Irrigation and Drainage Course Description Form

Course Name
Irrigation and Drainage
Course Code
IRRD210
Semester/Year
Second / 2025
Date this description was prepared
15 January 2025
Available attendance forms
In-Person
Number of Credit Hours (Total)/ Number of Units (total)
Number of hours = 5 (2 theoretical hours + 3 practical hours) , number of units = 3.5
Course administrator's name (if more than one name)
Dr.Mohammed Ali Aboud .Shaimaa Tarek Falih
Course Objective
1- The science of irrigation and puncture researches the sources of irrigation water and ways to control it, exp it and deliver it to agricultural fields 2- Includes planning, designing and implementing irrigation facilities 3- Transfer and distribution of irrigation water and study ways to add it 4- Calculating the water needs of the plant by studying the relationship of water, soil and climate 5- Studying problems related to water addition such as problems of salinisation, puncture and soil reclamatic **6**- Calculating the cost of maintenance of irrigation and puncture projects within the production costs
Teaching and Learning Strategies
In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports
Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Irrigation an Drainage	A Brief History of Irrigation in Iraq	Explanation and presentation of the model and lecture	Exam
2	2	Irrigation and Drainage	soil moisture	Explanation and presentation of the model and lecture	Exam
3	2	Irrigation and Drainage	Irrigation water quality	Explanation and presentation of the model and lecture	Exam
4	2	Irrigation and Drainage	Physical Soil Characteristics Associated with Irrigation	Explanation and presentation of the model and lecture	Exam
5	2	Irrigation and Drainage	Soil water deficit	Explanation and presentation of the model and lecture	Exam
6	2	Irrigation and Drainage	The most important mathematical relationships for irrigation calculations	Explanation and presentation of the model and lecture	Exam
7	2	Irrigation and Drainage	Irrigation water measurements	Explanation and presentation of the model and lecture	Exam
8	2	Irrigation and Drainage	Irrigation Water Transmission and Distribution	Explanation and presentation of the model and lecture	Exam
9	2	Irrigation and Drainage	Irrigation Competencies	Explanation and presentation of the model and lecture	Exam
10	2	Irrigation and Drainage	Water Needs Part 1	Explanation and presentation of the model and lecture	Exam
11	2	Irrigation and Drainage	Water Needs Part II	Explanation and presentation of the model and lecture	Exam
12th Grade	2	Irrigation and Drainage	Irrigation roads	Explanation and presentation of the model and lecture	Exam
Thirteenth	2	Irrigation and Drainage	Drip Irrigation	Explanation and presentation of the model and lecture	Exam
14	2	Irrigation and Drainage	sprinkler Irrigation	Explanation and presentation of the model and lecture	Exam

15	2	Irrigation and Drainage	Puncture	Explanation and presentation of the model and lecture	Exam
Practical Part					
Week	**Credits**	**Irrigation and Drainage**	**Unit or Topic Name**	**Learning Method**	**Evaluation Method**
1	3	Irrigation and Drainage	Methods of taking moisture samples and visiting college fields	Explanation and presentation of the model and lecture	Exam
2	3	Irrigation and Drainage	Mathematical relationships of soil components and soil water equivalent depth	Explanation and presentation of the model and lecture	Exam
3	3	Irrigation and Drainage	soil moisture	Explanation and presentation of the model and lecture	Exam
4	3	Irrigation and Drainage	Measure field capacity and permanent wilting point	Explanation and presentation of the model and lecture	Exam
5	3	Irrigation and Drainage	Tissue Measurement	Explanation and presentation of the model and lecture	Exam
6	3	Irrigation and Drainage	Water Consumption	Explanation and presentation of the model and lecture	Exam
7	3	Irrigation and Drainage	Watching illustrations of irrigation equipment and the most important irrigation systems used through a scientific trip or film show	Explanation and presentation of the model and lecture	Exam
8	3	Irrigation and Drainage	Irrigation Water Drainage Measurement Methods	Explanation and presentation of the model and lecture	Exam
9	3	Irrigation and Drainage	Design of irrigation canals	Explanation and presentation of the model and lecture	Exam
10	3	Irrigation and Drainage	Irrigation Methods	Explanation and presentation of the model and lecture	Exam
11	3	Irrigation and Drainage	Design of drip irrigation network	Explanation and presentation of the model and lecture	Exam

12	3	Irrigation and Drainage	Irrigation Drainage Measurement	Explanation and presentation of the model and lecture	Exam
13	3	Irrigation and Drainage	Types of pumps	Explanation and presentation of the model and lecture	Exam
14	3	Irrigation and Drainage	Some terms that express the capacity of the pumps	Explanation and presentation of the model and lecture	Exam
15	3	Irrigation and Drainage	Visiting the agricultural research station for the purpose of viewing irrigation roads	Explanation and presentation of the model and lecture	Exam

Course Evaluation	
EXAMINATIONS Daily exams with discussion questions within the lecture Degree of participation in questions related to the subject	
Learning and Teaching Resources;	
Required textbooks (methodology if any)	Irrigation Basics and Applications by Dr.Nabil Ibrahim Al-Taif and Dr.Essam Khudair Hamza Al-Hadithi, 1988 Ministry of Higher Education and Scientific Research – University of Baghdad Irrigation and Puncture by Dr.Layth Khalil Ismail, 2000 Ministry of Higher Education and Scientific Research – University of Mosul Design and management of field irrigation systems by Dr.Samir Mohammed Ismail, 2002 Faculty of Agriculture – Alexandria University 4-Modern irrigation technologies and other topics in the water issue by Dr.Essam Khudair Al-Hadithi, Dr.Ahmed Madloul Al-Kubaisi and Dr. Yas Khudair Hamza Al-Hadithi, 2010 Ministry of Higher Education and Scientific Research - Anbar University
Key References (Sources)	Irrigation Basics and Applications by Dr.Nabil Ibrahim Al-Taif and Dr.Essam Khudair Hamza Al-Hadithi, 1988 Ministry of Higher Education and Scientific Research – University of Baghdad
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References , Websites	Soil Science Society of America Library Genesis