# **Heating and cooling (ECTS 6)**

Language: the course is offered in Serbian and Hungarian.

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**Course description**

The course covers the following topics:

Calculation of heat loss and heat gain; Systems of central heating; Classification of systems; Calculation and selection of the heating bodies; Calculation of the pipe network; Boiler room and the heating room: types, heating schemes, calculations and selection of equipment.

Natural and artificial Refrigeration, Application of refrigeration and heat pumps, Methods of producing Low Temperatures, Air cycle refrigeration systems, Ideal reverse Brayton cycle, Vapour compression refrigeration systems, The Carnot vapour compression refrigeration cycle, Standard vapour compression refrigeration system, Modifications of standard vapour compression cycle, (sub-cooling, multistage throttling, multistage compression with intercooling), Multi-evaporator system with individual compressor, Cascade systems, Refrigerants, Refrigerant selection criteria, Designation of refrigerants.

**Aims:**

Development of engineering approach in design and implementation of installations and plants in the field of heating and cooling.

**Learning outcomes:**

* Acquisition of knowledge for design and implementation of installations and plants in the field of heating, and cooling.
* The use of acquired knowledge in further education and practice.