



# University of Pretoria Yearbook 2022

## Groundwater 366 (GLY 366)

|                               |  |
|-------------------------------|--|
| <b>Qualification</b>          | Undergraduate  |
| <b>Faculty</b>                | <a href="#">Faculty of Natural and Agricultural Sciences</a>   |
| <b>Module credits</b>         | 18.00  |
| <b>NQF Level</b>              | 07   |
| <b>Programmes</b>             | <a href="#">BSc (Chemistry)</a><br><a href="#">BSc (Engineering and Environmental Geology)</a><br><a href="#">BSc (Geology)</a><br><a href="#">BSc (Physics)</a> |
| <b>Prerequisites</b>          | GLY 263  |
| <b>Contact time</b>           | 2 practicals per week, 4 lectures per week   |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Geology  |
| <b>Period of presentation</b> | Quarter 2  |

### Module content

The hydrological cycle, water resources and water usage; porosity and permeability, heterogeneity and isotropy; the occurrence of groundwater, vadose and phreatic zones; aquifer types, relations and groundwater flow; hydrostratigraphy, surface water and groundwater interaction, springs; water balance, water flow, recharge and baseflow; Darcy's Law, hydraulic conductivity and subsurface flow; capillarity, hydraulics, Bernoulli's equation and the continuity principle; hydraulic parameters and their derivation from aquifer pumping tests, including Theis, Cooper-Jacob and other modifications; water quality, solubility, natural waters, ionic balance and plotting water chemistry data; groundwater mining, aquifer compaction and subsidence; saline intrusion, dryland salinity, pollution, NAPLs; site remediation and toxicology.

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.