

# 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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