



University of Pretoria Yearbook 2017

Partial differential equations of mathematical physics 776 (WTW 776)

Qualification	Postgraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module content	Field-theoretic and material models of mathematical physics. The Friedrichs-Sobolev spaces. Energy methods and Hilbert spaces, weak solutions – existence and uniqueness. Separation of variables, Laplace transform, eigenvalue problems and eigenfunction expansions. The regularity theorems for elliptic forms (without proofs) and their applications. Weak solutions for the heat/diffusion and related equations.
Module credits	15.00
Programmes	BScHons Applied Mathematics BScHons Mathematics BScHons Mathematics of Finance
Prerequisites	WTW 710 or WTW 735
Contact time	2 lectures per week
Language of tuition	Module is presented in English
Academic organisation	Mathematics and Applied Maths
Period of presentation	Semester 2

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