Dynamical systems 382 (WTW 382)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	18.00
Programmes	BCom
	BCom Statistics
	BSc Actuarial and Financial Mathematics
	BSc Applied Mathematics
	BSc Geology
	BSc Mathematical Statistics
	BSc Mathematics
	BSc Physics
Service modules	Faculty of Education
	Faculty of Economic and Management Sciences
Prerequisites	WTW 218 and WTW 286 or WTW 264
Contact time	1 tutorial per week, 2 lectures per week
Language of tuition	Afrikaans and English is used in one class
Academic organisation	Mathematics and Applied Maths
Period of presentation	Semester 1

Module content

Matrix exponential function: homogeneous and non-homogeneous linear systems of differential equations. Qualitative analysis of systems: phase portraits, stability, linearisation, energy method and Liapunov's method. Introduction to chaotic systems. Application to real life problems.

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