

Republic of Iraq

The Ministry Of Higher  
Education

& Scientific Research

بسم الله الرحمن الرحيم



University: Diyala  
College: Agriculture  
Department: Soil and Water  
Resources Department  
Stage: Third  
Lecturer name: Dr. Raad  
Abdel-Kareem Himdan  
Qualification: Ph.D.  
Place of work: Coll. of Agricultr

## Flow up of implementation celli pass play

Course Instructor	Prof.Dr. Raad Abdel-Kareem Himdan				
E-mail	raadaltamimi@uodiyala.edu.iq				
Title	Land Reclamation				
Course Coordinator	Second				
Course Objective	The aim is to let the students knows the concept and scientific principles of land reclamation.				
Course Description	The student's knowledge general concept of land reclamation, scientific fundamental of land reclamation process and different methods used in land reclamation.				
Textbook	1. Al-Zubaidi, A.H. 1989. Land Reclamation- Theoretical and applied fundamentals. Ministry of Higher Education and Scientific Research, University of Baghdad.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20%	15%	5%		60
General Notes					

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week	Date	Topics Covered	Practical Part
1		Introduction – Land reclamation, its concept and importance	A pot experiment in saline soil
2		Preliminary investigations: climatic, topographical and social conditions	
3		Preliminary investigations: soil survey and analyses – preparing maps of the area and soils	Preparation a soil column for washing a saline soil
4		Calculation, designs and decisions: leveling – water volume and leaching fractions – irrigation channels – suitable drainage system	
5		Implementation: initial & final leveling – washing process – washing methods – efficiency & influencing factors – chemistry of salt washing – indicators of washing process completion- possibilities of turning saline soils to sodic	Implementing of soil saline washing experiment using different washing methods and collecting soil leachates
6		Using saline water in salt affected soils reclamation	Determination of pH and EC in soil leachates
7		Farming: conditions and consideration – management of reclaimed land – problems of salinity return	Determination of cations and anions in soil leachates
8		Land reclamation experiences in Iraq	
9		Reclamation of sodic lands: Sodic soils and their general properties – methods and means of sodic lands reclamation	Printing leaching curves and discussions
10		Reclamation of sodic lands: use of deep plowing – use of saline water – crops selection during cultivation process - fertilization	Experiment of resistance of calcareous Iraqi soil against sodification
11		Reclamation of gypsiferous soils	Reclamation of calcareous and gypsiferous soils by organic matter
12		Reclamation of sandy and desert soils	
13		Reclamation of Calcareous soils	
14		Reclamation of water-logged soils	Reclamation of sandy soils by clay and organic matter
15		Reclamation of acid land	

Instructor's signature

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**Prof. Dr. Raad Abdel-Kareem**  
**15 / 1 / 2025**

**Prof. Dr. Raaed Ibrahim Khalil**  
**15 / 1 / 2025**