

MA 571- Advanced Gas Dynamics

Course Code:	MA-571
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

Fundamentals and simulations of the rarefied gas flows using direct simulation Monte Carlo method

Course Content

Rarefied gas flows, Gas flow regimes based on the Knudsen Number, low density and micro gas flows, kinetic theory, molecule collisions

Course Learning Outcomes

- 1-Understands rarefied gas flow phenomenon.
- 2-Understands the kinetic theory. Establishes the relationship between kinetic theory and rarefied gases.
- 3-Gains an understanding on direct simulation Monte Carlo method and applies it on real life problems.