



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

NR301 Soil Physics

First Semester 2020-2021

Course Catalog

3 Credit Hours. Introductory to soil physics. Soil texture. Surface area of soil particles. Particle size analysis. Stoke`s law. Soil structure. Types of soil structure. Evaluation of soil structure. Porosity, bulk density. Soil water retention. Concepts of water potential, components of potential, potential for equilibrium and non-equilibrium conditions, measurements of potential. Movement of soil water. Darcy`s law. Hydraulic conductivity measurements. Soil aeration. Diffusion. Soil temperature, thermal properties of soil, modifying thermal regime. (Prerequisite: NR 241 Pass, PHY 103 Pass)

Text Book

Title	Introduction to Environmental Soil Physics
Author(s)	Daniel Hillel
Edition	1st Edition
Short Name	Ref #1
Other Information	2004

Instructor

Name	Dr. Ammar Albalasmeh
Office Location	C1L2
Office Hours	Sun : 12:30 - 14:30 Mon : 11:00 - 12:00 Tue : 12:30 - 13:30 Wed : 11:00 - 13:00
Email	aalbalasmeh@just.edu.jo

Class Schedule & Room

Section 1:

Lecture Time: Sun, Tue : 11:30 - 12:30

Room: منصة الكترونية

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	Soil Physics in Perspective	From Ref #1
Weeks 2, 3	Calculations and Dimensions of Physical Quantities	From Ref #1
Weeks 4, 5, 6	Soil Texture	From Ref #1
Weeks 7, 8	Soil Structure	From Ref #1
Week 9	Water Properties	From Ref #1
Weeks 10, 11, 12	Soil Water Flow	From Ref #1
Weeks 13, 14, 15	Soil Water Flow	From Ref #1
Week 16	Solute Transport	From Ref #1

Policy

Exams	All exams are closed book and notes. The final exam is comprehensive (covers all the material). Incomplete exams need approval from the department head/dean. The exams will include a variety of questions including computational and short answer questions.
Cheating	Prohibited; and in case of cheating the student will be subject to punishment according to the Jordan University of Science and Technology regulations.
Attendance	Mandatory according to the Jordan University of Science and Technology policy.
Participation	Participation in class discussions and activities is expected.

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