







Course Description Form

Plant Environment

1. Course Code

PLEN209

2. Semester / Year:

First semester 2024-2025

3. Description Preparation Date:

1/9/2024

4. Available Attendance Forms:

Attending + Electronic

5. Number of Credit Hours (Total) / Number of Units (Total)

2 Theoretical + 3 Practical / 3.5

6. Course administrator's name (mention all, if more than one name)

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Name: Sahar Ali Kallo

Email:

Name: Zohoor Fouad

Email:

7. Course Objectives

Theoretical:

1. Introducing students to ecology, its divisions, the ecosystem, and the effects of the environment plants

Practical:

1- Introducing students to the most important of

- 2. Introducing the student to the types of plant environment in Iraq.
- 3. The student is familiar with the climate of Iraq and its impact on the spread of plants.

Study the most important factors affecting the environment factors affecting the plants.

- 2- The student learns how to measure the severity of various environment factors . .
- 3- Teaching students about the most important methods and methods for getting rid of harmful factors to plants.

8. Teaching and Learning Strategies

Theoretical

- 1- Live lectures with students.
- 2- PowerPoint slides.
- 3- Introduction pictures.
- 4- Audio recordings.
- 5- Dialogues and discussion.
- 6- Assigning tasks and reports

Practical:

- 1- Live lectures with students.
- 2- PowerPoint slides.
- 3- Scientific visits to fruit orchards.
- 4- Applying some practical skills in nursery facilities?
- 5- Dialogues and discussions with students.
- 6- Assigning tasks and reports

9. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning	Evaluation	
		Outcomes		method	method	
1	2 Theoretical 3 Practical	Theoretical: A1 The student learns	Theoretical: Definition of ecology	Theoretical: Live lectures,	Short exams,	
	3 Tactical	about the most	and its relationship with	PowerPoint	assignments,	
		important environmental factors.	other sciences	slides, introductory	discussions	
		practical:	Practical:	images, direct		
		A2 The student	Soil management and	dialogues and		
		explains the first most	preservation of fertility	discussion		
		important		Practical:		
		environmental factor,		Assigning		
		which is the soil factor		practical tasks		
				and reports		
2	2 Theoretical		Theoretical:	Theoretical:	Short	
	3 Practical	A1 defines the soil	Environmental	Live lectures,	exams,	
		texture	factors/soil factor	PowerPoint	assignments,	
		C4 The student	includes: the importance	slides,	discussions	
		identifies	of soil for plants -	introductory		
		environmental factors	definition of soil -	images, direct		
			method of soil formation			

	T			T	,
		A4 The student	- types of soil - soil	dialogues and	
		summarizes the	texture and its	discussion	
		importance of soil as	importance to plants -		
		an environmental	soil fertility - soil		
		factor	organisms and their		
		Practical:	_		
		Fractical:	importance.	D 41 1	
		G		Practical:	
		C2 The student	Practical:	Assigning	
		explains the types of	Fertilization and its	practical tasks	
		fertilizers	method water and its	and reports	
		C4 The student	importance to	-	
		identifies organic	plants/irrigation methods		
		fertilizers	used in irrigating		
		Tertifizers	horticultural plants		
3	2 Theoretical	Alaganatical.	Theoretical:	Theoretical:	Short
3					
	3 Practical	A4 The student	Halophytes and their	Live lectures,	exams,
		explains the functional	distribution - functional	PowerPoint	assignments,
		harms of salts	effects of salts - human	slides,	discussions
		C2 The student	impact on soils.	introductory	
		explains the		images, direct	
		distribution of	Practical	dialogues and	
		halophytes	Measure temperature and	discussion	
			humidity.	Practical:	
		•	Hamariy.	Assigning	
		Practical:			
				practical tasks	
		A1 reminds the		and reports	
		student about the most			
		important devices for	and the		
		measuring temperature			
		and humidity	2 Ste Class W		
		A3 The student uses	الزراع أهوصا المعالمة		
		thermometers to	والغارية		
		measure the			
		temperature of the	JI ama		
		greenhouse	الخسنية		
4	2 Theoretical		Theo etica	Theoretical:	Short
4			All and the second seco		
	3 Practical	A1 The student	The intertance of water	Live lectures,	exams,
		mentions the	to plants - atmospheric	PowerPoint	assignments,
		importance of water	humidity and its	slides,	discussions
		for plants	importance to plants - soil	introductory	
		A4 The student	moisture - forms of	images, direct	
		summarizes pictures of	falling rain and its	dialogues and	
		water in the	importance to plants.	discussion	
		atmosphere			
			Practical:	Practical:	
			Estimating the	Assigning	
		Practical:	chlorophyll content of		
				practical tasks	
		C5 The student	leaves of some plants	and reports	
		measures the			
		chlorophyll content of			
		plant leaves.			

