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# University of Pretoria Yearbook 2019

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## Continuum mechanics 787 (WTW 787)

<b>Qualification</b>	Postgraduate
<b>Faculty</b>	Faculty of Natural and Agricultural Sciences
<b>Module credits</b>	15.00
<b>Programmes</b>	BScHons Applied Mathematics BScHons Mathematics and Mathematics Education Algebra and Analysis BScHons Mathematics and Mathematics Education Applied Analysis BScHons Mathematics and Mathematics Education Differential Equations and Modelling
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Mathematics and Applied Mathematics
<b>Period of presentation</b>	Semester 2

### Module content

Analysis of spatial versus material description of motion. Conservation laws. Derivation of stress tensors. Analysis of finite strain and rate of deformation tensors. Stress and strain invariants. Energy. Linear and nonlinear constitutive equations. Applications to boundary value problems in elasticity and fluid mechanics.

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