

University of Pretoria Yearbook 2017

Statics 211 (SWK 211)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEng Civil Engineering BEng Civil Engineering ENGAGE
Prerequisites	SWK 122
Contact time	3 tutorials per week, 2 lectures per week, 1 practical per week
Language of tuition	Module is presented in English
Academic organisation	Civil Eng
Period of presentation	Semester 1

Module content

Centroids: centroids of lines, surfaces and volumes. Constraints and statical determinacy. Space trusses. Bending moments and cables: distributed loads, parabolic and uniform cables. Liquid statics: buoyancy. Elasticity: stress-strain, stiffness, elastic moduli relations, torsion. Deflection of beams: derivation of differential equations, bending stresses. Friction: friction surfaces, wedges, screws, belt, bearings and rolling resistance. Work and energy, virtual work. Vibration.

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