## MA 561-Low Speed Aerodynamics

Course Code:	MA-561
UTAA Credit (Theoretical-Laboratory hours/week):	3(3-0)
ECTS Credit:	6.0
Department:	Mechanical and Aeronautical Engineering
Language of Instruction:	English
Level of Study:	Graduate
Offered Semester:	Fall and Spring Semesters.

## **Course Objectives**

For students to gain a basic knowledge of concepts needed to understand and analyze incompressible fluid flows around elementary body shapes, thin airfoils, and wings of finite span

## **Course Content**

Flow around elementary shapes, concepts of flow circulation, lift and drag.

Incompressible inviscid flows around thin airfoils and wings of finite span.

## **Course Learning Outcomes**

1-Use the standard atmosphere to compute the airspeed of low-speed, general aviation aircraft at altitude

2-Calculate the flow field around elementary two-dimensional shapes

3-Use a simple vortex-panel program to calculate the lift versus angle-of-attack curve for airfoils of an arbitrary shape