

University of Pretoria Yearbook 2022

Solid mechanics 321 (MKM 321)

| | |
|-------------------------------|---|
| Qualification | Undergraduate |
| Faculty | Faculty of Engineering, Built Environment and Information Technology |
| Module credits | 16.00 |
| NQF Level | 07 |
| Programmes | BEng (Mechanical Engineering) BEng (Mechanical Engineering) ENGAGE |
| Prerequisites | MOW 227 |
| Contact time | 1 practical per week, 3 lectures per week |
| Language of tuition | Module is presented in English |
| Department | Mechanical and Aeronautical Engineering |
| Period of presentation | Semester 2 |

Module content

Computational solid mechanics using a high-level programming language, macroscopic equilibrium equations, continuum mechanics, infinitesimal equilibrium equations, strong and weak form of the solid mechanics Boundary Value Problem (BVP), linear elastic FEM, FEM modelling principles. Data-driven modelling and inverse problems, structural sensing. Verification and validation.

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.