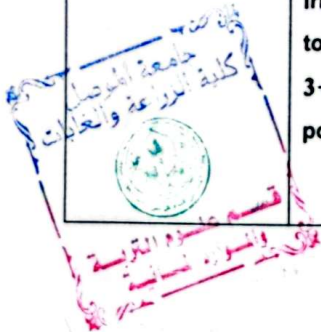


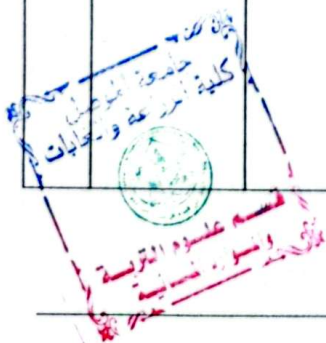
Course Description Form

1. Course Name :	
Irrigation	
2. Course Code:	
IRIG349	
3. Semester / Year:	
First semester 2024/2025	
4. Description Preparation Date:	
16/9/2024	
5. Available Attendance Forms:	
In presence	
6. Number of Credit Hours (Total) / Number of Units (Total) :	
2 Theoretical +3 Practical / 3.5 Unit	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Faris Akram Salih Al-Wazzan Nour Jamal Hussein Email: dr.farisakram@uomosul.edu.iq	
8. Course Objectives	
Course Objectives	<p>1- Preparing students who have the ability to use modern irrigation methods and describe these methods accurately with the possibility of using them within Iraqi soils, which represent calcareous soils... and integrating these methods with drainage networks disposal of excess water.....</p> <p>2- Entering the agricultural sector with distinguished efficiency through participation in irrigation projects, modern irrigation techniques, and the use of the best methods in order to reduce water use within agricultural lands and reduce the risk of salt and desert..</p> <p>3- Directing students towards a desire to obtain better experiences when applying postgraduate studies..</p>



1. Teaching and Learning Strategies					
Theoretical: -Interactive lecture -Brainstorming -Dialogue and discussion -Assigning tasks and reporting -Presentations of models of irrigation and drainage networks			Practical: - Assigning group work to reveal leadership skills - Assigning tasks and reporting for each experiment - He is assigned to prepare a report entitled from his own diligence and prepare it for discussion with Students		
2. Course Structure					
We ek	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3Practical	Theoretical: Explains the concept to the student Irrigation and relationships mathematical practical : Empowering the student to solve Equations	Theoretical: The concept of irrigation and the introduction to irrigation with mathematical relationships between the size and mass of soil components practical : Mathematical relationships for soil components and the equivalent depth of soil water	theoretical: Audio methods style Writing on the board Direct dialogue style practical : Adapt tasks and reports	Conduct daily examinations. Assignment discussions
2	2 Theoretical 3Practical	theoretical: Explains depth to the student The equivalent and its importance practical : Explains to the student Fundamentals of humidity measurement	theoretical: Equivalent depth derivations with solving mathematical problems practical : Methods for measuring soil moisture	theoretical: Audio methods style Writing on the board Direct dialogue style practical : Adapt tasks and reports	Conduct daily examinations. Assignment discussions
3	2 Theoretical 3Practical 2 Theoretical 3Practical	Theoretical: Explains the concepts of movement to the student practical : Shows the student the measurement Field capacity And the wilting point	theoretical: Physical concepts of motion and its laws practical : Measuring field capacity and permanent wilting point	theoretical: Audio methods style Writing on the board Direct dialogue style practical : Adapt tasks and reports theoretical:	Conduct daily examinations. Assignment discussions

4	2 Theoretical 3 Practical	Theoretical: Explains to the student Types of pumps agricultura practical : Explains measurement methods using multiple methods	Theoretical: Choosing the type of pump with examples practical : Methods for measuring irrigation water discharge	Audio methods style Writing on the board Direct dialogue style practical : Adapt tasks and reports	Conduct daily examinations. Assignment discussions
5	2 Theoretical 3 Practical	Theoretical: Enabling the student to Irrigation water evaluation practical : Shows mathematical applications weirs	Theoretical: Evaluation of irrigation water quality practical : Irrigation canal design	theoretical: Audio methods style Writing on the board Direct dialogue style practical : Adapt tasks and reports	Conduct daily examinations. Assignment discussions
6	2 Theoretical 3 Practical	Theoretical: Shows the student importance Irrigation efficiencies practical : Empowering understanding competencies Irrigation	Theoretical: Irrigation efficiencies with example practical : Types of irrigation efficiencies with solutions and examples	theoretical: Audio methods style Writing on the board Direct dialogue style practical : Adapt tasks and reports	Conduct daily examinations. Assignment discussions
7	2 Theoretical 3 Practical	Theoretical: Enabling the student Understanding evaporation transpiration practical : Explains method measuring Water consumption	Theoretical: evaporation and transpiration practical : Water requirements measurements	theoretical: Audio methods style Writing on the board Direct dialogue style practical : Adapt tasks and reports	Conduct daily examinations. Assignment discussions



