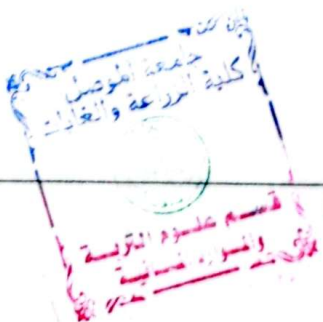


Course Description Form

1. Course Name:	
Soil morphology	
2. Course Code:	
SMOR354	
3. Semester / Year:	
Spring second semester/ 2024-2025	
4. Description Preparation Date:	
1/2/2025	
5. Available Attendance Forms:	
Compulsory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Theory 2 – practical 3 /3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Omar Nabhan Abdulqader Email: umarn79@uomosul.edu.iq Dr. Aman Adel Mawlood	
8. Course Objectives	
<p>Enable the student to understand and comprehend what is related to soil morphology and its relationship to soil science and water resources</p> <ul style="list-style-type: none"> - Enable the student to know the most important features of the soil profile - Enable the student to become familiar with the most important factors affecting the development of horizons - Empowering the student with the ability to detect diagnostic horizons - The student can explain the development of horizons and address the differences in results for the future over time <p>practical:</p> <ul style="list-style-type: none"> - Enabling the student to become familiar with the most important laboratory methods in studying macro-micro-morphological characteristics and the important chemical and physical analyzes in distinguishing studying soil horizons. 	
9. Teaching and Learning Strategies	
Strategy Reactive lecture Critical thinking Discussion Require to do Several Homework's and Write scientific report for	Practical: group work and cooperation among students. -learn various academic skills. -Do Homework, discussion in the lab and exercise related to hydrology and water resources



different task during the semester					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 theory	A1: The student explains the concept of soil morphology	The concept of soil morphology and its relationship to other sciences	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz , Participation during lecture and Monthly exams
	3 practical	B1: Practical and mental knowledge and To help student's in Soil morphology	Definition morphology, its types and methods studying the pedon	Describe Different Samples, Doing various Lab works exercises	
2	2 theory	A1: The student explains the most important soil formation B1: Practical and mental knowledge and To help student's in Soil morphology	Terminology used in soil morphology	Listening Data show Using white board for Writing and drawing discussion with students	
	3 practical	C6: The student discovers any means of distinguishing horizons	distinguishing between soil pedon, soil profile, soil, and pedon	Describe Different Samples, Doing various Lab works exercises	
3	2 theory	A2: The student becomes familiar with the most important factors affecting the formation and development of the pedon	The main horizons in soil pedon	Listening Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	D3: The student discovers the	Physiography of region and pedons	Describe Different Samples, Doing various Lab works exercises	

		difference in horizons within one pedon			
4	2theory	A2: The student becomes familiar with the most important factors affecting formation and development of pedon E3: student should be able to communicate efficiently in the field of work to transfer knowledge and skills to farmers.	Secondary horizons and their diagnosis	Listening Data show Using white board for Writing and drawing, discuss with students	
	3 practical	C6: The student discovers difference in horizons within one pedon. Able to use Lab equipment	Describing the characteristics of the appearance of the Earth's surface	Describe Different Samples, Doing various Lab works exercises	
5	2theory	E3: student should be able to communicate efficiently in the field of work to transfer knowledge and skills to farmers	In one area poly pedon	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz , Participation during lecture and Monthly exams
	3 practical	C6: the student Examine the tools Used to examine Soil pedon. D3: The student Should be able to Communicate his Information with the Community .	spatial and environmental description of the area surrounding the soil pedon	Describe Different Samples, Doing various Lab works exercises	
	2 theory	D1: acquiring the Communication Skills to deal with Confidence certainty at the Individual and group Level. D3: The student Should be able to Communicate his Information with the	Diagnostic characteristics of genetic horizons in soil pedon	Listening, Data show Using white board for Writing and drawing, discussion with students	

7	3 practical	Community C6: The student practices measuring some of the physical and chemical characteristics of pedon in the field	large and small morphological characteristics	Describe Different Samples, Doing various Lab works exercises	
	2theory	A3: The student learns about the most important diagnostic horizons D1: acquiring the Communication Skills to deal with Confidence certainty at the Individual and Group level	Distinctive external diagnostic horizons, their types characteristics	Listening, Data show Using white board for Writing and drawing, discuss with students	
	3 practical	C6: The student practices measuring some of the physical and chemical characteristics of pedon in the field	Special formations the soil pedon	Describe Different Samples, Doing various Lab works exercises	
8	2theory	A2: The student becomes familiar with the most important factors affecting formation development of pedon B1: Practical and mental knowledge and To help student's in Soil morphology	Distinctive internal diagnostic horizons their types characteristics	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	C3: the student Should be prepare Scientific research and studies in his Field specialization .	Epipedon diagnostic horizons	Describe Different Samples, Doing various Lab works exercises	
	2theory	B9: the student is Familiar with the Most important	The relationship of the distinctive	Listening, Data show Using	

