Course Description Form

1. Course name:
Soil survey and classification
2. Course code:
SOSC448
3. Semester/Year: Annual
Second semester (Autumnal) 2024-2025
4. Date of preparation of this description
1/9 /2024
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 Aman_adel@uomosul.edu.iq
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 evaluations 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	Auditory methods, interactive dialogue	Soil formation and general terms	a1- Understand the concept of soil surveying, classification	2 theoretical	first
Assignment	Report writing assignment	The importance of studying soil survey from	b7- Master the importance of soil surveying from	3 practical	
Quiz, Homework,	Auditory methods, interactive dialogue	Soil formation factors and types of surveys	Soil formation factors and types of surveys	2 theoretical	second

Discussion Assignment	Report writing assignment	Personal characteristics of the specialist conducting survey	b8- The student masters the duties and characteristics of the surveyor.	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, and slide presentation	Soil classification	a3- Familiarize yourself with the objectives and classification systems.	2 theoretical	Third
	Report writing assignment	Objectives, purposes, and grades surveys	b9- The student masters aims and purposes surveys.	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Soil classification systems in the world: Systems classifying Russian soil	a4- The student learns about international classification systems	2 theoretical	Fourth
	Report writing assignment	Tools and equipment used in the soil survey process	b10- The student masters the tools used in the field and their uses.	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue	Canadian Soil Classification + United Nations Soil Classification International Soil Classification	a5- The student learns about the characteristics and levels of soil classification.	2 theoretical	Fifth
	Report writing assignment	Preparation and interpretation of soil maps	b11-The student judges how numbers are calculated	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue,	American soil classification systems	b1- He judges the old and modern American system	2 theoretical	Sixth
	Report writing assignment	Stages of soil survey implementation	b12- The student masters soil surveys in stages.	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Diagnosis and naming of taxonomic units	b2- The student masters the naming of taxonomic units	2 theoretical	eventh
	Report writing assignment	Arrange the soils in Soil Taxonomy and name them.	b3- The student masters the elements that order, suborder	3 practical	

Quiz, Homework, Discussion Assignment	Auditory methods, writing on the board	Soil Maps	B14- The student masters how to make soil maps.	2 theoretical	eighth
	Report writing assignment	Entisols and Vertisols	b4- The student masters the the Entisols and Vertisols order	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue,	Soil Maps	B14- The student masters how to make soil maps.	2 theoretical	Ninth
	Report writing assignment	Drawing scales	C4- The student demonstrates the use of drawing scales	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Aridisols Inceptisols	b5- The student masters how to classify orders of Aridisols and Inceptisols.	2 theoretical	tenth
	Report writing assignment	Using remote sensing in soil mapping	c5- The student demonstrates use of remote sensing technology in mapping.	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Mollisols order	b6- The student masters the classification of Mollisols into suborders and super groups.	2 theoretical	Eleventh
	Report writing assignment	Soil maps used in soil surveying and classification	C6- The student masters the use of remote sensing in mapping.	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue, writing on the board	Alifisols Order	a6- The student learns about the classification of Alifisols in suborders and supergroups.	2 theoretical	twelfth
	Report writing assignment	Soil survey report, area and survey maps	e1- Determines the types of surveys and their uses	3 practical	

Writing and reporting on scientific trip	Auditory methods, interactive dialogue, writing on the board	Scientific trip	c1- Explain the methods used in surveying, classifying lands	Scientifi c trip	thirteent h
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue	Order Ultisols Order Spodosols	c2- Explain the methods of classifying Ultisols order and Spodosols	2 theoretic al	fourteen th
	Report writing assignment	Iraqi and international soil survey reports	e3-Decides soil survey reports	3 practical	
Quiz, Homework, Discussion Assignment	Auditory methods, interactive dialogue	Oxisols and Histisols	c3- The student explains classification of Oxisols , Histisols.	2 theoretic al	fifteenth
	Report writing assignment	Soil survey applications in Iraq	c7- Explains survey applications in Iraq	3 practical	

11- Course Evaluation

Relative weight	Grade 100	Calendar appointment	Evaluation methods	
% 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,

Scientific Committee Chair: Dr. Abdul Qader Abash Sbak

Department Head: Dr. Khaled Anwar Khaled