Republic of Iraq

The Ministry Of Higher Education

& Scientific Research

بسم الله الرحمن الرحيم

وزارة التعليم العالي والبحث العلمي
Ministry of Higher Education & Scientific Research

University:Diyala
College: Agriculture
Department: Soil Science and Water Resources
Stage: Third
Lecturer name: Dr.Ahmed Bahjat Khalaf
Qualification: Ph.D.
Place of work: Coll. Of Agriculture

Flow up of implementation celli pass play

Course Instructor	Assis.Prof.Dr.Ahmed Bahjat Khalaf
E-mail	ahmedkhalaf@uodiyala.edu.iq
Title	Remote Sensing
Course Coordinator	Second
Course Objective	Teaching students the most important foundations, applications, and modern programs in remote sensing techniques to serve them in the agricultural field. The student's ability to use different software to process, interpret, and analyze satellite images. The student will learn how to distinguish and compare between different ground targets. Learn about geographic information systems (GIS) and their uses.
Course Description	The course includes an introduction to the history of remote sensing and terrestrial targets, electromagnetic energy and parts of the electromagnetic spectrum, types and characteristics of aerial, space and satellite images, analysis, processing, interpretation and classification of satellite images, distinction between soil, plants and water through spectral reflectivity. Geographic information systems, their .components and their use
Textbook	1. Al-Mashhadani, Ahmed Saleh and Ahmed Madloul Al-Kubaisi. (2014). Remote Sensing Science. Ministry of Higher Education and Scientific Research. University of Baghdad. College of Agriculture. University House for Printing, Publishing and Translation. 2. Khalaf, Ahmed Bahjat. (2021). Processing, analyzing and interpreting satellite images using the ERDAS IMAGINE program. Central Printing Press. University of Diyala.
External sources	Al-Daghestani, Nabil Sobhi, (2003), Remote Sensing: Basics and Applications, Dar Al-Manahij, Amman, Jordan.

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	Notes
1		Introduction: History of remote sensing and objectives	Applications on the interpretation of aerial photographs and the preparation of maps.	
2		Electromagnetic energy and parts of the electromagnetic spectrum	Satellite images and spectral bands	
3		Electromagnetic energy interactions	How to import and export satellite images using the ERDAS program	
4		Spectral reflectivity and factors affecting it	Spectral band merging and spatial enhancement	
5		Aerial photography and its development stages	Regular and irregular satellite image segments of the areas under study	
6		Types and characteristics of aerial images	Applications on methods of improving and processing satellite images, radiometric and spectral enhancement	
7		Rules for classifying aerial images and their applications	satellite data interpretation: Visual interpretation	
8		Types and characteristics of platforms and satellites in the world	satellite data interpretation: Automatic interpretation	
9		Sensors: their types and characteristics	satellite image classification: Unsupervised classification	
10		Satellite images: their types and characteristics	supervised classification	
11		Improving satellite images	Using natural indicators, vegetation cover indicator, water, minerals, soil	
12		Methods of classifying satellite images	Applications on satellite images	
13		Applications in remote sensing	Applications on the interpretation of satellite images and the preparation of maps	
14		GIS and their uses		

Instructor's signature
Assis.Prof.Dr. Ahmed Bahjat Khalaf
2025 / 1 / 15

Dean's signature
Prof. Dr.Raaed Ibrahim Khalil
. 2025 / 1 / 15