5	2 Theoretical	Theoretical	Theoretical:	Theoretical:	Short
3	3Practical	C2 The student	Drought - conditions of	Live lectures,	
	31 Tactical	explains the states of	water in the soil - the	PowerPoint	exams, assignments,
		water in the soil	importance of soil	slides,	discussions
		water in the son	moisture for plants -	introductory	uiscussions
				•	
			division of plants based on water relations /	images, direct dialogues and	
		Duastical	human influence on the	dialogues and discussion	
		Practical: C4 The student	environmental factor	Practical:	
			Practical:		
		analyzes the amount of	Estimating the	Assigning practical tasks	
		carbohydrates in a			
		plant	carbohydrate content of plants. Methods of	and reports	
			1 *		
	2 Th 4: 1	Th 4! 1.	measuring temperature.	Tl 42 1.	C14
6	2 Theoretical		Theoretical:	Theoretical:	Short
	3 Practical	A1 The student knows	The temperature factor	Live lectures, PowerPoint	exams,
		the photoluminescence	includes: temporary		assignments,
		A4 The student	changes in temperature -	slides,	discussions
		discusses the	temporal changes in	introductory	
		importance of	temperature - the	images, direct	
		temperatures for plants	importance of	dialogues and	
		الزياد الزياد المعود المعادة	temperature for plants -	discussion	
		المام	thermal synchrony -		
		A COLOR OF THE PROPERTY OF THE	stimulating effects.		
		Practica	h .: 1	D 4 1	
		A4 The stude	Practical:	Practical:	
		com ares . Action	Heat and its importance	Assigning	
		devices for descring	for the cultivation,	practical tasks	
		temperatures, which is	growth and fruits of	and reports	
7	2 Theoretical	preferable?	horticultural plants. Theoretical:	Theoretical:	Short
/	3 Practical	C3 The student		Live lectures,	
	3 Fractical	explains the most	Stimulating effects of low temperature - cold	PowerPoint	exams, assignments,
			_	slides,	discussions
		important adaptations that characterize		introductory	uiscussions
		drought-resistant	temperature - winter	•	
		plants	drought damage.	images, direct dialogues and	
		C1 The student	drought damage.	discussion	
		enumerates the harms	Practical:	discussion	
		of winter drought	Low temperature and its	Practical:	
		or winter drought	effect on plants.	Assigning	
		Practical:	criect on plants.	practical tasks	
		C2 The student		and reports	
		explains the tolerance		and reports	
		of some plants to low			
		temperatures			
8	2 Theoretical		Theoretical:	Theoretical:	Short
	3 Practical	C2 The student	High temperature	Live lectures,	exams,
	2 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	explains the human	damage - temperature and	PowerPoint PowerPoint	assignments,
		impact on rising	geographical distribution	slides,	discussions
		temperatures	0 -6 -1	introductory	
I	1		İ		I

