Course Name: Flight Stabilization and Control

Topics:

1. Introduction to advance control
    - State space
    - Linearization
    - Controllability and Observe ability
    - State Feedback
    - Observer Designed

2. Introduction to Flight Dynamics
    - Introduction to Aerodynamic
    - Aircrafts systems
    - Helicopters Systems

3. Flight Equations of Motion
    - Static Analysis
    - Dynamic Analysis

4. Flight Modeling and System Identifications
    - Flight Modeling
    - Identification Technique

5. Flight Stability and Control
    - Static Longitudinal Control
    - Static Lateral Stability and Control
    - Aircraft orientation in 3 dimensions
    - Dynamic Stability

6. Flight Assisting systems

- Flight Management System
- Autopilot Systems
- Automatic Throttle Systems

7. Turbo Jet Engines

- Engine Modeling And Limitations
- Engine Control

References

1- B. L. Stevens and Frank L. Lewis, “Aircraft Control and Simulation”, John Wiley and Sons Inc., USA,2003

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3- D. H. Middleton, “Avionic Systems”, Longman Scientific and Technical Inc., UK, 1989.

4- S .D. Jenie and Agus Budiyono, “Automatic Flight Control System Classical approach and modern control perspective”, Bandung Institute of Technology, 2006.

5- R .C. Nelson, “Flight Stability and Automatic Control”, Mc Graw-Hill Inc, USA, 1989.

6- H. Richter, “Advance Control of Turbofan Engines”, Springer, 2012.