

MA 576- Helicopter Stability And Control

Course Code:	MA-576
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

Overview of V/STOL Aircraft and where Rotorcraft Fit In, Overview of Rotorcraft Configuration Synthesis, Aerodynamics Review, Propulsion Review, Helicopter Preliminary Design Parametric Analysis, Techniques of Configuration Selection, Introduction to Individual Design Project, Introduction to Rotorcraft Structural Design, Rotorcraft Stability&Control Design Considerations Introduction to Team Design Project, Rotorcraft Transmission/Drive System Design Considerations, Rotorcraft Safety & Reliability Design Considerations, Rotorcraft Life Cycle Cost Design Considerations, Rotorcraft Overall Evaluation Criterion (OEC) Considerations

Course Content

To teach conceptual design of rotorcraft

To carry out a conceptual design as a teamwork.

Course Learning Outcomes

- 1-Define the helicopter construction features
- 2-Students define control systems.
- 3-Students explain different type of flight (forward, backward, vertical, auto rotation)