Course Description Form

1. Course Name:
Soil salinity
2. Course Code:
SSAL353
3. Semester / Year: spring - 2023
Spring second semester 2023–2024
4. Description Preparation Date:
1 /2/ 2024
5. Available Attendance Forms: Mandatory attendance
Cuonpuncry
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: Khalid Ekhlyef Nazzal Email: k.eklef@uomosul.edu.iq
8. Course Objectives

theoretical 1- Study the chemical properties of saline soil. 2- Chemical reactions in saline soil solution. 3- Mechanism of salt movement and transport in saline soils. 4- The effect of soil salinity on plant growth.	practical : Enabling the student to recognize the mos important ways to study and learn about The most important methods of analysis a diagnosis and the most important diagnc of saline soils.
9. Teaching and Learning Strategies	
My theory: 1- Knowledge and understanding. 2- Identifying the problem of salinity, the nature its treatment, and methods of living with it. 3- Identify the ionic structure of salts. 4- Identifying the salt phases of soils affected by salinity. 5- The possibility of preparing a salt map for ar affected by salinity in order to develop scient programs for their reclamation. Study.	practical: - Adapting to teamwork to reveal skills. - Assignment of tasks and reports each committee.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2 Theoretical	A20:Explains to the student what it is Saline soils	Soil salinity	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	B11:Shows the stude nature Saline soils.	Soils are saline ir nature	Assigning task: And report.	assignments , discussions
2	2 Theoretical	C13:Shows the stude how The appearance of Wasel Saline soils	The origin of the appearance of sa	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	B22:Shows the stude how Get a solution Saline soils	Soil solution	Assigning task: And report.	assignmen ts, discussion s
3	2 Theoretical	A38: Explains to dog: what factors are responsible About soil formation Saltiness	Factors responsi for formation Salts	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	C16:Explain to the student what it is Cations in solution the soil	Cations in soil solution	Assigning task: And report.	assignments , discussions
4	2 Theoretical	A34: Explains to the student what are the characteristics of soi Saltiness	Chemical properties And the physics salts	The salib audio style Write on Chalkboard style Direct dialogue	Short exams, assignmen ts, discussion s

	3 practical	C16: Shows the stude the anions Responsible for Formation of sal soils	Anions in soil solution.	Assigning task: And report.	
5	2 Theoretical	A46:Explains to the student the types of saline soils.	Types of soil salt	My theory: The salib audio style Write on Chalkboard style Direct dialogue	Short exams, assignmen ts, discussion s
	3 practical	B31:Shows the student methods of assessment Salinity in the field And laboratory	Salinity estimati methods and expression about her	Assigning task: And report.	
6	2 Theoretical	Explains the characteristics to the student Soil chemicals Salinity.	Chemistry of soil affected by salini	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	Shows the student hc to collect Soil samples Salt from the field	Collecting soil samples	Assigning task: And report.	assignmen ts, discussion s
7			First semester exam		
8	2 Theoretical	B48: Explain to the student what it is The relationship between salinity Soil and alkalinity	The relationship between salinity and alkalinity	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	C16:Explains to the student the estimatic of sodium and potassium In saline soil conver	Determination of sodium potassium In soil transformer	Assigning task: And report.	assignments , discussions

9	2 Theoretical	C13:Shows to the student Classification and naming of soils Saline and its diagno:	Classification and naming of saline soils	The salib audio style Write on Chalkboard sty l Direct dialogue	Short exams,
	3 practical	A13:Explains to the student how Determination of calcium and magnesium In saline soil solution in the laboratory	Determination of calcium and magnesium In the soil solution	Assigning task: And report.	assignments , discussions
10	2 Theoretical	A6: Explains to the student the effect of s salinity on plant grov	The effect of salinity on plants	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	B11: Explains to the student how Determination of chlorides in solution Saline soil in laboratory	Determination o chlorides in solution the soil	Assigning task: And report.	assignments , discussions
11	2 Theoretical	A20:Explain to the student what it is Indicators used in Determine crop tolerance For salts	Indicators used i Determine crop tolerance For salts.	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	C16:Explains to the student how Carbonate estimation And bicarbonate in solution Saline soil in laboratory	Determination o carbonates and bicarbonates In the soil soluti	Assigning task: And report.	assignmen ts, discussion s
12	2 Theoretical	B31: Shows the stude how Evaluation of irrigati water quality	Irrigation water quality practical : Determination o	The salib audio style Write on	Short exams,

	3 practical	C19:Explains to the student how Sulfate determinatio In solution Saline soil	sulfate in solutio the soil	Chalkboard style Direct dialogue practical : Assigning task: And report.	assignments , discussions
13	2 Theoretical	A38:Explain to the student what it is Irrigation water classification system:	Irrigation water classification systems	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	B11:Explains to the student how Determination of gypsum in solution Saline soil in laboratory	Determination gypsum in soil	Assigning task: And report.	assignments , discussions
14	2 Theoretical	A20:Explain to the student what it is Methods of controllir salinity	Methods of controlling salini practical : Determination lime in soil	The salib audio style Write on Chalkboard style Direct dialogue	Short exams,
	3 practical	B11: Explains to the student how Determination of lim in solution Saline soil in laboratory		Assigning task: And report.	assignments , discussions
15			Second semester exan		

11. Course Evaluation

	Evaluation methods	Evaluation date	Grade Relative	weight %
1	Theoretical final report + practical experience reports	Theoretical week 15, practical week 15	7 theoretical + 6 practical	13%
2	Short test (1) Quiz	week (3)	4 theoretical + 2 practical	6%

3	Exam Midterm (theoretical + practical)	week (9)	10 theoretical + 5 practical	15%
4	Short test (2) Quiz	week (12)	4 theoretical + 2 practical	6%
5	Final practical test	A week of practical exams	20	20%
6	Final theoretical test	The week of theoretical exams	40	100%
	the total		100	100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Soil salinity book / Dr. Ahmed Haider A Zubaidi 1989
Main references (sources)	Land environmental chemistry book.
Recommended books and references (scientific journals, reports...)	Al-Rafidain Agriculture Journal, S Science Journal
Electronic References, Websites	

Dr.. Khalid Khaleyf Nazzal

Theoretical subject lecturer

Mr. Alia Abdel Latif

Practical subject lecturer

جامعة الموصل
كلية الزراعة والغابات
قسم علوم التربة والموارد المائية

Dr. Abdul Qader Abash Sabak

Chairman of the Scientific Committee

Dr. Ammar Younis Kashmoula

Head of the Department of
Soil Sciences and Water Resources