Course Description Form

1. Course name:
Soil management
2. Course code:
SOMA454
3. Semester/Year: Annual
Second semester (spring) 2024-2025
4. Date of preparation of this description
1/2 /2025
5. Available forms of attendance:
presence
6. Number of study hours (total) / Number of units (total):
2 theoretical + 3 practical / 3.5 units
7. Name of the course supervisor (if more than one name is mentioned)
Assist. Prof. Yousif Hasan Yousif alnaseryousif10@uomosul.edu.iq Practical teacher: Ms. Aman Adel, Ms. Shaimaa Ghanem, Ms. Osama Hosam Fadal
8. Course objectives
The learner will be able to identify the important physical, chemical, biological, and environmental properties of soil that influence soil management. Distinguish between soil evaluation systems in terms of agricultural suitability and soil productivity. Understand sound methods for agricultural soil management. Understand the impact of good physical, chemical, and fertility properties on soils to prevent soil degradation. Understand the basics of assessing the suitability and productivity of agricultural lands according to the type of agricultural crops.
9. Teaching and learning strategies
- Interactive lectures -brainstorming -Dialogue and discussion -field training -Practical exercises -field projects -Interactive lectures -brainstorming -Self-learning

10. Course structure

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	Hours	Week
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue and slide presentation	The relationship of soil management to pedological and other sciences	a1- Understand the concept of soil management and the terms used.	2 theoretical	first
	Report writing assignment	The importance of studying soil from a pedological perspective	a9- Identify management concepts and the most important soil problems.	3 practical	

Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue and slide presentation	Types and degrees of soil degradation	a2- Identify the types of soil degradation, and influencing .factors	2 theoretical	second
	Report writing assignment	agricultural soil degradation	b7- Discover deterioration and methods of assessing them.	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, and slide presentation	Soil degradation: 1- Salinization, 2- Waterlogging, 3- Erosion	a3- Soil salinization, waterlogging, its causes and treatment methods	2 theoretical	Third
	Report writing assignment	Waterlogging	b8 - Discover types waterlogging problems	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	4- Calcification 5- Gypsum	a4- Identify the problems of Iraqi soils, calcification and gypsum.	2 theoretical	Fourth
	Report writing assignment	Calcification , Gypsum	c2- Identify the types of calcareous and gypsum soils.	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue	6- Impenetrable layers, 7- Surface conditions	a5- Identify the impermeable layers	2 theoretical	Fifth
	Report writing assignment	Surface conditions	b9- Discover the types of impervious layers	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue,	Land Evaluation: 1- Types of Evaluation 2- Methods	b1- Judge land valuation methods, valuation techniques	2 theoretical	Sixth
	Report writing assignment	desertification	c3- Determines land assessment desertification	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Land suitability assessment 1- Storie Index method	b2- The student classify agricultural lands according to the land's productive capacity.	2 theoretical	eventh

	Report writing assignment	Soil susceptibility and degradation	b10- Discover the types of soil suitability	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, writing on the board	Agricultural Capability (LCC) 2- Agricultural Capability Index	b3- The student masters the assessment of the suitability	2 theoretical	eighth
	Report writing assignment	Soil suitability and water erosion	b11- Discover the suitability and limit soil erosion	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue,	Land evaluation according to the suitability index	b4- The student masters land evaluation	2 theoretical	Ninth
	Report writing assignment	Susceptibility of agricultural soils to wind erosion	c4- Identify methods for land productivity and wind erosion	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Land suitability classification and evaluation (LSC)	b5- The student masters the evaluation of the suitability	2 theoretical	tenth
	Report writing assignment	New Earth Problems	c5—Distinguish methods of land adaptation and land problems	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Land evaluation and classification according to the Productivity Index (PI)	b6 - The student masters how to evaluate and classify agricultural lands	2 theoretical	Eleventh
	Report writing assignment	Fertilization and soil fertility	C6-Distinguish the productive capacity of land, soil fertility	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Soil management methods: !- Organic matter management	a6- The student learns about soil management methods in terms of organic matter.	2 theoretical	twelfth
	Report writing assignment	Organic matter	e1- Determines the most important managing organic matter.	3 practical	

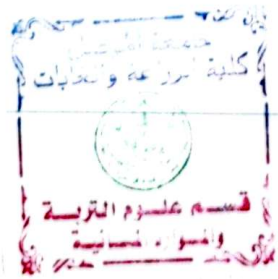
Writing and reporting on scientific trip	Auditory methods, interactive dialogue, writing on the board	Scientific trip	c6- Distinguish and identify methods and techniques of soil management	Scientific trip	thirteenth
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Soil management methods: 2- Tillage and service operations	c1- Explains soil management, tillage and service operations.	2 theoretical	fourteenth
	Report writing assignment	Tillage and crop service operations	c7- Distinguish between soil management	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue	Soil management method : -3 Agricultural cycles	a7- Familiar with soil management methods	2 theoretical	fifteenth
	Report writing assignment	Agricultural cycles	b12- Experiment with the importance of crop rotation	3 practical	

11- Course Evaluation

Relative weight	Grade 100	Calendar appointment	أساليب التقييم	
% 13	7 Theoretical 6 Practical	Theoretical week 15 Practical week 1-15	Final theoretical report on soil degradation and its assessment, as well as soil management methods. Final practical 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	Mid. exam (theoretical and practical)	3
%6	4 theoretical + 2 practical	Week 12	Quiz (2)	4
%20	20	Practical exam week	Final practical exam	5
%20	40	Theoretical exam week	Final theoretical exam	6

12- Learning and teaching resources

Soil Management in Land Use and Planning, Mohamed Khader Abbas	Required textbooks (methodology if any)
The Origins of Pedology, Walid Al-Aqidi - Soil Survey and Classification, Ahmed Saleh Muhaimid	Main references (sources)



Academic scientific journals, reports of international organizations on land management and evaluation	Recommended supporting books and references (scientific journals, reports, etc.)
• Conservation Service in cooperation with The University of Hawaii Agricultural Experiment Station. U.S. Government Printing Office, Washington, D.C. • Service in cooperation with Hawaii Institute of Topical Agriculure and Human Resources. University of Hawaii at Manoa, Honolulu.	Electronic references, websites

Theoretical Course Instructor: Asst. Prof. Yousif Hasan Al-Naser

Practical Course Instructor: M. Aman Adel Mawloud, M. Shaimaa Ghanem Daoud, M. Osama Hossam

Chair of the Scientific Committee: Dr. Abdul Qader Abash Sbak

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