

## Course Description Form

1. Course Name:
soil management
2. Course Code:
SOMA454
3. Semester / Year:
Second (spring) semester 2023-2024
4. Description Preparation Date:
1 \ 2 \ 2024
5. Available Attendance Forms:
presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical + 3 practical / 3.5 units
7. Course administrator's name (mention all, if more than one name)
Name: M. Yousif Hasan Yousif <a href="mailto:alnaseryousif10@uomosul.edu.iq">alnaseryousif10@uomosul.edu.iq</a> Practical teacher:: Lacture Aman Adel , Lacture Shaima Ghanem, Lacture Osama Hos
8. Course Objectives
<ul style="list-style-type: none"><li>• Identify the important physical, chemical, biological and environmental characteristics of the soil that affect the suitability and susceptibility of the soil to agricultural production</li><li>• Clarifying and explaining the proper methods for managing agricultural soils, preserving their good physical, chemical and fertility properties and preventing them from deteriorating</li></ul> Evaluating the suitability of agricultural lands and their productive capacity according to the type of agricultural crops
9. Teaching and Learning Strategies
<ul style="list-style-type: none"><li>- Interactive lecture</li><li>-Brainstorming</li><li>-Dialogue and discussion</li><li>-Field Training</li><li>-Practical exercises</li><li>-Field project</li><li>-Interactive lectures</li><li>-Brainstorming</li><li>-Self-education</li></ul>

# 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 theoretical	a1 - Understand the concept of soil management and the terminology used	The relationship of soil management to pedological and other sciences	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 practical	A9-The importance of studying soil from a pedological perspective	Learn about management concepts and the most important soil problems	Assigning report writing tasks	
2	2 theoretical	a2 -The student learns about the most important methods of soil surveying and using the results of soil surveying in soil management	The relationship of soil management to pedological and other sciences + definitions and terms	Theoretical: audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 practical	b7- Discovers the types of deterioration and methods for evaluating them	Evaluation of soil degradation	Assigning report writing tasks	
3	2 theoretical	a3 includes soil salinization and waterlogging, its causes, and methods of treating	Types and degrees of soil surveys	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 practical	b8-The student learns about the tools used in surveying	Tools required for soil surveying operations	Assigning report writing tasks	
4	2 theoretical	a4 -The student learns about the most important problems of Iraqi soil, the most important of which are salinization, waterlogging, and calcification, and how to manage and reclaim them.	soil degradation: 1- Salinization, 2- Waterlogging 3- Erosion, 4- Calcification	Theoretical: audio methods and interactive dialogue Writing style on the blackboard. Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 practical	c2-Identifying the signs of drainage problems	puncture drainage	Assigning report writing tasks	

5	2 theoretical	a5- The student learns about the most important problem of Iraqi soil, the most important of which are gypsum, the solid layers beneath the surface, the conditions of the soil surface, and how to manage and reclaim them.	soil degradation: 5- Gypsum, 6- Hard layers, 7- Surface conditions	Theoretical: audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 practical	b9- Identify the effect of salinity on agricultural production and how to treat it.	Soil salinity and its effect on agricultural production	Assigning report writing tasks	
6	2 theoretical	b1-The student will gain insight into land valuation methods, valuation methods and types of valuations used globally:	Land Valuation: 1- Types of evaluation 2- Evaluation methods	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 practical	c3 -Identifying the natural indicators of desertification, its causes, and methods for solving the problem of desertification	The process of desertification	Assigning report writing tasks	
7	2 theoretical	b2-The student will be proficient in assessing the viability and suitability of lands using the Story Guide	The Story Index method in land evaluation	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 practical	b10 -Learn how to protect soils from degradation and desertification	indicators of degradation and desertification	Assigning report writing tasks	
8	2 theoretical	b3- The student will master the assessment of the suitability of agricultural lands using mathematical models	Evaluation and classification of lands according to agricultural suitability (LSC).	Theoretical: audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 practical	b11-To learn about ways to reduce soil erosion	soil erosion	Assigning report writing tasks	

