



**Jordan University of Science and Technology**  
**Faculty of Agriculture**  
**Natural Resources & Environment Department**

NR413 Soil Chemistry And Fertility Analyses

First Semester 2022-2023

**Course Catalog**

2 Credit Hours. Principles, methods, and techniques of quantitative determination of chemical and fertility parameters of soils and plants. Procedures of collecting soil and plant samples are covered as well as interpretation of results.  
(Prerequisite: NR 312)

**Text Book**

<b>Title</b>	Methods of Soil Analysis, Part3: Chemical Methods
<b>Author(s)</b>	D. L. Sparks et al.
<b>Edition</b>	1st Edition
<b>Short Name</b>	Soil Analysis
<b>Other Information</b>	

**Instructor**

<b>Name</b>	<b>Prof. Munir Al Rusan</b>
<b>Office Location</b>	C4L2
<b>Office Hours</b>	
<b>Email</b>	mrusan@just.edu.jo

**Class Schedule & Room**

Section 1:  
Lecture Time: Wed : 10:00 - 11:00  
Room: A3131

**Tentative List of Topics Covered**

<b>Weeks</b>	<b>Topic</b>	<b>References</b>
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Week 1	Organization, Safety Rules	<b>Chapter 1 From Soil Analysis</b>
Week 2	Sampling	<b>Chapter 1 From Soil Analysis</b>
Week 3	Soil Moisture	<b>Chapter 2 From Soil Analysis</b>
Week 4	pH Measurement	<b>Chapter 3 From Soil Analysis</b>
Week 5	Electrical Conductivity	<b>Chapter 3 From Soil Analysis</b>
Week 6	Soil Calcium Carbonate	<b>Chapter 4 From Soil Analysis</b>
Week 7	Soil Texture	<b>Chapter 5 From Soil Analysis</b>
Week 10	Soil Organic Matter	<b>Chapter 6 From Soil Analysis</b>
Week 11	Soil Total Nitrogen	<b>Chapter 7 From Soil Analysis</b>
Week 12	Soil Available Phosphorus	<b>Chapter 7 From Soil Analysis</b>
Week 13	Soil Exchangeable K	<b>Chapter 7 From Soil Analysis</b>
Week 14	Soil Available Micronutrients	<b>Chapter 8 From Soil Analysis</b>
Week 15	Plant Total Nitrogen, Phosphorus and Potassium	<b>Soil and Plant Analysis Manual Adopted for the West Asia and North Africa Region From Soil Analysis</b>
Week 16	Overall Discussion of the results in relation to the Soil Fertility and Chemistry Evaluation and Fertilizer Recommendation	<b>Results Interpretation From Soil Analysis</b>

<b>Mapping of Course Outcomes to Program Student Outcomes</b>	<b>Course Outcome Weight (Out of 100%)</b>	<b>Assessment method</b>
How to collect and prepare samples for analysis [25PLO1]	25%	
How to conduct chemical analysis of samples [25PLO2]	25%	
Be acquainted with instruments and equipment commonly used for laboratory analysis [20PLO3]	20%	
Learning how to interpret results of analysis [15PLO5]	15%	
Mastering the calculations and conversions from one unit of results of chemical analysis to another [15PLO8]	15%	

Relationship to Program Student Outcomes (Out of 100%)								
PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
25	25	20		15			15	

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