



# University of Pretoria Yearbook 2021

## Dynamics 210 (MSD 210)

**Qualification** Undergraduate

**Faculty** Faculty of Engineering, Built Environment and Information Technology

**Module credits** 16.00

**NQF Level** 06

**Programmes** BEng Electrical Engineering

BEng Electrical Engineering ENGAGE

BEng Electronic Engineering

BEng Electronic Engineering ENGAGE

BEng Industrial Engineering

BEng Industrial Engineering ENGAGE

BEng Mechanical Engineering

BEng Mechanical Engineering ENGAGE

BEng Metallurgical Engineering

BEng Metallurgical Engineering ENGAGE

BEng Mining Engineering

BEng Mining Engineering ENGAGE

**Prerequisites** FSK 116 or FSK 176 and SWK 122 and WTW 256 #

**Contact time** 2 tutorials per week, 3 lectures per week

**Language of tuition** Module is presented in English

**Department** Mechanical and Aeronautical Engineering

**Period of presentation** Semester 1

### Module content

Kinetics of systems of particles, Newton's 2nd law generalised for a system of particles, rate of change of momentum and angular momentum relations, work-energy relations, conservation laws, steady mass flow. Plane kinematics of rigid bodies, rotation, translation, general 2D motion, relative motion analysis. Moments and products of inertia. Plane kinetics of rigid bodies, equations of motion, rotation, translation, general 2D motion, work-energy relations. Vibration and time response.

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