**Mechanical Elements 2 (ECTS credits: 6)**

Language: the course is offered in Serbian and Hungarian.

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**Course description:**

In this course, students learn the basics of machine elements, starting from geometric tolerances to certain types of transmissions. The themes are built on each other, so it is necessary for the student to be fully committed to the subject in order to absorb all the required knowledge. Lectures and exercises are complementary, they go strictly parallel. First, we analyze the problems of tolerance of dimensions both with and without the effect of heating. Later, the calculation of all types of screw connections is studied very thoroughly – from individual to the groups. Then the course continues with the transmission units: threaded, friction drive, belt drive, and the chain drive. Before students study the connection between them, there will be calculation exercises of complex transmission units.

This course would cover the following topics, both as lectures and exercises:

1. Introduction
2. Basic concepts of mechanical engineering
3. Tolerances and calculation of tolerance fields
4. Work loads of machine elements
5. Determination of work load of machine elements
6. Critical stress and level of security
7. Determination of critical stress and level of security
8. Threads
9. Threaded assemblies
10. Springs
11. Mechanical transmissions
12. Friction transmissions
13. Belt transmissions
14. Chain transmissions
15. Closing remarks

**Aims:**

* Acquiring knowledge of the types and functions of machine elements (screws, friction-, belt- and chain drive transmission)
* Acquiring knowledge of the methods of calculating machine elements
* Acquiring knowledge in the field of machine elements

**Learning outcomes:**

After completing this course the student should be able to:

* select and calculate machine elements
* applicate the mechanical elements in machine constructions