8	2 Theoretical 3 Practical	<p>Theoretical: Explains to student importance irrigation scheduling</p> <p>practical : Explains the basics of irrigation scheduling</p>	<p>Theoretical: Irrigation scheduling</p> <p>practical : Methods of scheduling irrigation with solutions and examples</p>	<p>theoretical: Audio methods style Writing on the board Direct dialogue style</p> <p>practical : Adapt tasks and reports</p>	Conduct daily examinations. Assignment discussions
9	2 Theoretical 3 Practical	<p>Theoretical: Shows the student importance Water requirement of crop</p> <p>practical : Empower student to Calculate the plant's water requirement water</p>	<p>Theoretical: Water requirement of the crop</p> <p>practical : Calculate water requirements and solve examples</p>	<p>theoretical: Audio methods style Writing on the board Direct dialogue style</p> <p>practical : Adapt tasks and reports</p>	Conduct daily examinations. Assignment discussions
10	2 Theoretical 3 Practical	<p>Theoretical: The student can Knowledge of irrigation cycle</p> <p>practical : Explains to student calculation of period between ritual and another</p>	<p>Theoretical: Irrigation frequency Irrigation cycle</p> <p>practical : Calculating irrigation quantities and irrigation cycle</p>	<p>theoretical: Audio methods style Writing on the board Direct dialogue style</p> <p>practical : Adapt tasks and reports</p>	Conduct daily examinations. Assignment discussions
11	2 Theoretical 3 Practical 2 Theoretical 3 Practical 2 Theoretical	<p>Theoretical: The student shows how Water entry into the soil</p> <p>practical : Shows the student methods Instantaneous Infiltration measurement</p>	<p>Theoretical: Water Infiltration</p> <p>practical : Infiltration measurement</p> <p>Theoretical:</p>	<p>theoretical: Audio methods style Writing on the board Direct dialogue style</p> <p>practical : Adapt tasks and reports</p> <p>theoretical:</p>	Conduct daily examinations. Assignment discussions

12	3Practical	Theoretical: Explains importance irrigation Surface	Surface irrigation methods	Audio methods style Writing on the board Direct dialogue style	Conduct daily examinations. Assignment discussions
13	2 Theoretical 3Practical	practical : Shows irrigation methods	practical : Surface and subsurface irrigation	practical : Adapt tasks and reports	
14	2 Theoretical 3Practical	Theoretical: Shows sprinkler irrigation systems	Theoretical: Strip irrigation	theoretical: Audio methods style Writing on the board Direct dialogue style	Conduct daily examinations. Assignment discussions
15	2 Theoretical 3Practical	practical : Explains strip irrigation systems	practical : Arrangement of strip irrigation and its types	practical : Adapt tasks and reports	
		Theoretical: Shows Sprinkler Irrigation	theoretical: Basin irrigation and sprinkler irrigation	theoretical: Audio methods style Writing on the board Direct dialogue style	Conduct daily examinations. Assignment discussions
		practical : Explains sprinkler irrigation system	practical : Arrangement and types of sprinklers	practical : Adapt tasks and reports	
		theoretical: Explains drip irrigation systems	Theoretical: Drip irrigation	theoretical: Audio methods style Writing on the board Direct dialogue style	Conduct daily examinations. Assignment discussions
		practical: Shows drip irrigation systems	practical : Arrangement of drippers and their mechanism of operatio	practical : Adapt tasks and reports	
3. Course evaluation					

Relative weight %	Degree	Calendar appointment (weekly)	Calendar methods	ت
13%	7 Theoretical + 6 practical	Theoretically week (15) Practically week 1-15	Theoretical final report + practical experience reports	1
6 %	4+ Theoretical 2 practical	week (3)	Quiz(1)	2
15%	10 Theoretical+ 5 practical	week (9)	Exam Midterm (Theoretical and practical)	3
6%	4 + Theoretical 2 practical	week (12)	Quiz(2)	4
20%	20	Practical exam week	Final practical test	5
40%	40	Theory exam week	Final theoretical test	6
100%	100		Total	

4. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Irrigation... Dr. Issam Khudair Al-Hadithi
Main references (sources)	Irrigation and drainage book by Dr. Laith K
Recommended books and references (scientific journals, reports...)	SSSJ , WATER J .
Electronic References, Websites	https://doi.org/10.2136/sssabookser5.1.2ed

Dr. Faris akram salih Al-Wazzan

Theoretical teacher

Abdul Qadir Abash Al-Hadidi
Head of the scientific committee

Nour Jamal Hussein

Practical teacher

Khalid Anwar Khalid
Head of the Department of Soil Sciences and Water Resources

