# **Thermodynamics and fluid mechanics (ECTS 6)**

Language: the course is offered in English, Serbian and Hungarian.

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**Course description:**

The course covers the following topics:

Overview of the basic equations and the way of their use and their extension mostly in the direction of unsteady and dynamic processes. Properties of turbulent flow, modelling the turbulence. Boundary layers, free jets, multi-phase flow. Knowledge of the fundamentals of heat transport and unbalanced thermodynamics. Heat exchangers. Laboratory exercises: up-to-date measuring methods in fluid mechanics and thermodynamics, numeric simulation methods and their applications within the scope of solving tasks, with special regard to mechanical structures.

**Aims:**

* Completing the subject matter shall make the students capable of measuring, modelling and planning the thermal- and fluid processes occurring in mechanical systems

**Learning outcomes:**

* Students should be able to apply theories and methods within mechanics and thermodynamics on simple model systems
* Students should be able to develop understanding and application of theories and methods within mechanics and thermodynamics on other subjects
* Given certain preconditions, students should be able to make arguments with terms from mechanics and thermodynamics