UNIVERSITY OF SKÖVDE

TRANSLATION FROM SWEDISH

COURSE SYLLABUS

Machine Elements G2F

6 credits

Course code: MT507G
Version number: 9
Valid from: 1 July 2021
Ratified by: Curriculum Committee for Engineering Science
Date of ratification: 1 March 2021

1. General information about the course

The course is provided by the University of Skövde and is named Machine Elements G2F (Maskinelement G2F). It comprises 6 credits and is a first-cycle course. The level of progression is G2F.

The course is a part of the main field of study in Mechanical Engineering. The disciplinary domain of the course is Technology.

2. Entry requirements

The course has the following entry requirements: passed MT302G Strength of Materials I G1F and passed MT345G Strength of Materials II G1F and attended MT347G Strength of Materials III G1F and attended FY303G Mechanics III G1F and attended MT341G Engineering Materials I G1F (or the equivalent).

3. Course content

The course covers the mechanics of screw and interference fits. Characteristics and design of springs are treated. The course studies the properties of various types of bearings; both plain bearings and rolling bearings. The course concludes with a review of transmissions function and use.

4. Objectives

After completed course the student should be able to:

- design commonly used machine elements such as screw and different kinds of interference fits,
- design with common types of springs according to function and damping characteristics,
- life time estimations of bearings and make bearing selection from given conditions,
- describe different types of transmissions for functioning and strength properties,
- analyze an research article that deals with mechanical failure and its consequences for humanity, nature and society, and
- reflect on and effectively communicate tasks, solutions and results through oral presentation.

5. Examination

The course is graded A (Excellent), B (Very good), C (Good), D (Satisfactory), E (Sufficient) or F (Fail).

The examinations of the course consist of the following modes of assessment:

- **Supervised written examination**
  5 credits, grades: A/B/C/D/E/F (determines the final grade)
- **Oral presentation**
  1 credit, grades: G/U

Students with a permanent disability who have been approved for directed educational support may be offered adapted modes of assessment.

6. Types of instruction and language of instruction

The teaching is comprised of presentations and lectures.

The teaching is conducted in English.

7. Course literature and other educational materials

Schmid, S. R., Hamrock, B. J., & Jacobson, B. O. (2014). *Fundamentals of Machine Elements* (3rd edition, SI Version). CRC Press. ISBN 9781482247480.

Sundström, B (red.) (2010). *Handbook of Solid Mechanics*. Stockholm: Department of Solid Mechanics, KTH. ISBN 9789197286046.

Sundström, B. (1999). *Handbok och formelsamling i hållfasthetslära*. Tekniska högskolan Stockholm: Institution för hållfasthetslära.

8. Student influence

Student influence in the course is ensured by means of course evaluation. The students are informed about the results of the evaluation and potential measures that have been taken or are planned, based on the course evaluation.

9. Additional information

The content of the course corresponds completely or partially with the following course(s) and cannot be included in the required credits of a degree qualification:

- MT316G - Machine Element G1F 7.5 credits

Further information about the course, as well as national and local governing documents for higher education, is available on the website of the University of Skövde.