MA 570- Aerothermodynamics

Course Code:	MA-570
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

Ability to independently use the research principles, methods and skills in the maintenance, design and performance calculation of aircraft and its engi

C**ourse Content**

Fundamentals, potential energy, kinetic energy, Newton's motion laws. Brayton cycle; Force, work, power, energy, velocity and acceleration relations. Fan balancing, compressor stall/surge, air control of compressors, bleed valves, variable guide vanes, stator vanes, compressor pressure rai

Course Learning Outcomes

1-Analyzing of Thermodynamics of aircraft propulsion systems and gas turbines, learning basic principles and aircraft engine design

2-Explain Newton's motion laws

3-Classify the Aircraft Engine Types

4-Define the engine efficiencies