Aerodynamics

Course Code:

ME 432

Course Type:

Area Elective

Credits:

3

Theoric:

3

Practice:

0

Laboratory Hour:

0

ECTS:

5

Prerequisite Courses:

Fluid Mechanics [1]
Course Language:

English

Course Content:

Aerodynamic forces and moments. Fundamental principles and equations. Potential flow theory, flow around a cylinder, formation of lift, Kutta-Joukovsky theorem, conformal mapping, definition of aerodynamic coefficients, Panel Method. Thin airfoil theory, Kutta condition, Kelvin’s circulation theorem, symmetrical and cambered airfoils, lift curve slope and zero lift angle of attack, flapped airfoil. Finite wing, lifting line theory, elliptic and general lift distributions.