

University of Pretoria Yearbook 2016

Vehicle dynamics 780 (MVI 780)

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| 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 1 |

Module content

Tyres: Characteristics and tyre models used in simulation of ride comfort and handling. Road inputs: Classification of roads. Road profiles. Road roughness. Suspension components: springs, dampers. Controllable suspension systems. Modelling aspects. Human reaction: Human response to vibration. Driver models. Human reaction times. Vertical vehicle dynamics (ride comfort): Vibration levels in a vehicle. Simulation of ride comfort. Effect of seat characteristics on vibration levels. Test and evaluation procedures. Lateral vehicle dynamics (handling): Simulation of steady state and dynamic handling. Rollover propensity. Test procedures. Computer applications: Application of computer codes in the analysis of vehicle dynamics.

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