

University of Pretoria Yearbook 2016

Fracture mechanics 780 (MSF 780)

Qualification Postgraduate

Faculty [Faculty of Engineering, Built Environment and Information Technology](#)

Module credits 16.00

Programmes [BEngHons Mechanical Engineering](#)

[BScHons Applied Science Applied Science: Mechanics](#)

Prerequisites No prerequisites.

Contact time 21 contact hours per semester

Language of tuition English

Academic organisation Mechanical and Aeronautical En

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 K_{Ic} , J-integral; Fatigue crack growth: Paris Law; life prediction; combined mode fracture, strain energy density methods.

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