University of Pretoria Yearbook 2017

Civil engineering measurement techniques 221 (SBZ 221)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	8.00
Programmes	BEng Civil Engineering
	BEng Civil Engineering ENGAGE
Prerequisites	(SWK 210)
Contact time	2 lectures per week, 1 tutorial per week, 1 practical per week
Language of tuition	Module is presented in English
Academic organisation	Civil Eng
Period of presentation	Semester 2

Module content

Measurement instruments and measurement techniques used in engineering applications. Theory of the Wheatstone bridge and the application of strain gauges to measurement instruments. Accuracy, precision, resolution, hysteresis and linearity. Load cells, pressure sensors, displacement transducers, stress cells and inclinometers. Adjustment and use of plane table, level, compass and theodolite. Elementary site survey and levelling. Definition of survey. Coordinate systems and bearing. Method of determining levels. Tachometry.