



# University of Pretoria Yearbook 2023

## Soil chemistry 320 (GKD 320)

**Qualification** Undergraduate

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

**Module credits** 14.00

**NQF Level** 07

**Programmes** [BSc \(Engineering and Environmental Geology\)](#)

[BSc \(Geography\) \*Geography and Environmental Science\*](#)

[BSc \(Geology\)](#)

[BSc \(Meteorology\)](#)

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

**Prerequisites** GKD 250

**Contact time** 1 practical per week, 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Department of Plant and Soil Sciences

**Period of presentation** Semester 2

### Module content

Soil chemistry is the study of the chemical behaviour (precipitation, dissolution, sorption, oxidation, reduction, volatilization etc.) of elements and compounds in the soil. Soil exerts a control on nutrient availability and therefore on nutrient cycling (for example the soil-plant system). The growing anthropogenic pressure on soil and the larger environment means a fundamental understanding of the behaviour of pollutants is an increasingly important skill set required by industry. In this module we will look at the soil solution chemistry, mineral solubility, redox chemistry, as well as the chemistry at the surface of soil minerals, of a wide range of nutrients and pollutants. Soil acidification, weathering and associated chemical/mineralogical transformation, as well as landscape dynamics of carbon, iron and manganese receive special attention in this module.

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