

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: Second
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 Assessments	Term Tests	Laboratory	Quizzes	Project	Final 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 the definition of pollution, its causes and sources	Identify the equipment and tools used measuring pollution
2		To familiarize the student with the cycles of elements (nitrogen, phosphorus, oxygen, carbon, and sulfur)	Environmental pollution, sources pollution, factors affecting water quality, water and soil chemical properties
3		The student should recognize surface, groundwater and Seawater pollution	Water pollutants, pollution with chlorides 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	Alkalinity in water and soil, alkalinity measurement methods of CaCO ₃

6		acquainted with the industrial pollutants of wa battery, and fertilizer factories. Semester First exam	Measurement of free carbon dioxide in wa (dissolved), measurement of chlorine water
7		The student should be familiar with the behavior pesticides in the water environment. The behavior pesticides on water organisms.	Measurement of hardness in water, to 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 accumulati index, pollution load index, enrichment factor	Methods for measuring pesticide residues soil, water and plant The effect of pesticides on s microorganisms, measurement methods recognition of devices
13		To familiarize the student with global warming, Oz layer, heat pollution, radioactive pollution	The effect of some pesticides on the rev of displaced soil, especially economic so
14		Semester second exam	Measurement of the concentration certain toxic elements and methods assessing their hazards
15			