

Republic of Iraq  
The Ministry of Higher  
Education  
& Scientific Research

بسم الله الرحمن الرحيم



University: Diyala  
College: Agriculture  
Department: soil science and  
water resources  
Stage: Fourth  
Lecturer name: Mohammed Ali  
Abood  
Qualification: Ph.D  
Place of work: soil science and  
water resources

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Course Instructor	Mohammed Ali Abood
E-mail	<a href="mailto:Mohammed.Ali.Abood@uodiyala.edu.iq">Mohammed.Ali.Abood@uodiyala.edu.iq</a>
Title	Irrigation systems technology
Course Coordinator	First
Course Objective	Science irrigation looking in irrigation water sources and methods to control it, exploit and delivery of agricultural fields and includes planning, design and implementation of irrigation facilities, transmission and distribution of irrigation water and to study ways to add them and calculate the water requirement of the plant through the study of water relationship, soil and climate in addition to the study of problems related to the addition of water problems to salinity and drainage and reclamation of soils.
Course Description	Irrigation material includes teaching students how to calculate the channels discharge, whether or not lined or exposed as well as the water needs of the plant as well as the expense of transporting and distributing water to agricultural fields without any water losses as well as the expense of the ability of the pumps that transfer water from the rivers and down to the agricultural fields.
Textbook	<ol style="list-style-type: none"> <li>1- Irrigation, fundamentals and applications written by Dr. Nabil Ibrahim eltaif and Essam Hamza Khudair alhadith .1988 Ministry of Higher Education and Scientific Research - University of Baghdad.</li> <li>2- Irrigation and drainage written by dr.laith Khalil Ismail . 2000 Ministry of Higher Education and Scientific Research - University of Mosul.</li> <li>3- Design and management of field irrigation systems written by dr. Samir Mohammed Ismail .2002 College of Agriculture - Alexandria University.</li> <li>4- Modern irrigation techniques and other topics in the water issue written by Essam Khudair alhadithi ,dr. Ahmed madlool Kubaisi and dr. Yass Khudair Hamza alhadithi.2010 Ministry of Higher Education and Scientific Research University of Anbar.</li> </ol>

Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	(20%)	(15%)	(5%)	-	(60%)
General Notes	<b>None</b>				

## Course weekly Outline

week	Date	Topics Covered	Practical Part
1	2022/10/2	Introduction to Irrigation	Review, soil moisture content, methods of representing moisture content, solving mathematical problems.
2	2022/10/9	The basic factors for the design of the field irrigation system	Applications and exercises in the efficiency, adequacy and consistency of perfusion
3	2022/10/16	Soil water infiltration, factors affecting the infiltration, relationship between infiltration and irrigation method, baseline infiltration rate	Measure the infiltration, extract the functions of the rate of the infiltration and cumulative infiltration and the rate of the base infiltration, applications and exercises in the infiltration.
4	2022/10/23	Surface irrigation	Applications and exercises about the function of progress and its relationship to tip functions, exercises for the concept of water balance in surface irrigation
5	2022/10/30	Surface irrigation systems	Mathematical applications about the design of a tape irrigation system
6	2022/11/6	furrow irrigation, specifications, advantages, disadvantages	Measurement of imbibition in furrow
7	2022/11/13	Furrow Irrigation, Design Considerations, Design Equations	Applications and exercises for irrigation of furrow
8	2022/11/20	Irrigation basins, specifications, advantages, disadvantages	Applications and exercises about the design of irrigation basins
9	2022/11/27	Sprinkler irrigation, principles, advantages, disadvantages	Exercises about calculating sprinkler breaks for each arrangement
10	2022/12/4	Sprinkler irrigation	Exercises on calculating perfusion consistency, spray loss and perfusion efficiency
11	2022/12/11	Drip irrigation, its definition, benefits, disadvantages and problems, basic parts of the drip irrigation system, hydraulic drippers, irrigation depth and interval irrigation, dripper selection, irrigation efficiency and consistency	Applications and exercises for drip irrigation
12	2022/12/18	Scientific visit	Scientific visit

**Note: There are two exams (first month, second month)**

*Mohammed A. Abood*

**Instructor Signature:**

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