

University of Pretoria Yearbook 2018

Soil mechanics 311 (SGM 311)

Qualification Undergraduate

Faculty [Faculty of Engineering, Built Environment and Information Technology](#)

Module credits 16.00

Programmes [BEng Civil Engineering](#)

[BEng Civil Engineering ENGAGE](#)

[BSc Engineering and Environmental Geology](#)

[BSc Geology](#)

Service modules Faculty of Natural and Agricultural Sciences

Prerequisites (SWK 210)

Contact time 1 practical per week, 2 tutorials per week, 3 lectures per week

Language of tuition Separate classes for Afrikaans and English

Department Civil Engineering

Period of presentation Semester 1

Module content

Introduction to soil mechanics. Introduction to clay mineralogy. Mass, volume relationships and phases of soil. Groundwater flow and permeability. Effective stress principles. Suction pressures in saturated as well as partially saturated soil. The Mohr circle and stresses at a point. The Mohr-Coulomb strength theory and the stress-strain properties of soil. The Boussinesq theory. Consolidation theory and soil settlement.

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