9	2 theoretical	b4 – The student masters how to evaluate and classify agricultural lands according to the productive potential of the land	Evaluation and classification of lands according to agricultural potential (LCC)	Theoretical: audio methods and interactive dialogue Writing style on the blackboard Slideshow style Practical:	Short daily exam (quiz) Assignment of duty discussions)
	3 practical	C4 –Identify ways to reduce wind erosion	wind erosion	Assigning report writing tasks	
10	2 theoretical	b5– The student masters land evaluation according to the suitability guide	Land evaluation according to the suitability index	audio methods and interactive dialogue	Short daily exam (quiz) Assignment of duty discussions
	3 practical	C5 – Learn how to treat new soil problems	Vertical and horizontal intensification in crop cultivation	Assigning report writing tasks	
11	2 theoretical	b6 – The student will master how to evaluate and classify agricultural lands according to their productive potential	Land evaluation classification according to Productivity Index (PI)	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 practical	C6–Soil fertility management and fertilization methods	Managing soil chemical properties	Assigning report writing tasks	
12	2 theoretical	a6 – The student learns about soil management methods in terms of managing organic matter and mathematical methods for calculating it	Soil management methods: 1– Organic matter management	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 practical	e1–Identifying the importance of the Agricultural rotation, designing, types of agricultural cycles	Agricultural rotation	Assigning report writing tasks	
13	2 theoretical	c1 – Learn soil management techniques, tillage operations, and servicing operations	Soil management methods: 2– Tillage and service operations	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz)

	3 practical	c7 -Knowing the evaluation factors to determine the soil suitability for irrigation	Soil suitability for irrigation	Assigning report writing tasks	Assignment of duty discussions
14	2 theoretical	a7 -The student learns and masters soil management methods and how to apply agricultural courses	Soil management methods: 3- Agricultural courses	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 practical	b12 -Identifying methods of rationing irrigation water	water rationing	Assigning report writing tasks	Assignment of duty discussions
15	2 theoretical	a8 -The student masters the method of managing soil water and how to improve and preserve it	Soil management methods: 4- Soil water management	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 practical	c8 -Learn about methods and how to classify irrigation water	Classification of irrigation water	Assigning report writing tasks	Assignment of duty discussions

### 11. Course Evaluation

Score	Relative weight	Calendar appointment	Evaluation methods	
100				
% 13	7 Theoretical 6 practical	Theory week 15 Practical 1-15 weeks	A theoretical final report on land degradation and its evaluation, in addition to soil management methods A practical final report on practical lessons and field visits	1
% 6	4 theoretical + 2 practical	Week 3	Quiz (1)	2
% 15	10 theoretical + 5 practical	Week 9	Midterm exam (theoretical and practical)	3
%6	4 theoretical + 2 practical	Week 12	Quiz ( 2)	4
%20	20	Practical exam week	Final practical test	5

%20	40	Theory exam week	Final theoretical test	6
12. Learning and Teaching Resources				
Required textbooks (curricular books, if any)		Soil management in planning and land use, Muhammad Khader Abbas		
Main references (sources)		Fundamentals of Pedology, Walid Al-Aqidi - Soil Survey and Classification, Ahmed Saleh Muhaimed		
Recommended books and references (scientific journals, reports...)		Academic scientific journals, reports of international organizations on land management and evaluation		
Electronic References, Websites		<ul style="list-style-type: none"> <li>• Conservation Service in cooperation with The University of Hawaii Agricultural Experiment Station. U.S. Government Printing Office, Washington, D.C.</li> <li>• Service in cooperation with Hawaii Institute of Topical Agriculture and Human Resources. University of Hawaii at Manoa, Honolulu.</li> </ul>		

Theoretical teacher: M. Yousif Hassan

Practical teacher: Lecture Aman Adel

, Lecture Shaima Ghanem,

Lecture Osama Hosam

Chairman Scientific Committee: Dr. Abdul Qader Abash

Head of Department: Dr. Ammar Younis

