals B11 : analysis Special Properties of Some minerals	Description of Minerals in the Lab	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
5	2theory	A6 : classification silicate And non-silicate Minerals groups  A7: explain how minerals It forms in Natural System	Classification of minerals	Listening, Data show using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practica	A20 : apply lab Experiment about Determine specific Gravity minerals C10 : mathematical exercise to calculate Specific gravity Of minerals	Determine Specific gravity Of minerals	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
6	2theory	A8: define Rocks cycle in in natural system C4: explain and Drawing the Rocks cycle	Rocks cycle	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practica	B12: determine Reading Mineral Composition table C11: Calculating Minerals Formula	Calculating Minerals Formula	Describe Different Samples, Doing various Lab works exercises	
	2theory	A9: define Magma and	Igneous rocks	Listening, Data show	Quiz, Participation during lecture and

7		igneous processing A10: Classification Of igneous rocks		Using white board for Writing and drawing, discussion with students	Monthly exams
	3 practical	A21: listed Type of Minerals exist in The rocks B13: classification of texture of igneous Rocks	Study Igneous rocks In the lab	Describe Different Samples, Doing various Lab works exercises	
8	2theory	A11: explain Physical, Chemical and biological Weathering  A12: explain Sedimentary Processing and Factors effect on it	Sedimentary rocks	Listening, Data show using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	B14: identify texture Of sedimentary Rocks A21: explain Clastic and Chemical rocks and the structure Exist in Sedimentary rocks	Description Of sedimentary Rocks	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
9	2theory	B2 : Classification of sedimentary rocks B3 : the economic important of chemical and organic Rocks	classification of sedimentary rocks	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	B15 : study The five common Texture of igneous Rocks A22: Study of Different rocks Samples in the Lab	Description Of igneous Rocks	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams

10	2theory	A13: Define Metamorphism Processing, like Temp., pressure And warm fluid A14: classification Of metamorphic rocks	Metamorphic rocks	Listening, Data show using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	B16: identify Texture Metamorphic Rocks and study Minerals index B17: classification Foliated and Nonfoliated Rocks	Description Of Metamorphic rocks	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
11	2theory	A15: Five Soil formation factors A16: explain impact of Wind and water erosion, deforestation and human activity on soil	Soil and Soil formation	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	A23: explain The type of soil Texture B18: description Of soil profile And some soil Properties in the Field and Lab .	Description Of soil in the Field	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
12	2theory	C5: define of Ground Water and it relation to porosit and permeability of rocks C6: classification type of aquifers and properties of wells	Ground water and its properties	Listening, Data show using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	C12: Determine Of ground water Level in wells, and Plot the wells into The map  C13: draw Ground water level Map and	ground water flow	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams

		mathematical Equation to determine direction and ground water flow rate			
13	2theory	A17: explain Surface Water processing and landscape  C7: determine transports Of sediments ( total load )	Surface water	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	A24:explain geomorphology Of river, stream Order and length C14: measure River discharge and Speed of water	measurement of river discharge and gradient	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
14	2theory	A18:Distribution Causes of Dry Lands  A19:explain Geologic Processes in Arid Climates	Deserts and Wind	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	A25: Describe ways that wind transports sediment and the processing. B19: identify Wind deposits	Deserts and Wind	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams
15	2theory	B4: explain Fault, fold and joints B5: classification Type of faults And fold	Structure geology	Listening, Data show using white board for Writing and drawing discussion with student	
	3 practical	B20 organization geological Field trip	Scientific Field trip	Describe Different Samples, Doing various Lab works exercises	Quiz, Participation during lecture and Monthly exams

### 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

Evaluation method	Deadline	Grade	Relative weight
Final report	At the end of semester	Theory 3 Practical 3	6%
Quiz	Week 4	Theory 2 Practical 2	4%
First exam	Week 6	Theory 10 Practical 5	15%
Second exam	Week 14	Theory 10 Practical 5	15%
Final exam (practical )		20	20%
Final exam (theory )		40	40%
Total		100	100%

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General geology Author Abdulhadi Alsaigh and Farouk Alomari (in Arabic)
Main references (sources)	laboratory Manual for introductory geology Author Ludamn A. and Marshak S
Recommended books and references (scientific journals, reports...)	Environmental geology journal
Electronic References, Websites	USGS website

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