

# University of Pretoria Yearbook 2017

## Civil engineering measurement techniques 221 (SBZ 221)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	8.00
<b>Programmes</b>	<a href="#">BEng Civil Engineering</a> <a href="#">BEng Civil Engineering ENGAGE</a>
<b>Prerequisites</b>	(SWK 210)
<b>Contact time</b>	2 lectures per week, 1 tutorial per week, 1 practical per week
<b>Language of tuition</b>	Module is presented in English
<b>Academic organisation</b>	Civil Eng
<b>Period of presentation</b>	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.

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