

## Advanced Space Dynamics

Koju HIRAKI, 2 units

Purpose: Promote the understandings of the basic formulations of the motions of a body in three-dimensional coordinate, taking an artificial satellite and a spacecraft as examples.

### Lecture Schedule:

1. Kepler's equation
2. Keplerian elements
3. Trajectories of planets in solar system
4. Trajectory predictions of ISS
5. Trajectory design of interplanetary flight
6. Introduction of planetary exploration
7. Presentations by students

Evaluation: Students are required to find solutions actively to the problems given. The presentation skills are also evaluated, as well as the quality of the presentation.

Note: The lecture will be given in English, but the complementary explanations might be added in Japanese for Japanese students who are not good at English.

Textbook: not specified