Exercises in CAD and Drawing

TANUMA, Tadashi

1. Course Description

The basic operations of 3D-CAD (Computer Aided Designing) with CATIA V5 and the imaging of a solid shape from the drawing are taught.

2. Course Objectives

The basic operations of 3D-CAD required for mechanical engineers are studied. And the example of problems in 3D-modeling based on the models in the real machinery industry are solved for the improvement of efficiency at the machine element design stage.

3. Grading Policy

Final grade will be calculated according to drawing assignments (100%). To pass, students must earn at least 60 points out of 100.

4. Textbook and Reference

Textbook
They will be introduced in the class.

5. Requirements(Assignments)

This course will be taught in Japanese.

6. Note

7. Schedule

[1]	Guidance, Purpose and ability of the 3D Computer Aided Designing
[2]	Basic operations (mouse operation, GUI interface, workbench, etc)
[3]	Fundamentals of the operation #1 : Sketch and basic 3D modeling
[4]	Fundamentals of the operation #2 : Fundamental features (mouse operations, choose the "Material", etc.), Basic exercise: V block
[5]	Sketch 1 : Basic exercises
[6]	Sketch 2 : Practical exercises
[7]	Part design 1: Protrusion, Remove, Axial rotation, Axial slotting, Holing, etc.
[8]	Part design 2: Chamfar, Fillet, Dlaft, Patterning, Mirrering, Schaling, etc.
[9]	Wireflame modeling
[10]	Surface modeling
[11]	Assembly 1: Basic exercises
[12]	Assembly 2: Practical exercises
[13]	Drafting, and check assignments
[14]	Additional issues
[15]	Check and finish of the modeling