**Mechanical elements 3 (ECTS credits: 6)**

Language: the course is offered in Serbian and Hungarian.

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**Course description:**

This course is the upgraded version of the Mechanical elements 2. During the semester, the transmission units are further analyzed along with the gears. The main aim of this course it to help students to be acquainted with various kinds of gear, such as: the cylindrical, over conical, and hypoid. Moreover, they will study worm gears which are special analyzes. 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. Furthermore, the axles are also studied here along with the couplings and every kind of bearings. In the two courses: Mechanical Elements 1 and 2 students acquire all the basic knowledge in the field of machine elements.

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

1. Introduction
2. Gears
3. Gear pairs
4. Cylindrical gear pairs with straight teeth
5. Profile movement
6. Cylindrical gear pairs with angle teeth
7. Conical gear pairs
8. Worm gear pairs
9. Shafts and axles
10. Shaft and hub joints
11. Couplings
12. Roller bearings
13. Sliding bearings
14. Calculation and selection of required bearings
15. Closing remarks

**Aims:**

* Acquiring knowledge of the types and functions of machine elements (gears, axles, couplings and bearings)
* 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 of mechanical elements in machine constructions