University of Pretoria Yearbook 2016

Aerodynamics 780 (MLD 780)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEngHons Mechanical Engineering
	BScHons Applied Science Applied Science: Mechanics
Prerequisites	No prerequisites.
Contact time	21 contact hours per semester
Language of tuition	English
Academic organisation	Mechanical and Aeronautical En
Period of presentation	Semester 1 or Semester 2

Module content

Panel methods, Green's identity, different 2-D panel methods, airfoil design and analysis, 3-D vortex systems, vortex lattice methods for 3-D potential flow, boundary layer methods, theory of boundary layers, some finite difference methods, separation, computer methods, compressible potential flow, Mach waves and shock waves, Prandtl Glauert equations, subsonic, supersonic and transonic flow on thin airfoils, finite difference methods applied to small perturbation equation.

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