Course Description Form of Soil morphology

1. Course Name:	
Soil morphology	
2. Course Code:	
SOIM311	
3. Semester / Year:	
first semester/ 2024-2025	
4. Description Preparation Date:	
15/1/2025	
5. Available Attendance Forms:	
Full time (theoretical lecture and practical lecture) weekly	
6. Number of Credit Hours (Total) / Number of Units (Total)	
5 hours (2 hours theoretical and 3 hours practical per week) for 14 weeks, number of units 3.5 units	
7. Course Administrator's Name (Mention All, If More Than One Name)	
Name: Basem R.Bader **Email: basemrbader@uodiyala.edu.iq**	
8. Course Objectives	
Course Objectives: Graduating students who are able to:	• Teaching students about soil morphology, the emergence and development of soils. • The student's ability to distinguish between educational horizons and diagnose them. • For the student to know how to distinguish and compare different soils and how to classify them. • Identifying the types of soil through color and the use of a stained guide
9. Teaching and Learning Strategies	

Strategy	In-person lectures for 14 weeks, including two monthly exams, daily exams, and scientific reports

10. Course Structure

Theoretical part

Week	Hours	Required learning outcomes	Unit or Subject	Learning Method	Evaluation Method
1	**2**	Definition of morphology and its position in the system of pedological sciences, the system of ideological sciences, and the engineering system	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
2	**2**	Origin and development of soil	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
3	**2**	Soil formation factors: climate, soil temperature regimes and soil moisture	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
4	**2**	Topographic factor, biology	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
5	**2**	Soil formation factors: parent material, time	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
6	**2**	Soil formation processes: genetic group	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
7	**2**	Soil formation processes: general group	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
8	**2**	.Soil horizon	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
9	**2**	Naming and main prospects	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
10	**2**	Diagnostic horizons: superficial	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
11	**2**	Diagnostic horizons: subsurface	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports

12	**2**	Soil morphological characteristics	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
13	**2**	Soil morphological characteristics	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
14	**2**	Soil micromorphology - characterization - uses and applications	Soil morphology	**Lecture Dialogue & discussion Brainstorming**	Daily, monthly and final exams and daily reports
Practical part					
Week	**Hours**	**Required learning outcomes**	**Unit or Subject Name**	**Learning Method**	**Evaluation Method**
1	**3**	Identify the morphological description form and the tools used in morphological description	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
2	**3**	Choosing the location of the soil bed and the factors affecting it	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
3	**3**	Training in identifying soil textures in the laboratory and field	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
4	**3**	Studying the characteristics of soil color and spotting and training on them in the field	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
5	**3**	Studying the nature of soil construction and training on it in the field	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
6	**3**	Studying the qualities of strength and welding and training on them in the field	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
7	**3**	Study of the internal drainage characteristic and how to measure it in the field	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
8	**3**	Studying some other morphological characteristics: root distribution, porosity, salinity, pH, and how to record them in the morphological description document.	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports

9	**3**	Studying the property of slope, how to measure it, and its relationship to morphological phenomena in addition to soil depth	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
10	**3**	Study of the calcareous property and the limits of horizons	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
11	**3**	Practice conducting a morphological description of a complete soil bed and recording the characteristics in the morphological description document	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
12	**3**	Morphological characteristics of the world's soils	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
13	**3**	Field observations of soil types in Iraq	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports
14	**3**	Preparing a report with a morphological description document	Soil morphology	**Observation Dialogue & discussion**	Daily, monthly and final exams and daily reports

11. Course Evaluation

Examination Monthly & daily exams with discussion questions inside the lecture.
The degree of participation in the questions related to the subject.

12. Learning and Teaching Sources

Required Textbooks (Curricular Books, If Any)	1- Soil Survey Staff, 2003, Soil Survey Manual, USDA 2- FAO, 1990, Guide line for soil profile description, FAO
Main References (Sources)	**3-** Dr. Walid Khaled Al-Akidi and Dr. Shaker Mahmoud Al-Issawi. 1989. Soil morphology. ,, Ministry of Higher Education and Scientific Research. University of Baghdad
Recommended Books and References (Scientific Journals, Reports...)	Iraqi academic journal
Electronic References, Websites	**www.noor-book.com.** **www.youtube.com.**