			6.1 . 1	1: 4	<u> </u>
			of plants - human impact	images, direct	
		Practical:	on temperature	dialogues and	
		C1 The student lists		discussion	
		the most important	Practical:		
		ways to reduce the	Methods to reduce the	Practical:	
		damage of high	impact of low	Assigning	
		temperature	temperatures on	practical tasks	
		_	horticultural plants	and reports	
9	2 Theoretical	Theoretical:	Theoretical:	Theoretical:	Short
	3 Practical	A1 The student	The light factor includes:	Live lectures,	exams,
		mentions the	definition of light and its	PowerPoint	assignments,
		importance of hoping	parts - locational	slides,	discussions
		for light	differences in light	introductory	G 15 C 1551C115
		Tor fight	intensity - the importance	images, direct	
			of light for plants - the	dialogues and	
				discussion	
			effect of light on the	uiscussion	
		D.,, .4! 1.	morphology of plants -		
		Practical:	the effect of light on some	D 41 1	
		A1 The student	physiological	Practical:	
		mentions the most	characteristics of plants -	Assigning	
		important lighting	photosynthesis - control	practical tasks	
		measuring devices	of ligh	and reports	
		B5 The student	Practical:		
		measures the intensity	Learn about methods for		
		of lighting in the	measuring light intensity		
		greenhouse	and their devices		
		المحلية الزراعة العوصل			
10	2 Theoretical	Theoreticar	theoretical:	Theoretical:	Short
10	3 practical	A4 The Land	The atmospheric factor	Live lectures,	
	3 practical	sum parize are most	includes: composition of	PowerPoint	exams,
		And the second s	-		assignments, discussions
		important atmospheric	1	slides,	uiscussions
		pollutants	atmospheric pollutants -	introductory	
			the Co ₂ cycle and its	images, direct	
			relationship to the	dialogues and	
			photosynthesis process -	discussion	
		Practical:	soil aeration and its	practical:	
		C4 What does the	relationship to plant	Assigning	
		student recommend to	growth	practical tasks	
		reduce global	practical:	and reports	
		warming?.	The harmful effects of		
			global warming and		
			methods to reduce them		
11		Theoretical:	Theoretical:	Theoretical:	Short
	3 practical	C3 The student	Wind - Windbreaks - The	Live lectures,	exams,
		avalains the most	effect of wind on plants.	PowerPoint	assignments,
1		explains the most	effect of while on plants.		
		important effect of wind on plants	effect of while on plants.	slides, introductory	discussions

				imagas dinast	
			D.,	images, direct	
			Practical:	dialogues and	
			Windbreaks and their	discussion	
		Practical:	importance to plants,	Practical:	
		C3 The student knows	creating windbreaks and	Assigning	
		how to plant the most	the plants used in them	practical tasks	
		important windbreaks.		and reports	
12	2 Theoretical	Theoretical:	Theoretical:	Theoretical:	Short
	3 practical	C2 The student	The biological factor	Live lectures,	exams,
	P	explains the chemical	includes: classification of	PowerPoint	assignments,
		opposite	symbiotic phenomena -	slides,	discussions
		opposite	pollination of plants by	introductory	anscassions
			animals - dispersal by	images, direct	
			animals - climbing plants	dialogues and	
			- epiphytes - parasitism of	discussion	
			vascular plants -		
			symbiotic nitrogen		
			fixation - fungal nutrition		
		Practical:	- biochemical	practical:	
		A2 The student	antagonism.	Assigning	
		identifies symbiotic		practical tasks	
		phenomena between	Practical:	and reports	
		living organisms	Identify the most	1	
			important biological		
		و كليه المحمدة الد	organisms		
13	2 Theoretica	Thoret	-	Theoretical:	Short
13	2 Theoretical		Theoretical:	Theoretical: Live lectures.	Short exams.
13	2 Theoretical 3 practical	😂 i'he 🦠 💥	Theoretical: Types of plant	Live lectures,	exams,
13		ine a stingu.	Theoretical: Types of plant environments in Iraq. The	Live lectures, PowerPoint	exams, assignments,
13		istingu. Different place	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its	Live lectures, PowerPoint slides,	exams,
13		ine a stingu.	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of	Live lectures, PowerPoint slides, introductory	exams, assignments,
13		istingu. Different place	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its	Live lectures, PowerPoint slides, introductory images, direct	exams, assignments,
13		istingu. Different place	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants	Live lectures, PowerPoint slides, introductory images, direct dialogues and	exams, assignments,
13		The a stingu. The property of	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical:	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion	exams, assignments,
13		The a stingu. Types Different place environment.	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical:	exams, assignments,
13		Practical: A4 The student	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical:	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning	exams, assignments,
13		Practical: A4 The student compares different	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks	exams, assignments,
	3 practical	Practical: A4 The student compares different types of environments	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports	exams, assignments, discussions
13	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical:	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical:	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical:	exams, assignments, discussions
	3 practical	Practical: A4 The student compares different types of environments Theoretical: C1 The student	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures,	exams, assignments, discussions Short exams,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures,	exams, assignments, discussions Short exams,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types of environmental	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint slides,	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types of environmental	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of plants in preserving plants from pollution,	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint slides, introductory	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types of environmental	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of plants in preserving plants from pollution, Fires, their types, and	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint slides, introductory images, direct	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types of environmental	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of plants in preserving plants from pollution, Fires, their types, and plant adaptations to fires.	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types of environmental pollution	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of plants in preserving plants from pollution, Fires, their types, and plant adaptations to fires. Allelopathic	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types of environmental pollution Practical:	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of plants in preserving plants from pollution, Fires, their types, and plant adaptations to fires. Allelopathic practical:	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical:	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types of environmental pollution Practical: A4 The student	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of plants in preserving plants from pollution, Fires, their types, and plant adaptations to fires. Allelopathic practical: Studying the harm	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning	exams, assignments, discussions Short exams, assignments,
	3 practical 2 Theoretical	Practical: A4 The student compares different types of environments Theoretical: C1 The student enumerates the types of environmental pollution Practical:	Theoretical: Types of plant environments in Iraq. The climate of Iraq and its effect on the spread of plants Practical: Identify different types of environments Theoretical: Environmental pollution and its types, plant reagents and the role of plants in preserving plants from pollution, Fires, their types, and plant adaptations to fires. Allelopathic practical:	Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion Practical: Assigning practical tasks and reports Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical:	exams, assignments, discussions Short exams, assignments,

