2. Objective
The objective of this lecture is to gain the knowledge of the basic theory of flight dynamics, guidance and control, and their application to spacecraft and aircraft.

3. Course Overview
You will learn the basic theory of flight dynamics, guidance and control of spacecraft in the first half of lecture, and those of aircraft in the latter half.

I. Spacecraft
(1) Natural Motions of Rigid Spacecraft
(2) Spacecraft Sensors and Attitude Determination
(3) Attitude Control with Thrusters
(4) Attitude Control with Reaction Wheels
(5) Attitude Stabilization with Spin
(6) Attitude Control with a Gimballed Momentum Wheel
(7) Attitude Control during Thrust Maneuvers
(8) Control of Translational Motions
(9) Flexibility and Fuel Slosh

II. Aircraft
(1) Natural Motions of Rigid Aircraft
(2) Aircraft Sensors
(3) Control of Longitudinal Motions of Aircraft
(4) Control of Lateral Motions of Aircraft
(5) Aeroelastic Systems

4. Grade Evaluation
Grade is evaluated by taking the score of final exam or submission of reports into account.

5. Guideline for Students
It is desirable or recommended for the students to take courses related to "Fluid Dynamics (Aerodynamics)," "Dynamics of Machinery," and "Control Engineering" in the undergraduate course.

6. Textbook and References