



University of Pretoria Yearbook 2017

Aerodynamics 780 (MLD 780)

Qualification Postgraduate

Faculty [Faculty of Engineering, Built Environment and Information Technology](#)

Module content Review of the fundamentals of thermodynamics. Introduction to compressible flows. Advanced topics in compressible flows: transonic flow and supersonic flow. Oblique shock waves, expansion waves, shock-expansion theory, wave interactions and wave drag. Linearized compressible-flow theory. Effects of heat and friction on gas flow. Design aspects of high speed aeroplanes and viscous effects. Fundamentals of hypersonic flow and high temperature gas dynamics. On completion of this module the student will be able to understand the fundamental phenomena associated with compressible flow and competently apply analytical theory to compressible flow problems

Module credits 16.00

Programmes [BEngHons Mechanical Engineering](#)

[BScHons Applied Science Mechanics](#)

Prerequisites No prerequisites.

Contact time 21 contact hours per semester

Language of tuition Module is presented in English

Academic organisation Mechanical and Aeronautical En

Period of presentation Semester 1 or Semester 2

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