AE-UY 4603 Compressible Flow (3 Credits)
Typically offered Fall
This course covers conservation equations for inviscid flows, one-dimensional flows, normal shock waves, one-dimensional flow with friction, one-dimensional flow with heat addition, oblique shock waves and Prandtl-Meyer expansion waves. | Prerequisite: ME 3333 and ME 3313.
Grading: Ugrd Tandon Graded
Repeatable for additional credit: No

AE-UY 4613 Aerodynamics (3 Credits)
Typically offered Spring
The course explores incompressible inviscid flow, rotational and irrotational flow, elementary flows and their superposition, airfoil and wing geometry, aerodynamic forces and moments, thin airfoil theory, camber effects, incompressible laminar and turbulent boundary layer, vortex system, incompressible flow about wings, wing/body configurations, compressible flows past airfoils and wings and high-lift devices. | Prerequisite for Brooklyn Students: ME-UY 3313 | Prerequisite for Abu Dhabi Students: ENGR-UH 2212
Grading: Ugrd Tandon Graded
Repeatable for additional credit: No

AE-UY 4653 Aircraft Flight Mechanics (3 Credits)
Typically offered Fall
The course examines development of equations of motion. Topics: Characteristics of aircraft-propulsion systems; Level flight performance of turbojet and propeller-driven aircraft; Un-accelerated climbing flight and aircraft ceiling; Takeoff and landing performance; Longitudinal and lateral static stability; Linearized equations of motion; Longitudinal and lateral modes of motion. | Prerequisite: ME 3223.
Grading: Ugrd Tandon Graded
Repeatable for additional credit: No