9		Features that appear On surface subsurface horizons C3: the student Should be prepared Scientific research and studies in his Field specialization .	diagnostic horizons to the main and secondary horizons in soil beds and the conditions of their formation	white board for Writing and drawing, discussion with students	
	3 practical	C6: student discover Any distinguishing Horizons , and able use lab and field Equipment .	micro morphology characteristics	Describe Different Samples, Doing various Lab works exercises	
10	2theory	A1: The student explains the concept of soil morphology B1: Practical and mental knowledge and To help student's in Soil morphology	Geological Weather and Pedogenic	Listening, Data show Using white board for Writing and drawing, discussion with students	Quiz , Participation during lecture and Monthly exams
	3 practical	C6: student discover Any distinguishing Horizons , and able use lab and field Equipment . E3: student should Able to work efficiently in the field of work to transfer knowledge and skills To farmers	Preparing thin sections of soil Samples	Describe Different Samples, Doing various Lab works exercises	
11	2theory	A21: The student Should be able to Describe weathering stages in the field	Products weathering formation of clay minerals under different conditions	Listening, Data show Using white board for Writing and drawing, discussion with students	
	3 practical	C25: test soil kinds In the lab under Varies slope level.	Study of pedons on slopes	Describe Different Samples, Doing various Lab works exercises	

12	2theory	A2: The student becomes familiar with the most important factors affecting soil formation development of pedon A22: student should be able to interpret the second symbol which show in natural soil horizon	Different climatic conditions in formation morphological characteristics with pedons	Listening, Data show Using white board for Writing and drawing discussion with students	Quiz, Participation during lecture and Monthly exams
	3 practical	C6: student discover Any distinguishing Horizons , and able use lab and field Equipment .	field survey with the choice pedons	Describe Different Samples, Doing various Lab works exercises	
13	2theory	C3: the student Should be prepare Scientific research and studies in his Field specialization	Micromorphology, its concepts and components	Listening, Data show Using white board for Writing and drawing, discuss with students	
	3 practical	C6: student discover Any distinguishing Horizons , and able use lab and field Equipment	Different soil tests at different horizons and climatic conditions	Describe Different Samples, Doing various Lab works exercises	
14	2theory	B1: Practical and mental knowledge and To help student's in Soil morphology C6: student discover Any distinguishing Horizons , and able use lab and field Equipment	Types of fine morphological characters, such as cutaneous ones, and their classes according to location, components, and internal composition(s), Fabric, and their dividing boundaries.	Listening, Data show using white board for Writing and drawing, discussion with students	Quiz , Participation during lecture and Monthly exams
	3 practical	C3: the student Should be prepare	Field visits to different soils and distinguish them from each other	Describe Different Samples, Doing various	

		Scientific research and studies in his Field specialization		Lab works exercises	
15	2theory	C6: student discover Any distinguishing Horizons , and able use lab and field Equipment C3: the student Should be prepare Scientific research and studies in his Field specialization	Presentation of slides on large and small morphological characters	Listening, Data show Using white board for Writing and drawing, discussion with students	
	3 practical	D3: The student Should be able to Communicate his Information with the Community	A scientific trip for purpose of collect soil samples from different sites	Describe Different Samples, Doing various Lab works exercises	

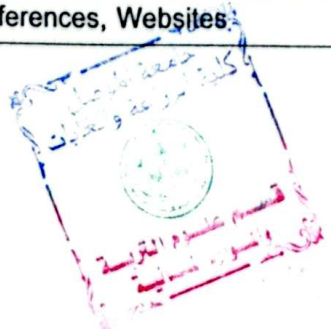
11. Course Evaluation

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)	Soil management and conservation
Main references (sources)	USDA
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	



Dr. Omar Nabhan Abdel Qader
Theoretical subject teacher

Dr. Aman Adel
Ms. Shaimaa Ghanem
Practical subject teacher

Dr. Khaled Anwar Khaled
Head of the Department of Soil Sciences and Water Resources

Dr. Abdul Qader Abash
Chair of the Scientific Committee

