



University of Pretoria Yearbook 2022

Soil-water relationship and irrigation 350 (PGW 350)

Qualification Undergraduate

Faculty [Faculty of Natural and Agricultural Sciences](#)

Module credits 14.00

NQF Level 07

Programmes [BSc \(Geology\)](#)

[BScAgric \(Agricultural Economics and Agribusiness Management\)](#)

[BScAgric \(Applied Plant and Soil Sciences\)](#)

Prerequisites GKD 250

Contact time 2 lectures per week, fortnightly practicals

Language of tuition Module is presented in 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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