Course Description Form

1. Course Name:
Environment and climate
2. Course Code:
ENCL318
3. Semester / Year:
Spring second semester/ 2023-2024
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
Life in person
6. Number of Credit Hours (Total) / Number of Units (Total)
2 + 3 / 3.5
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr . Anwer AL-Khero Name: Shaymaa dhayaa Email: shaymaa_dhayaa@uomosul.edu.iq
8. Course Objectives

Course Objectives - Enable the student to understand and comprehend what is related to soil morphology and its relationship to soil science and water resources - Enable the student to know the most important features of the stove - Enable the student to become familiar with the most important factors affecting the development of horizons - Empowering the student with the ability to detect diagnostic horizons - The student can explain the development of horizons and address the differences in results for the future over time	practical: - Enabling the student to become familiar with the most important laboratory methods in studying macro- and micro-morphological characteristics and the important chemical and physical analyzes in distinguishing and studying soil horizons.

9. Teaching and Learning Strategies

Strategy - Interactive lecture - Brainstorming - Dialogue and discussion - Assigning tasks and reporting - Presentations of models of soil horiz and their detailed study	practical: - Assigning group work to reveal leadership skills - Assigning tasks and reporting for each experimer

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2+3	A1Lecture: knows the principles and foundations of environmental science, climate, and the components of society (what are the departments of environmental science) Familiarizes with the historical development of ecology and ocean factors (what are ocean factors) A9 Practical: Recognizes the principles and foundations of environmental and climate science and related sciences	Lecture: Introduction to ecology, the historical development of ecology and ocean factors Practical: Principles and foundations of environmental and climate science	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz
2	2+3	A2Lecture: : Learn about the types of radiation (what are the types of radiation) Recognizes the importance of light for plants (explain the types of light that plants benefit from) Familiarize yourself with the effect of light on plants and trees (Explain the effect of light on	Lecture: energy (radiation) (Radiation) Practical: Elements of climate and its relationship to other sciences	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz

		plants) A10Practical: understands radiation, units of measurement for wavelengths			
3	2+3	A3Lecture: presents the factors affecting temperatures (what are the factors affecting temperatures) Shows the methods of heat flow (mention the methods of heat flow) It memorizes the preferred and unfavorable temperatures of plants and methods for calculating them (what are the preferred and unfavorable temperatures for plant growth B3Practical: Temperatures, their definition, and methods of storing the thermometers used for measurement	Lecture: Energy (temperatures) Practical: Ecosystem characteristics and temperatures	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz
4	2+3	A4Lecture: Identify the effects of atmospheric pressure (and identify the factors that affect atmospheric pressure) Knows the distribution of atmospheric pressure 0 (show	Lecture: Atmospheric pressure Practical: Atmospheric pressure	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz

		the diagram of the distribution of atmospheric pressure on the Earth) Recognizes the main ranges of atmospheric pressure (to mention the main ranges of atmospheric pressure) A11 Practical: Knows atmospheric pressure, its units, and the factors affecting it			
5	2+3	A5Lecture: Learn about wind movement (mention the types of wind movement) Explains the types of wind and their damage (Explain the damage of wind) He is familiar with the movement of the wind (explain the movement and direction of the wind) A12 Practical: uses wind measurement methods and wind speed measurement units	Lecture: Wind and its effects on plants Practical: Wind	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz
6	2+3	A6 Lecture: Explains the types of winds and their damage (Explain the damage of winds) Knows air masses	Lecture: Wind and its effects on plants Practical: Wind measurement methods	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks	Assignments, discussions, Quiz

		and fronts (define air masses and fronts and the difference between them) D4Practical: shows methods of wind measurement and wind speed measurement units with viewing devices		and writing a report	
7	2+3	A7 Lecture: Water and its quantity on the surface of the earth Water cycle in nature Water cycle diagram in nature and source A13Practical: Water knows its importance and distribution	Lecture: Water Practical: the importance of water	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz
8	2+3	A8 Lecture: Learn about atmospheric humidity (define atmospheric humidity and methods for calculating it) Familiar with types of humidity (mention the types of air humidity) A14 Practical: Knows relative humidity, its sources, and the factors affecting it	Lecture: Air humidity Practical: Relative humidity	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz
9	2+3	B1Lecture: Familiarity with the types of air humidity (calculate	Lecture: Air humidity Practical: Relative humidity	Auditory methods, writing style on the blackboard, direct dialogue method	Assignments, discussions, Quiz

		mathematically the relative humidity) Forms of atmospheric humidity (explain the forms of atmospheric humidity) A15 Practical: is familiar with the types of moisture and methods of extracting it		Practical: Assigning tasks and writing a report	
10	2+3	B2 Lecture: The most important types of precipitation C3Practical: installs a weekly and daily Recording Rain Geese	Lecture: Rain Practical: Rain recorder	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz
11	2+3	C1Lecture: Distribution of rainfall in the world D5 Practical: shows the biological factors, their definition and biological divisions	Lecture: Rain Practical: Classifications of biological factors	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz
12	2+3	C2Lecture: Plant adaptation to water (plants are divided according to the humidity of the environment) C4 Practical: Identifies clouds and measures the height of the cloud base and its types	Lecture: Plant adaptation to water Practical: the clouds	Lecture:	Assignments, discussions, Quiz
13	2+3	D1 Lecture: Understand plant adaptation to water (explain the structural and physiological	Lecture: Plant adaptation to water Practical: Ecosystem components	Auditory methods, writing style on the blackboard, direct dialogue method Practical:	Assignments, discussions, Quiz

		characteristics of halophytic plants): C5 Practical: The characteristics of the ecosystem justify its divisions and the extent of its importance		Assigning tasks and writing a report	
14	2+3	D2Lecture: Learn about plant adaptation to water (aquatic plants). A16 Practical: distinguishes the layers of the atmosphere, its components, its divisions, and the specifications of each layer	Lecture: Plant adaptation to water Practical: Components of the atmosphere and what ozone is made of	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz
15	2+3	D3Lecture: Learn about the applied benefits of fires (mention the benefits of applied fires) Plant adaptations to fire Applied benefits of fires A17 Practical: classifies forest fires by their types and severity	Lecture: Fires and their types Practical: Forest fires	Auditory methods, writing style on the blackboard, direct dialogue method Practical: Assigning tasks and writing a report	Assignments, discussions, Quiz

Course Evaluation				
No	Evaluation methods	Evaluation date	Grade	Relative weight
1	Theoretical final report + practical experience reports	week 15 week 15	7 + 6	13 %
2	Quiz (1)	Week 3	4 + 2	6 %
3	Midterm Exam	Week 9	10+ 5	15 %
4	Quiz (2)	Week 12	4 + 2	6 %
5	Final practical Exam	Exam week	20	20 %
6	Final Exam	Final Exam week	40	40 %
	Total		100	100 %

Learning and Teaching Resources	
Required textbooks (curricular books, if any)	ECOLOGY
Main references (sources)	Researches
Recommended books and references (scientific journals, reports...)	Papers
Electronic References, Websites	

Assi. Prof. Dr. Dr . Anwer AL-Khero

Assi.Lectu. Shaymaa dhayaa

Prof. Dr.Mohammed AL-Alaf

Head of Scientific Member

Prof. Dr. Mzahim AL-Bik

Head of Department