Course Description Form

1. Course Name:
Forest Soil
2. Course Code:
FOSO256
3. Semester / Year:
Second Semester / 2024-2025
4. Description Preparation Date:
1 / 2 / 2025
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
2 Theory + 3 practical / 3.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Qahtan Darwish Essa Email: qahtan_darwish@uomosul.edu.iq

8. Course Objectives

Theory : -Enabling the student to know the composition, origin and development of soils - Introducing the student to the physical, chemical and biological properties of soil - Introducing the student to some soil problems, such as salinity and alkalinity and how to treat it	Practical : - Enable the student to learn about collecting soil samples from the field, How to prepare it for laboratory analysis and conduct the most important basic analyses for soil

9. Teaching and Learning Strategies

Strategy	-Interactive lecture, Brainstorming, - Dialogue and discussion, - Assigning tasks and reporting - Assigning group work to reveal leadership skills

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theory 3 Pract.	Theory: a1: The student Demonstrates concepts Soil science practical : b2 : The student identifies the soil profile	Theory: Introduction to science concepts the soil practical : Move the soil and collect samples from field	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports

2	2Theory 3 Pract	Theory: a2: The student gets to know Soil formation practical : a13: The student gets to know Description of soil section	Theory: Origin and development of soil practical : Description of soil section	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
3	2Theory 3 Pract	Theory: c1: The student learns About the processes of soil formation practical: b3: The student identifies a tissue the soil	Theory: Soil formation processes practical : Determine soil texture	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
4	2Theory 3 Pract	Theory: c2: The student distinguishes the organic layers in soil practical : b4: The student measures the density of the soil	Theory: Organic layers in the soil practical : Estimating soil density	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
5	2Theory 3 Pract	Theory: a3: The student explair the properties Soil physical practical : b5: The student measures the degree of interaction the soil	Theory: Physical properties of soil practical : Estimating the degree of soil interaction	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
6	2Theory 3 Pract	Theory: a4: The student learns about construction the soil practical : b6: The student measures a ratio Carbonates in soil	Theory: Soil building practical : Estimation of calcium carbonate in the soil	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
7	2Theory 3 Pract	Theory: a5: the student gets	Theory: soil temperature	Theory : -Auditory metho	Exams, Homework,

		to know Soil temperature practical : b7: The student measures a ratio Carbonates and bicarbonates in the soil	practical : determination carbonates bicarbonates in the soil	-Style of writing on The blackboard -Direct dialogue style Practical : Assigning tasks and reports	Reports
8	2Theory 3 Pract	Theory: b1: The student identifies a type of water the soil practical : b8: The student measu the content wet.	Theory: Soil water classification practical : Moisture content Measurements for soil	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
9	2Theory 3 Pract	Theory: a6: The student distinguishes properties Chemical soil practical : b9: The student measures a ratio Na and K	Theory: Colloids and properties Chemical soil practical : Determination of Na and K	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
10	2Theory 3 Pract	Theory: a7: The student explains organic colloids practical : b10: The student measures the material membership	Theory: Organic colloids practical : Estimation of soil organic matter	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
11	2Theory 3 Pract	Theory: a8: The student is familiar with the properties of soil Biological practical : c3: The student discov vehicles Humic	Theory: Soil biological properties practical : Estimation of humic compounds in the soil	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
12	2Theory 3 Pract	Theory: a9: The student learns about the salinity and alkalinity of soil	Theory: Salinity and alkalinity in the soil practical : Estimation of soil	Theory : -Auditory metho -Style of writing on The blackboard.	Exams, Homework, Reports

		practical : a14: The student determines soil salinity	salinity	-Direct dialogue style Practical : Assigning tasks and reports	
13	2Theory 3 Pract	Theory: a10: The student is familiar with the effect of salinity on agricultural production practical : b11: The student measures the soil capacity Cation.	Theory: The effect of soil salinity on agricultural Production practical : Estimation of soil cation capacity	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
14	2Theory 3 Pract	Theory: a11: The student is familiar with the elements important food practical : c4: The student discovers the extract available elements from the soil	Theory: Important nutrients In the soil practical : Extracting available elements from the soil	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
15	2Theory 3 Pract	Theory: a12: The student learns about phosphorus and potassium in the soil practical : b12: The student measures phosphorus in the soil	Theory: Phosphorus and Potassium in the soil practical : Determination phosphorus in soil	Theory : -Auditory metho -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports

11. Course Evaluation

	Evaluation Methods	Evaluation Date	Degree	Relative weight %
	Final report theory + pract. Report	Theory 15 weeks Pract. 1-15 week	7 Theory + 6 pract.	% 13
	Short exam (1)	Week (3)	4 Theory + 2 pract.	% 6
	Half exam (theory + pract.)	Week (9)	10 Theory + 5 pract.	% 15
	Short exam (2)	Week (12)	4 Theory + 2 pract.	% 6
	Final exam (practical)	Exam pract.	20	% 20
	Final exam (theory)	Exam theory	40	% 40
			100	% 100

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	Book (Soil Science) Dr. Abduallah Al-Aani
Recommended books and references (scientific journals, reports...)	Book (Environmental chemistry of Soil) and (Soil Chemistry)
Electronic References, Websites	**Sposito, G. (2008).** The chemistry of soil. Oxf University Press