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## SYL M08 B1.3 rev. 1.0

Lesson
Subject
8.1 Physics of the Atmosphere International Standard Atmosphere (ISA), application to aerodynamics
8.2 Aerodynamics Airflow around a body; Boundary layer, laminar and turbulent flow, free stream flow, relative airflow, upwash and downwash, vortices, stagnation; The terms: camber, chord, mean aerodynamic chord, profile (parasite) drag, induced drag, centre of pressure, angle of attack, wash in and wash out, fineness ratio, wing shape and aspect ratio;
8.3 Theory of flight Relationship between lift, weight, thrust and drag; Glide ratio; Steady state flights, performance; Theory of the turn; Influence of load factor: stall, flight envelope and structural limitations; Lift augmentation.
8.4 Flight stability and Dynamics Longitudinal, lateral and directional stability (active and passive).