University of Pretoria Yearbook 2020

Theory of structures 221 (STU 221)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	8.00
Programmes	BSc Architecture
Prerequisites	STU 211 GS
Contact time	3 lectures per week
Language of tuition	Module is presented in English
Department	Civil Engineering
Period of presentation	Semester 2

Module content

Introduction to material science in structural engineering. Concepts like stress, strain, elasticity, stress-strain diagrams, elasticity modules, strength and deformation as applied in structural engineering. Cross-sectional properties of structural elements. Types of stresses, and their transmission in structural elements. Introduction to the relationship between stress and strain (deflection) in beams by Coulomb's theory. Introduction to the analysis of compressive structural elements by means of Euler’s theory.