

Machine Element

Syllabus Number 1G201

Basic Major Subjects

Requisites 2 credit

HINO, Hiroshi

1. Course Description

You learn about the machine element which is the minimum unit which constitutes a machine. The complicated machine has also combined the simple machine element in many cases. Many of the machine elements are standardized and, in a design, the knowledge is needed. I am required for a machine design, and about a typical machine element, I work and study structure, a standard, etc. I learn the knowledge and skill about DP4 and DP5 in this lesson.

2. Course Objectives

In order to design a machine, the knowledge about a machine element is required. In a machine design, structure, a standard, graphics, etc. besides an outline are shown about an important machine element, and I consider it as the foundation of a machine design.

3. Grading Policy

Perform a lecture and an exercise based on a textbook and ask for presentation by considering an exercise problem as a report at any time. About the subject which asked for presentation during session, I certainly answer, and include the answers in the results. The results of a term-end examination are mainly estimate. They are 90% of a periodic exam, and 10% of a subject in a lesson. I do a re-examination on the unsuccessful applicant(s) of a periodic exam in principle.

4. Textbook and Reference

Textbook

Shinpo goichi For beginner machine Element 3rd edition Riko-Gaku-Sha

5. Requirements(Assignments)

Before a lesson, please read the next lecture range of the specified textbook, and make collectively a note of the point which is hard to understand.

(About 1 hour)

After a lesson should carry out the review, when the subject in a lesson occurs, and please create the note of the contents.

When an understanding is not enough, please check and make a note of a point in question by next time.

Moreover, the first technical term to get to know should understand the meaning, and should summarize it in a note.

(About 2 hours)

6. Note

We use a mathematical calculator.

7. Schedule

- [1] Meaning which studies a machine element
- [2] Engineering specification
- [3] Screw 1
- [4] Screw 2
- [5] Bolt and a nut
- [6] The machine element for combination 1 Washer Key
- [7] The machine element for combination 2
- [8] Rivet 1
- [9] Rivet 2
- [10] Axis
- [11] An axial joint
- [12] The machine element for movement transfer
- [13] Bearing
- [14] Seal
- [15] Conclusion