

University of Pretoria Yearbook 2019

Concrete technology 794 (SGC 794)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	24.00
Programmes	BEngHons Structural Engineering BEngHons Transportation Engineering BEngHons Water Resources Engineering
Prerequisites	No prerequisites.
Contact time	40 Contact hours
Language of tuition	Module is presented in English
Department	Civil Engineering
Period of presentation	Year

Module content

A research term paper will be prepared.

Properties of concrete and concrete mixes. Characteristics of Portland cement and supplementary cementitious materials. Aggregates, admixtures and practical design of mixes. Manufacture, curing and testing, including non-destructive methods. Statistical approach to quality control. Time-dependent behaviour and durability of concrete. The principles for appropriate selection of materials and techniques for repair, maintenance and strengthening of civil engineering structures. Investigation and diagnosis. Corrosion of reinforcement. Alkali-aggregate reaction, sulphate attack. Physical degradation. Repair materials. Protective systems. Systems for repair.

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