

University of Pretoria Yearbook 2017

Missile aerodynamics and design 781 (MLD 781)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEngHons Mechanical Engineering BScHons Applied Science Mechanics
Prerequisites	(recommended) aircraft design, aerodynamics, flight mechanics
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

Module content

The aerodynamic discipline of missiles or slender bodies and general configuration design concepts, submarine, airship and munition development. Slender body theory, aerodynamics of bodies, aerodynamics of low aspect ratio wings, vortices, wing body interference, downwash, the wake and wing tail interference, aerodynamic controls, drag, stability derivatives, design considerations, performance, manoeuvring flight, store carriage and separation. Prerequisites for the course are aircraft design, subsonic and supersonic aerodynamics (including the concepts of potential flow, vortex theory, thin aerofoil theory, finite wing theory, compressible gas dynamics and shock wave theory) and flight dynamics.

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.