Study branch Building Environment

Generated: 22. 8. 2025

Faculty	Faculty of Civil Engineering
Study programme	Civil Engineering
Type of study	Bachelor
Language of instruction	English
Code of the branch	S06
Title of the branch	Building Environment
Regular period of the study	4 years
Cost	50,000 CZK per semester
Coordinating department	Department of Building Environment and Building Services
Coordinator	prof. Ing. Antonín Lokaj, Ph.D.
Key words	Building Acoustics and Daylighting of Buildings, BIM in Construction, Energy Performance of Buildings, Technical equipment of buildings (sanitary, heating, ventilation, gas, electrical installations), Renewable Energy Sources

About study programme

Within the specialization of Building Environment of the study program of Civil Engineering, students are prepared for application in the area of designing and realization of technical equipment of buildings (sanitary, heating, ventilation, gas distribution, electrical installation) in residential, civil, industrial and agricultural buildings and in areas of energy performance of buildings focusing on the application of alternative and renewable energy sources in buildings.

Graduate's employment

In practice, graduates will find employment in the profession of civil technician with a focus on technical equipment of buildings, namely in the positions of construction technician designer, construction technician master, construction technician preparation and implementation, investment and engineering. After incorporation, they can perform management functions at the level of middle-technical workers in the area of heating, sanitary technology, ventilation, gas distribution in residential, civil, industrial and agricultural buildings. They can apply in the management of production of HVAC components, maintenance of existing files, in laboratories, in research and in administrative matters. After fulfilling the requirements set by the Czech Chamber of Authorized Engineers and Technicians, they can obtain the appropriate level of authorization for independent business in the field of HVAC (field of building environment technology - see www.ckait.cz).

Study aims

The aim of the study specialization of Building Environment within the bachelor study program Civil Engineering is to educate middle managers who will acquire professional knowledge and practical skills, including the latest knowledge in the field of conceptual design of buildings with a focus on technical equipment of buildings (sanitary, heating, ventilation, gas distribution, electrical installation) and energy performance of buildings. Attention is also paid to the acquisition of basic knowledge in the field of renewable energy sources in buildings and in the application of modern information systems in the building industry with the aim of increasing the possibility of graduates' employability in projects conducted in the Building Information Modeling (BIM) system.

Graduate's knowledge

The key professional knowledge of the graduate is the design of individual specializations of technical equipment of buildings - water supply of buildings, waste water disposal, heating, eletrical installation. Graduates are also acquainted with other expertise in the field

of environmental engineering - assessing the energy performance of buildings, the acoustic environment inside and outside buildings, the effects of buildings on the environment (eg in terms of daylight and sunlight), which can be used in their work. Students will acquire basic professional knowledge also in the structures of building constructions (building constructions, concrete, steel and timber structures, statics of building constructions, foundation engineering), which will increase their choice in subsequent studies or in practice.

Graduate's skills

The graduate is able to elaborate a project from the mentioned areas, master the basic design, graphic and computational software, he has mastered the basic knowledge of building structures, materials and technologies, which he can use in his work. Education also includes support for the area of soft skills - creativity, autonomy, ability to solve problems and also general skills - computer competence. The complex of other vocational subjects included in the specialization of Building Constructions will enable students to create basic theoretical and practical bases for study in the follow-up master study program Civil Engineering - Building Environment or in other related master's programs of Civil Engineering (eg Building and Civil Engineering) or boarding into practice.

Graduate's general competence

The graduates of the study specialization of Building Environment within the bachelor study program Civil Engineering are able to use technical approaches based on generally accepted computational methods and procedures to solve problems, including standard and specialized software applications. They can acquire new expertise, skills and competences through their own creative activities. They will be able to independently perform complex activities within the above mentioned professional areas and to perform management functions at the level of middle-technical workers.

Study curriculum

- form Full-time (en)