Instructor: C. Venkatesan

Helicopter Theory: Dynamics and Aeroelasticity

Course outline:

1. Historical Development
2. Rotor Configurations
3. Elements of hovering and vertical flight
4. Forward flight
5. Performance estimation
6. Rotor blade idealization
7. Blade flap response
8. Trim analysis of helicopters
9. Uncoupled flap, lag and torsion dynamics of rotor blade
10. Flap-lag, flap-pitch, lag-pitch coupling
11. Introduction to coupled flap-lag, flap-torsion stability (time permits)
12. Elements of helicopter stability

References: