

**Soil Physics with Python**  
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Date	Detail
Day 1 (Monday)	
8.00-8.30	Registration
8.45-9.00	Welcome
9.00-10.40	Fundamentals of soil physical property, mass, density, volume, soil water content, gas phase.
10.40 – 10.55	Break
10.55 – 12.00	Textural and structural properties and sedimentation theory.
12.00-13.00	Lunch
13.00-15.00	Computer exercises Using Python to solve simple problems in soil physics. Sedimentation computaion
15.00-15.15	Break
15.15-16.30	Computer exercises Using Python to solve simple problems in soil physics. Sedimentation computaion (continue)
Day 2	
9.00-10.40	Soil gas and gas flow. Gas properties.
10.40 – 10.55	Break
10.55 – 12.00	Gas diffusion (continue). Numerical solution.
12.00-13.00	Lunch
13.00-15.00	Computer exercises. Gas diffusion
15.00-15.15	Break
15.15-16.30	Computer exercises. Gas diffusion (continue)
Day 3	
9.00-10.40	Soil temperature and heat flow. Thermal properties.
10.40 – 10.55	Break
10.55 – 12.00	Soil temperature and heat flow. Thermal properties (continue).
12.00-13.00	Break
13.00-15.00	Computer exercises. Soil temperature and estimation of thermal conductivity.
15.00-15.15	Break
15.15-16.30	Computer exercises. Soil temperature and estimation of thermal conductivity (continue).

Date	Detail
Day 4	
9.00-10.40	Soil liquid phase and Soil-Water Interactions
10.40 – 10.55	Break
10.55 – 12.00	Soil liquid phase and Soil-Water Interactions
12.00-13.00	Break
13.00-15.00	Computer exercises. Time domain reflectometry
15.00-15.15	Break
15.15-16.30	Computer exercises. (continue)
Day 5	
9.00-10.40	Water in soil. Soil and water interactions. Soil water retention and hydraulic conductivity curve.
10.40 – 10.55	Break
10.55 – 12.00	Water potential and water movement in saturated soils. Soil water budget.
12.00-13.00	Break
13.00-15.00	Computer exercises. Fitting models to water retention curves.
15.00-15.15	Break
15.15-16.30	Computer exercises. (continue)

The attendants will be provided with a free PDF copy of the book **Soil Physics with Python** to follow the lectures. It is advisable to bring a laptop, to install the software Python and the packages needed for the computer exercises.

<https://global.oup.com/academic/product/soil-physics-with-python-9780199683093?cc=us&lang=en&>