MA 546- Boundary Element Method

Course Code:	MA-546
UTAA Credit (Theoretical-Laboratory hours/week):	3
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

To teach the basic definitions and theorems about the boundary element method. To equip students with problem solving and analytical thinking skills.

C**ourse Content**

To introduce; preliminary concepts: vector and tensor algebra, sign representation; divergence theorem, Dirac delta function; singular integrals; Integrals at Cauchy principal value 1 and 2D; Boundary element formulation for Laplace equation; Laplace equation: discretization; boundary element formulation for elastostatics; elastostatics

Course Learning Outcomes

1-Gains the ability to understand and apply knowledge in the fields of mathematics, science and basic sciences at the level of expertise.

2-Gains the ability to access wide and deep knowledge in the field of Engineering by doing scientific research with current techniques and methods, evaluate, interpret and implement the gained knowledge.