



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

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

Instructor

Name	Prof. Munir Al Rusan
Office Location	C4L2
Office Hours	Sun : 08:30 - 10:30 Mon : 11:00 - 13:00 Tue : 08:30 - 10:30 Wed : 12:00 - 14:00 Thu : 08:30 - 10:30
Email	mrusan@just.edu.jo

Class Schedule & Room

Section 1:

Lecture Time: Wed : 10:00 - 11:00

Room: A3131

Tentative List of Topics Covered

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

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
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	

Evaluation	
Assessment Tool	Weight
First Exam	30%
Second Exam	30%
Final Exam	40%

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