



Program and Degree: BSc in Aerospace Engineering	
Course Description	
Course Title	Flight Mechanics II
Prerequisites	Flight Mechanics I
The course aims	Students' acquaintance with aircraft flight dynamics, control, and handling quality.
Contents	<ol style="list-style-type: none"> 1- Equations of motion of a rigid aircraft: Coordinate systems and transfer matrixes, aircraft position and attitude, Euler angels, steady state equations, perturbed state equations. 2- External forces linearization, stability derivatives and control derivatives in longitudinal modes. 3- Stability derivatives and control derivatives in lateral modes. 4- Aircraft static stability and stability criteria for stability derivatives. 5- Solving of aircraft equations of motion: Aircraft Dynamic stability, aircraft response to control inputs and aircraft transfer functions. 6- Aircraft Trim conditions: Trim diagrams for power off and power on engine... 7- Automatic Flight Control Systems. 8- Stability Augmentation systems for aircrafts, 9- Aircraft response to wind and air turbulence
Duration	1 Semester (16 weeks)
Course Hours	3 hours/week
Course Type	Required