University of Pretoria Yearbook 2016

Soil-water relationship and irrigation 350 (PGW 350)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	16.00
Programmes	BSc Chemistry
	BSc Environmental and Engineering Geology
	BSc Environmental Sciences
	BSc Geography
	BSc Geoinformatics
	BSc Geology
	BSc Meteorology
	BScAgric Agricultural Economics: Agribusiness Management
	BScAgric Option: Applied Plant and Soil Sciences
Prerequisites	GKD 250
Contact time	fortnightly practicals, 2 lectures per week
Language of tuition	Both Afr and Eng
Academic organisation	Plant Production and Soil Sc
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.