University of Pretoria Yearbook 2020

Numerical analysis 383 (WTW 383)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	18.00
Programmes	BCom
	BCom Statistics
	BCom Statistics and Data Science
	BSc Computer Science
	BSc Actuarial and Financial Mathematics
	BSc Applied Mathematics
	BSc Chemistry
	BSc Geology
	BSc Mathematical Statistics
	BSc Mathematics
	BSc Meteorology
	BSc Physics
Service modules	Faculty of Engineering, Built Environment and Information Technology
	Faculty of Economic and Management Sciences
	Faculty of Humanities
Prerequisites	WTW 114, WTW 123 WTW 124 and WTW 211
Contact time	1 practical per week, 2 lectures per week
Language of tuition	Afrikaans and English are used in one class
Department	Mathematics and Applied Mathematics
Period of presentation	Semester 2

Module content

Direct methods for the numerical solution of systems of linear equations, pivoting strategies. Iterative methods for solving systems of linear equations and eigenvalue problems. Iterative methods for solving systems of nonlinear equations. Introduction to optimization. Algorithms for the considered numerical methods are derived and implemented in computer programmes. Complexity of computation is investigated. Error estimates and convergence results are proved.

The information published here is subject to change and may be amended after the publication of this information. The General Regulations (G Regulations) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the General Rules section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.