			cause to the	fires	ain the impact of on changes in the bunding climate		
15	2 Theoretical 3 practical	The s most Types enviro a scie practi A scie	tudent learns the important s of plant onments through ntific visit.	Theo A so nearly report import plant prac Writi most proport hortic	pretical: cientific visit to a by site and submit a ct on the most creater processes in environments tical: ing a report on the	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	Short exams, assignments, discussions
10. 0	Course Eval	uatior	ı		· · · · · · · · · · · · · · · · · · ·		
Evaluati	ion Methods		Evaluation (week)	date	Degree	Percentage (%)
Daily sp	oken examina	ation	,		Theoretical 3 Practical 2	5%	
Daily wi	ritten exams		Theoretical: 2-15 Practical: 2 – 15		Theoretical 5 Practical 5	10%	
the ser	2 semester exams during the semester for both practical and theoretical		Theoretical: 7-13 Practical: 6 – 14		Theoretical 10 Practical 5	15%	
_	Assigning students to prepare reports on study		Theoretical: 15 Practical: 15		Theoretical 7 Practical 3	10%	Jane 1
_	Final exam		Theoretical Practical		Theoretical 40 Practical 20	20%	print and a
Total					100	100%	
	11. Learning and Teaching Resources Required textbooks (curricular books, if any)				1- Ecology w	ritten by Hikmat A	Abbas Al-Ani
`			•	and Raad Hashem Bakr.			
				2- Ecology written by Bahram Khader . 3- Ecology and the quality of ou			
				environment, translated by Suhaila Abbas Ahmed and Tariq Muhammad			
					Saleh	illeu allu Tariq	wunammad

Main referer s (sources)	1- Ecology written by Hikmat Abbas Al-	
8 Stis Ties and State of the St	Ani and Raad Hashem	
المالية العالمات	Bakr.	
The state of the s	2- Ecology written by Bahram Khader .	
المحتلفة وهندة	3- Ecology and the quality of our	
	environment, translated by Suhaila Abbas	
	Ahmed and Tariq Muhammad Saleh	
Recommended books and references	1- Plant ecology, written by Ahmed	
(scientific journals, reports)	Muhammad Mujahid 2- The relationship of water to plants,	
(commo journale, repersent)		
	Saadallah Al-Naimi	
	3- Plant plant Abdul Azim Kazem	
Electronic References, Websites	FAO reports, bulletins and studies	

Theoretical subject teacher

Dr. Yusra Mohammed Saleh

Practical subject teachers:

Practical subject teachers:

Zahoor Fouad Sahar Ali Kalo

Chairman of the Scientific Committee

Head of the department

Prof. Dr. Jassim Mohammed Alwan Prof. Dr. Asmaa Muhammad Adel