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. Faris M.Suhail
Qualification: : PhD.
Place of work: Coll. Of Agriculture

Flow up of implementation celli pass play

Course Instructor	Assi. Prof. Dr. Alaa Hasan Fahmi				
E-mail	alaahfahmi@uodiyala.edu.iq				
Title	Soil and water pollution				
Course Coordinator	First semester				
Course Objective	1-Introducing the student to the concept of soil and water pollution 2-Introducing the ecosystem and its types، 3 -Definition of pollution - its causes and sources 4 -Identifying the cycles of elements and their impact on environmental pollution, then identifying water pollution, including surface and groundwater pollution. 5 -Identify bacterial and viral water pollution, industrial water pollutants and the behavior of pesticides in the aquatic environment، 6 -Identify soil pollution, such as biological soil pollution, soil pollution with pesticides, and biodegradation of pesticides in the soil				
Course Description	The student is introduced to the concept of soil and water pollution, and classifies ecosystems and types of pollution, as well as the types of soil and water pollution. Introducing how soil and water are polluted, and knowledge of the harmful effects of soil and water pollution.				
Textbook	Environmental pollution - Dr. Falih Hassan Ahmed Al-Hadithi, Dr. Bahaa Abdul Jabbar - University of Baghdad-2013				
Course	Term Tests	Laboratory	Quizzes	Project	Final

Assessments					Exam
	20%	15%	5%		60%
General Notes					

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week	Date	Topics Covered	Practical Part
1		To explain to the student the ecosystem and definition of pollution, its causes and sources	Identify the equipment and tools used measuring pollution
2		To familiarize the student with the cycles of eleme (nitrogen, phosphorus, oxygen, carbon, and sulfur)	Environmental pollution, sources pollution, factors affecting water quality, water and soil chemical propertie
3		The student should recognize surface, groundwater and Seawater pollution .	Water pollutants, pollution with chlor salts Nacl, measurement of soil salinity and water
4		The student should recognize bacterial and viruses water contamination and worms.	Acidity and alkalinity of water, methods measuring total acidity in water and soil
5		The student should be acquainted with the industrial pollutants of wa battery, and fertilizer factories. Semester First exam	Alkalinity in water and soil, alkalinity measurement methods of CaC
6			Measurement of free carbon dioxide water (dissolved), measurement of chlor

			in water
7		The student should be familiar with the behavio pesticides in the water environment. The behavio pesticides on water organisms.	Measurement of hardness in water, t hardness, calcium hardness Magnesi hardness in water
8		To familiarize the student with biological pollut sewage waste , fertilization effect on water pollution	Dissolved oxygen in water
9		The student should know the suitable use of water according to its properties for different uses	Measurement of bio oxygen requirements BOD
10		Biological soil pollution: Pollution by urban waste, Effluents, solid waste, waste Hospitals (Satisfactory)	Organic matter dissolved in water
11		Pesticide contamination of soil: pesticide behavior in different types of s biodegradation of pesticides in soil and fact affecting the rate of breakdown, physical factors that control inhibition of pesticide action	Microbial contamination of soil and water
12		Soil contamination with heavy metals: sources heavy metals, toxicity of heavy metals, soil and wa pollution standards: - concentration of heavy met pollution index, pollution factor, ground accumulat index, pollution load index, enrichment factor	Methods for measuring pesticide residue soil, water and plant The effect of pesticides on microorganisms, measurement methods recognition of devices
13		To familiarize the student with global warm Ozone layer, heat pollution, radioactive pollution	The effect of some pesticides on the revi of displaced soil, especially economic so
14		Second Semester Exam	Measurement of the concentration certain toxic elements and methods assessing their hazards
15			

Teacher's signature:
Assis. Prof. Dr. Alaa Hasan Fahmi

15 / 1 / 2025

Dean's signature
Prof. Raed I. Khalil

15 / 1 / 2025