

Study programme Civil Engineering - Building Environment

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Faculty	Faculty of Civil Engineering
Type of study	Follow-up Master
Language of instruction	English
Code of the programme	N0732A260008
Title of the programme	Civil Engineering - Building Environment
Regular period of the study	1,5 year
Cost	50,000 CZK per semester
Coordinating department	Department of Building Environment and Building Services
Coordinator	doc. Ing. Iveta Skotnicová, Ph.D.
Key words	Energy efficient and intelligent buildings, Building Acoustics and Daylighting of Buildings, Technical equipment of buildings (sanitary, heating, ventilation, cooling), Alternative and renewable energy sources, Energy Performance of Buildings

About study programme

Within the follow-up master study program Civil Engineering - Environment of Buildings, students are prepared for application in the areas of designing and realization of technical equipment of buildings (sanitary facilities - water supply, sewerage, heating, air conditioning, cooling), design of energy efficient and intelligent buildings, design and assessment of healthy indoor environment and energy auditing.

Graduate's employment

The graduates are able to work in various job positions thanks to the broader overview obtained within the framework of the study program Civil Engineering - Environment of Buildings: In practice, graduates are employed in the position of civil engineer with a focus on technical equipment of buildings and environment of buildings, as well as in working positions at various levels of leadership, management and managerial functions of design offices and executives, as well as R&D. Graduates can carry out management positions at the level of engineers, especially in the areas of heating, medical technology, air conditioning, gas distribution in residential, civil, industrial and agricultural buildings, and can act as experts and consultants in the field of building thermal engineering and building power engineering, building acoustics and daylighting buildings. They can apply in the management of production of HVAC components, maintenance of existing files, in laboratories of Building Services, in research and in administrative matters. After meeting 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 Engineering of Building Environment (specialization Technical Equipment) or in the field of Civil Engineering. After obtaining authorization in one of the above fields, graduates can be authorized in the Energy Audit specialization - see www.ckait.cz.

Study aims

The aim of the study is to prepare graduates of the follow-up master's program Civil Engineering - Environment of Buildings for Occupation of Civil Engineer with a Focus on Technical Equipment of Buildings and Indoor Environment of Buildings. Graduates will acquire professional knowledge and skills in the areas of building technical equipment design (sanitary, heating, air conditioning, cooling), design of energy efficient and intelligent buildings, design and assessment of healthy indoor environment and in energy auditing.

Graduate's knowledge

Students will acquire professional knowledge necessary for design, operation or management work in the areas of building environment engineering, energy performance of buildings and building construction.

The first semester concentrates mainly on theoretical and vocational subjects focused on deepening and extending knowledge especially in the theoretical areas of thermomechanics, building thermal technology, acoustics, lighting, energy behavior of buildings. They are followed by specialized subjects focusing on the analysis and design of technical building equipment and building energy systems, the use of alternative and renewable energy sources, ventilation and cooling systems for buildings. Students will acquire knowledge in the areas of management, measurement and regulation of technical and information systems of buildings with regard to the ever-growing demands on smart and energy-efficient buildings.

Graduate's skills

Students can reliably apply their professional skills in solving complex problems within a specialized focus using innovative methods and tools.

Students can use professional terminology and process technical documentation in the field of conceptual designs of energy efficient and intelligent buildings, optimal indoor environment of buildings, in the area of building environment engineering, in the field of energy auditing. The graduate of the study program can develop a project from the mentioned areas, master the basic design, graphic and computational software, acquire basic knowledge of building structures, materials and technologies that can be used in their work. Great emphasis is placed on acquainting students with software tools in individual professional areas that are currently used in practice. The Faculty of Civil Engineering (as well as the Department of Building Services and Building Environment) regularly complements and upgrades specialized software for teaching students.

An important contribution to the professional skills of students is the possibility of practical experimental measurements in the framework of vocational subjects (Laboratory of Building and Building Environment, Testing, Measurement and Control, Ventilation and Air Conditioning). The measurement equipment and equipment used for the measurement are provided by the Department of Building Services and Building Engineering for the teaching of their specialized subjects.

Graduate's general competence

Graduates of the follow-up master study program Civil Engineering - Building Environment are able to use engineering approaches based on generally accepted computational methods and procedures, including standard and specialized software applications. Education also includes support for the area of soft skills - creativity, autonomy, ability to solve problems and also general skills - computer competence. The graduate can apply this knowledge in building practice with a focus on technical equipment of buildings and environment of construction, namely in positions at various levels of management, managerial and managerial functions of design offices and implementation companies, as well as in research and development. A graduate can also be employed at senior positions in the state administration, but also in vocational education. The graduate is also able to follow up the follow-up Master's degree program with a doctoral degree program, either within the university at FAST VŠB-TU Ostrava or at another technical university in the Czech Republic or abroad.

After fulfilling the requirements set by the Czech Chamber of Authorized Engineers and Technicians, graduates can obtain an appropriate level of authorization for independent business in the field of HVAC - field of Environmental Engineering (specialization technical equipment) or in the field of Civil Engineering. After obtaining authorization in one of these fields, graduates can also obtain authorization in the Energy Audit specialization - see www.ckait.cz.

Study curriculum

- form Full-time (en)