VSB TECHNICAL UNIVERSITY OF OSTRAVA | FACULTY OF CIVIL ENGINEERING

Study programme Civil Engineering - Transport Constructions

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Faculty	Faculty of Civil Engineering
Type of study	Follow-up Master
Language of instruction	English
Code of the programme	N0732A260012
Title of the programme	Civil Engineering - Transport Constructions
Regular period of the study	1,5 year
Cost	50,000 CZK per semester
Coordinating department	Department of Transport Constructions
Coordinator	doc. Ing. Jan Petrů, Ph.D.
Key words	traffic engineering, urban roads, crossroads, roads, railways

About study programme

Within the framework of the follow-up Master's degree program Civil Engineering - Transport Constructions, the students are trained to apply in the field of transport structures in a wide range of activities in the design, construction, maintenance and administration of transport structures and constructions (roads, motorways, bridges, urban roads, crossroads, , stations and sidings, public transport facilities, etc.). Furthermore, in the field of transport engineering, students focus on security features, transport informatics, safety audits, transport control and organization, modeling and simulation in transport, reducing the negative impact of transport on the environment, etc.

Hard skills

- Knowledge of telematics in transport
- Line constructions
- Knowledge in the field of diagnostics and evaluation of the quality of transport structures
- Knowledge in the field of transport safety
- Application knowledge in the field of transport
- Knowledge in the field of modelling in transport

Graduate's employment

Applicability of the graduate to the labor market is predominantly in the field of construction in professions, for which the graduate will be prepared. This is especially the position of civil engineer (designer, contractor, technologist, preparation of production and investment, investment realization, quality control and management). After obtaining the relevant experience, the graduate has the possibility to obtain an authorization pursuant to Czech Act No. 360/1992 Coll. as an authorized engineer in the field of Transport Constructions, and can also act as an expert in the construction industry.
Other graduate application can be found as a specialist in spatial planning and building regulations, as a teacher of vocational subjects at secondary schools and higher education, in research and development and in the academic sphere. Graduates can be also be employed in the management and superior positions of commercial companies.

Study aims

The aim of the study is to prepare the graduates of the follow-up master's study program Civil Engineering - Transport Constructions as university-educated professionals for work applications in design organizations focused on transport constructions, in construction companies in the preparation and implementation of transport structures, in the administration and maintenance of roads, in the

management and maintenance of railways, in the performance of administrative activities (eg transport departments in municipalities and regional authorities), in research and development organizations, in schooling and in the academic sphere. Graduates will acquire the knowledge for to be able to continue their PhD studies at the universities in the Czech Republic and abroad (after completing the admission process).

Graduate's knowledge

The graduates of the master study program Civil Engineering - Transport Constructions have systematic technical knowledge that corresponds to the state of the art in the field of designing, realization, repairs and maintenance of transport structures, especially roads and rail systems, including their accessories. Graduates demonstrate, in the adequate range and degree of detail, especially knowledge of technical disciplines relevant to building practices, knowledge of transport regulations and related activities, knowledge of material engineering, knowledge of methods of data collection and analysis, knowledge of the use of buildings by persons with reduced mobility or orientation , knowledge of transport engineering, understanding of the social context of building practice, the operation of building structures and their impacts on the environment and the environment, the knowledge of risk prevention and the adoption of measures to eliminate them or to reduce their consequences in the preparation of the construction, its implementation and maintenance, knowledge of planning, and construction of transport routes of different modes of transport and orientation in transport solutions of land-use planning, road traffic or utility networks. Understands the issue of ensuring safety and traffic fluency. Understands the principles and context of related fields, particularly in the field of geotechnics and bridge construction.

Graduate's skills

Graduates of the master's study program Civil Engineering - Transport Constructions have the necessary skills in terms of using terminology and developing concepts, plans and technical documentation. They know the principles of scientific disciplines and can use them in practical contexts. They are able to acquire and develop new theories and methods in the field, including their inclusion in application practice. Basic competencies include the ability to design transport systems and related technologies efficiently, taking into account the minimization of their negative environmental impacts. Graduates are able to independently perform complex activities in the preparation, implementation and maintenance of transport structures and facilities, as well as in administrative activities within the field. They can analyze and synthesize problems within the building organizations and building industry, use engineering techniques to solve problems of building practice, design, implement and manage the performance of construction activities, work out project documentation of transport structures, including project documentation for their use and maintenance , to carry out diagnostics of transport structures, to carry out built-technical or engineering surveys, to design constructions, including in terms of its safe use and maintenance, and to design and assess systems of transport facilities of large territorial units.

Graduate's general competence

Graduates of the master's study program Civil Engineering - Transport Constructions are able to use engineering approaches based on generally accepted computational methods and procedures, including standard and specialized software applications. They are able to evaluate new knowledge, taking into account the long-term social consequences of their use, and to plan more extensive creative activities. They will able to acquire new expertise, skills and capabilities through its own creative activities. They will be able to independently perform complex activities within the field professional areas and to organize and lead implementation teams to deal with complex large-scale contracts. They will be able to independently plan, implement, organize and decide construction activities and work, whether directly in construction or in designing of construction, especially in the field of rail and road transport. After obtaining the relevant experience, the graduate has the possibility to obtain an authorization pursuant to Czech Act No. 360/1992 Coll. as an authorized engineer in the field of Transport Construction. For example, he can find a job as a project manager, as a specialist skilled in built preparation, as a designer in project organizations, as well as in academia and other science, research, development and innovation institutions.

Study curriculum

- form Full-time (en)
- form Part-time (en)