

University of Pretoria Yearbook 2023

Advanced environmental soil physics 772 (GDK 772)

Qualification	Postgraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	15.00
NQF Level	08
Programmes	BScHons (Soil Science) (Environmental Soil Science)
Prerequisites	No prerequisites.
Contact time	1 discussion class per week, fortnightly practicals
Language of tuition	Module is presented in English
Department	Department of Plant and Soil Sciences
Period of presentation	Year

Module content

In soil physics, the principles of physics, chemistry, engineering, and meteorology are applied to address practical problems in agriculture, ecology, and engineering. This module provides an overview of the basics of soil physical properties, followed by soil water properties and the relationship between soil water content and potential. Next, the various processes in the soil are discussed, including heat flow, water flow, and solute movement. To familiarize students with the use of models for planning and as a tool for reasoning, we will use the HYDRUS model extensively in both practice and theory. This module integrates both theoretical and computational elements to enhance the overall scientific, quantitative, and computer skills so as to provide: a) a fundamental understanding of how water, solutes, and heat transfer in soils influence the physical environment for agriculture, hydrology, and the environment; b) conceptual and practical tools to deal with agricultural, hydrological, and environmental challenges.

Regulations and rules

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations

applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.

University of Pretoria Programme Qualification Mix (PQM) verification project

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.