

Republic of Iraq

The Ministry Of Higher
Education

& Scientific Research

بسم الله الرحمن الرحيم



University: Diyala
College: Agriculture
Department: Soil Sci. & Water
Resources
Stage: 4st
Name: Aswad. H .Aswad
Academic Status: Assistant
Professor
Qualification: PhD.
Place of work: Coll. Of
Agriculture

Flow up of implementation celli pass play

Course Instructor	Aswad H .Aswad				
E-mail	aswadhaswad@uodiyala.edu.iq				
Title	Soil Chemistry				
Course Coordinator	First Course				
Course Objective	The aim is Knowing the components of the soil system and what is related to them by studying all the chemical processes in the soil that reflect the chemical .and physical characteristics of the soil system				
Course Description	The student's knowledge of the chemical composition of the soil, the properties of the soil solution, double layer theories and their applications, and the interaction between the solid part and the soil solution.				
Textbook	Awad,K . Mashot 1986, Principles of Soil Chemistry. Ministry of Higher Education and Scientific Research. University of Basra.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	(20%)	(15%)	(5%)		(60%)

Course weekly Outline

week	Date	Topics Covered	Practical Part
1	17-9-2023	Soil organic matter	How to take soil samples
2	24-9-2023	Composition of humus	Separation of soil solution
3	1-10-2023	Chemistry of soil solution	Estimating the degree of pH and electrical conductivity
4	1-10-2023	Factors and conditions of composition of soil salinity-affected	Total estimation of nutrients
5	8-10-2023	Solid phase surface – soil solution interaction	Estimating surface area
6	15-10-2023	Electric double layer	Estimation of dissolved ions by staining
7	22-10-2023	Ion exchange	Determination of sodium and potassium using a flame photometer device
8	29-10-2023	Ion exchange equations	Determination of sulfate by spectrophotometer
9	5-11-2023	properties of the exchange complex	Estimation of exchangeable positive ions in soil
10	12-11-2023	exchange capacity	Estimating the exchange capacity of positive ions
11	19-11-2023	solution equilibrium in soil	Determination of organic matter by wet digestion
12	26-11-2023	Carbonate equilibrium	Estimation of heavy elements
13	3-12-2023	Phosphate equilibrium	Determination of calcium carbonate
14	10-12-2023	Soil acidity and alkalinity	Gypsum estimation
15	17-12-2023	Soil buffering	Using software to calculate strength, potency, and ionic doublets



Instructor Signature:

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