



University of Pretoria Yearbook 2020

Vehicle engineering 420 (MVE 420)

Qualification Undergraduate

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

Module content Tyres: Construction, forces and moments, side force generation, rolling resistance, dynamic characteristics, tractive effort, slip, soft soil characteristics. Vehicle performance: equations of motion, supply and demand, forces acting on the vehicle, prediction of top speed, acceleration, braking, gradient ability and fuel consumption. Vehicle suspension systems: suspension concepts, kinematics, dynamic characteristics. Ride comfort: springs, dampers, suspension models, human response to vibration. Handling: steering systems, low-speed handling, steady-state handling, dynamic handling, under/oversteer, handling tests.

Module credits 16.00

Programmes [BEng Mechanical Engineering](#)

[BEng Mechanical Engineering ENGAGE](#)

Prerequisites No prerequisites.

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

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