

University of Pretoria Yearbook 2018

Soil-water relationship and irrigation 350 (PGW 350)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	14.00
Programmes	BSc Geology BScAgric Applied Plant and Soil Sciences
Prerequisites	GKD 250
Contact time	2 lectures per week, fortnightly practicals
Language of tuition	Separate classes for Afrikaans and English
Department	Department of Plant and Soil Sciences
Period of presentation	Semester 1

Module content

Quantitative description and measurement of soil water content and potential as well as saturated and unsaturated hydraulic conductivity. Modelling water flow in soil (Darcy's law, Richards's equation). Infiltration, redistribution, evaporation, runoff and percolation. Irrigation in South Africa. Modelling and managing the soil water balance. Plant water consumption and the soil-plant-atmosphere continuum. Irrigation scheduling (soil, plant and atmosphere approaches). Managing poor quality water. Irrigation systems. The module includes a field trip to an irrigation scheme.

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