University of Pretoria Yearbook 2022

Fracture mechanics 780 (MSF 780)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
NQF Level	08
Programmes	BEngHons *Mechanical Engineering*
	BScHons (Applied Science) *Mechanics*
Prerequisites	No prerequisites.
Contact time	21 contact hours per semester
Language of tuition	Module is presented in English
Department	Mechanical and Aeronautical Engineering
Period of presentation	Semester 2

Module content

Historical development; Linear Elastic Fracture Mechanics (LEFM): Stress concentrations and singularities, stress intensity factor, stability of crack propagation; Elasto-plastic fracture mechanics: crack tip plasticity, small scale yielding, measurement of Kic, J-integral; Fatigue crack growth: Paris Law; life prediction; combined mode fracture, strain energy density methods.