

MA 551- Advanced Fluid Mechanics

Course Code:	MA-551
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

This course is a survey of principal concepts and methods of fluid dynamics.

Course Content

This course is a survey of principal concepts and methods of fluid dynamics. Topics include mass conservation, momentum, and energy, equations for continua; Navier-Stokes equation for viscous flows; similarity and dimensional analysis; lubrication theory; boundary layers and separation; circulation and vorticity theorems; potential flow

Course Learning Outcomes

- 1-Understanding of the basic characteristics of fluid motion
- 2-Learning and applications of methods used to solve flow problems.
- 3-Interpreting the results of solution of flow problems.