University of Pretoria Yearbook 2021

Multivariable control systems 732 (EMB 732)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	32.00
NQF Level	08
Programmes	BEngHons Electrical Engineering
	BEngHons Electronic Engineering
Prerequisites	Introductory control course such as EBB 320
Contact time	32 contact hours per semester
Language of tuition	Module is presented in English
Department	Electrical, Electronic and Computer Engineering
Period of presentation	Semester 2

Module content

Introduction to linear dynamic systems: Modes, stability, controllability, observability, multivariable poles and zeros, state-space and transfer function descriptions. Singular values and singular value decomposition. Feedback performance specifications in the frequency domain. Synthesis via state space methods. Optimal control techniques, model predictive control.

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