**Measurements and control (ECTS credits: 6)**

Language: the course is offered in Serbian and Hungarian.

Contact person: Dr. Lívia Szedmina (slivia@vts.su.ac.rs)

**Course description:**

Throughout the course, students are introduced to the largest number of traditional measuring instruments used in mechanical engineering. During the lectures, students study the basics of metrology.

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

1. Introduction
2. Basic terms
3. Length measurement
4. Single and limit scales
5. Mechanical scales
6. Moving scales and micrometers
7. Comparators: mechanical, optical, electrical and pneumatic
8. Measuring machines
9. Microscopes
10. Measurement by light interference
11. Measurement of angles and cones
12. Macro and micro geometric characteristics of surfaces
13. Thread control
14. Gear control
15. Closing remarks

**Aims:**

* Acquiring knowledge of the basics of measuring technique in mechanical engineering.
* Acquiring knowledge of traditional measuring instruments and measuring procedures in mechanical engineering.
* To introduce students the modern measuring devices, such as CMM (Coordinate Measuring Machines).

**Learning outcomes:**

After completing this course the student should be able to:

* independently apply all kinds of classic measuring devices.
* independently assess the justification of the use of modern measuring devices