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# University of Pretoria Yearbook 2019

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## Strata control 410 (PSZ 410)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	16.00
<b>Programmes</b>	<a href="#">BEng Mining Engineering</a> <a href="#">BEng Mining Engineering Engage</a>
<b>Prerequisites</b>	SWK 210, PMY 320, Finalists only
<b>Contact time</b>	3 lectures per week, 1 tutorial per week, 2 practicals per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Mining Engineering
<b>Period of presentation</b>	Semester 1

### Module content

Three dimensional stress and strain tensors and linear elasticity. The state of stress in the earth's crust. Rock material and rock mass failure criteria. The response of the rock mass to underground excavations, energy release rate and excess shear stress. Mining induced seismicity, rock bursts and measures to minimise mining induced seismicity so as to improve SHE. Elementary mine layout design, pillar design and underground excavation support and their effects on SHE. Stress analysis of mining layouts and mine layout optimisation.

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