

## Course Description Form

<b>1. Course Name:</b>					
Principles of soil science					
<b>2. Course Code:</b>					
PRSS113					
<b>3. Semester / Year:</b>					
Second stage 2023-2024					
<b>4. Description Preparation Date:</b>					
1 \ 2 \ 2024					
<b>5. Available Attendance Forms:</b>					
presence					
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>					
2 theoretical + 3 practical / 3.5 units / 75 hour					
<b>7. Course administrator's name (mention all, if more than one name)</b>					
Name: M. Dr. Rand Abdel Hadi Ghazal		M.M. Osama Hosam Fadel M.M. Ahmed Samer Ghanim M.M. Shaimaa Ghanem Altaey			
<b>8. Course Objectives</b>					
<p>1- Identify the physical and chemical properties of soil.</p> <p>2- Identify the factors and processes of soil formation</p> <p>3- Identify the types of soil water, field capacity, and wilting point.</p> <p>Identify the most important nutrients important for plant nutrition</p>					
<b>9. Teaching and Learning Strategies</b>					
<ul style="list-style-type: none"> <li>- Interactive lecture</li> <li>-Brainstorming</li> <li>- Dialogue and discussion</li> <li>-Field Training</li> <li>-Practical exercises</li> <li>- Field project</li> <li>- Interactive lectures</li> <li>-Brainstorming</li> <li>-Self-education</li> </ul>					
<b>10. Course Structure</b>					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	a1- The student explains the	Introduction to soil	audio methods and	Short daily exam (quiz)

قسم تقنية النيات  
كلية الزراعة  
جامعة المنيا

	Theoretical	concepts of soil science	science concepts	interactive dialogue Writing style on the blackboard Slideshow style	Assignment of duty discussions
	3 Practical	a2: The student distinguishes the depth of the soil	Move soil and collect samples from the field	Assigning report writing tasks	Short daily exam (quiz) Assignment of duty discussions
2	2 Theoretical	a2: The student learns about the formation of soil	Origin and development of soil	Theoretical: audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	a2: The student recognizes the description of the soil cross section	Description of soil section	Assigning report writing tasks	
3	2 Theoretical	a2: The student learns about the processes of soil formation	Soil formation processes	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b4: The student determines the texture of the soil	Determine soil texture	Assigning report writing tasks	
4	2 Theoretical	a3: The student explains the physical properties of soil	Physical properties of soil	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b4: The student measures the degree of soil interaction	Measuring soil pH	Assigning report writing tasks	
5	2 Theoretical	a2: The student learns about the structure of soil	- Soil structure	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b4: The student measures the percentage of carbonates in the soil	Estimation of calcium carbonate in the soil	Assigning report writing tasks	
6	2	a2: The student learns about	soil temperature	audio methods and	Short daily

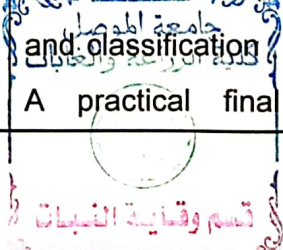




	ical	alkalinity of soil	soil	Writing style on the blackboard Slideshow style	of duty discussions
	3 Practical	a1: The student determines soil salinity	Estimation of soil salinity	Assigning report writing tasks	
12	2 Theoret ical	a1: The student is aware of the effect of salinity on agricultural production	The effect of soil salinity on agricultural production	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b4: The student measures the cationic capacity of the soil	Estimation of soil cationic capacity	Assigning report writing tasks	
13	2 Theoret ical	a1: The student is familiar with important nutritional elements	Phosphorus and potassium in the soil	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b4: The student discovers the extraction of ready-made elements from the soil	Extracting ready-made elements from the soil	Assigning report writing tasks	
14	2 Theoret ical	a2: The student learns about phosphorus and potassium in the soil	Phosphorus and potassium in the soil	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b4: The student measures phosphorus in the soil	Determination of phosphorus in soil	Assigning report writing tasks	
15	2 Theoret ical	a1: The student is familiar with the classification of Iraqi soils	Classification of soils and lands in Iraq	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b4: The student measures the smallest elements	Estimation of microelements	Assigning report writing tasks	

### 11. Course Evaluation

% 13	7 Theoretical	Theory week 15	A theoretical final report on soil survey and classification	1
	6 practical	Practical 1-15	A practical final report on practical	





	<b>6 practical</b>	Practical 1-15 weeks	A practical final report on practical lessons and field visits	
% 6	4 theoretical + 2 practical	Week 3	Quiz (1)	2
% 15	10 theoretical + 5 practical	Week 9	Midterm exam (theoretical and practical)	3
%6	4 theoretical + 2 practical	Week 12	Quiz ( 2)	4
%20	20	Practical exam week	Final practical test	5
%20	40	Theory exam week	Final theoretical test	6

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Principles of soil science, Abdullah Al-Ani
Main references (sources)	Fundamentals of Pedology, Walid Al-Akidi
Recommended books and references (scientific journals, reports...)	Academic scientific journals, reports of international organizations
Electronic References, Websites	<ul style="list-style-type: none"> <li>• Conservation Service in cooperation with The University of Hawaii Agricultural Experiment Station. U.S. Government Printing Office, Washington, D.C.</li> <li>• Service in cooperation with Hawaii Institute of Topical Agriculture and Human Resources. University of Hawaii at Manoa, Honolulu.</li> </ul>

**Theoretical teacher:**  
M. Dr. Rand Abdel Hadi Ghazal



**Practical teacher**  
M.M. Osama Hosam Fadel  
M.M. Ahmed Samer Ghanim  
M.M. Shaimaa Ghanem Altaey

Chairman Scientific Committee  
Prof. Dr. Juhina Idrees Mohammed Ali

Head of the Plant Protection Department  
Prof. Dr. Firas Kadhim Aljuboori