University of Pretoria Yearbook 2020

Vibration and noise 320 (MVR 320)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEng Mechanical Engineering
	BEng Mechanical Engineering ENGAGE
Prerequisites	(MSD 210)
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

Module content

Introduction to vibration: basic concepts, classification, modelling elements. Single degree of freedom systems: undamped and damped free vibration, undamped and damped harmonic motion, non-periodic excitation, numerical integration. Multidegree of freedom systems: discretisation, eigenproblem, co-ordinate coupling. Vibration control: balancing, isolation, absorbers. Vibration and sound measurement: signal analysis, modal testing, vibration monitoring. Continuum systems: string, bar, rod. Sound and noise: metrics, measurement, legislation.

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