University of Pretoria Yearbook 2017

Control systems 410 (MBB 410)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEng Mechanical Engineering
	BEng Mechanical Engineering ENGAGE
Prerequisites	MVR 320 GS
Contact time	2 practicals per week, 3 lectures per week
Language of tuition	Module is presented in English
Academic organisation	Mechanical and Aeronautical En
Period of presentation	Semester 2

Module content

Introduction to control systems. Modelling of dynamic systems. Transfer functions. Block diagrams and block diagram algebra. Linearisation of non-linear systems. Disturbance signals. Steady-state accuracy. Control systems characteristics. Analysis of control systems using Laplace transformations. Root loci. Bode diagrams. Design of compensators using bode diagram and root locus design techniques. Introduction to sampled data control systems. The Z-transsorm. Implementation of controllers on a computer. Controls laboratory.