



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Applied Aircraft Performance I

AVIATN 2850

Credit Hours:

3.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Course Description:

First of an applied course sequence covering the fundamental principles of aerodynamics, aircraft performance, and stability. Course includes incompressible aerodynamics, jet, and propeller aircraft performance.

Prerequisites and Co-requisites:

AVIATN 2100 or 2150, PHYSICS 1250

Course Goals / Objectives:

- Calculate atmospheric parameters based upon given weather conditions.
 - Calculate true airspeed, lift, and drag characteristics under varying atmospheric conditions
 - Determine an aircraft's unaccelerated performance under varying atmospheric conditions.
 - Calculate elements of aircraft accelerated performance under varying atmospheric conditions.
 - Define aircraft static stability.
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Course Topics:

- Atmosphere, Air Flow and Airspeed Measurement
 - Development of Aerodynamic Forces
 - Lift, Drag, and Pitching Moments
 - Friction Effects
 - 3?D Flow Effects and Airplane Drag
 - Jet and Propeller Aircraft Performance
 - Maneuvering Performance
 - Takeoff and Landing Performance
 - Static Stability and Control
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Designation:

Elective