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## **FACILITY MANAGEMENT EDUCATION IN TECHNICAL UNIVERSITY**

Ministry of Education of the Czech Republic in early October 2004 approved the accreditation of a new field of research and teaching, Civil Engineering Faculty of the Technical University of Ostrava "Facility Management". Facility management is presented in the form of four-year undergraduate civil engineering department. Classes began in the 2005/2006 academic year full-time.

Higher education in the direction of "Facility Management" was missing in the Czech Republic, despite the rapidly growing field of professional detail. Civil Engineering Department investigated the related fields of knowledge and conducted training in related areas of the Facility's management of civil construction, this was the reason for approval of Facility Management at the Faculty officially. A graduate of the department of civil engineering today, not only "pure technician" in the field of engineering higher education, he left the university to professional theoretical knowledge in the field of Management and Law (Department of Urban Engineering provides training on their own students in economics, management and law).

Facility management is essentially linked to the issues of management and operation of real estate investments in infrastructure (buildings, utilities, etc.). For professionals in the field of Facility Management is important to know all of the investment process with all the relationships with the external, often, artificial environment. Faculty of Civil Engineering of the Technical University of Ostrava can provide such training (Department of Urban Engineering). Studying at the faculty, student, Department of Urban Engineering acquires knowledge in the technology of buildings and their repair and reconstruction (Department of Civil Engineering). The Department provides an opportunity to study the geographic information system (GIS) that provides a real foundation for graduates to practice software for Facility Management with GIS.

Education students Facility Management, Civil Engineering Faculty of the Technical University of Ostrava helps meet the needs of the market in the Czech specialists of this new profession, and opens a new direction for the faculty with the opportunity to establish new contacts.

The concept of Facility Management course is based on the division of Facility Services for the three conditional groups.

1. "Hard services": building maintenance, repair and reconstruction, technical management and registration of objects and their documentation, emergency services, waterproofing, electrical and gas installation, etc.

2. The "soft services": cleaning, security, reception, transport, copiers, catering, information support, mail and courier services, etc.

3. "Administrative Services": accounting, taxation, legal services, financial services, purchasing, leasing, space management, etc.

In addition to the investigated technical aspects of Facility Management, in teaching students discussed the organizational and economic planning, economic justification of strategic, tactical and operational management and technical solutions.

A graduate of the Department of the profile, "Facility management" has the competencies necessary for future practice.

A graduate of the department claimed, as a rule, two types of organizations. The first type of organization is made up of investors and developers in the construction of the high cost of utilities and low operating costs. The second type - of organizations engaged in property management. Knowledge of graduates may also be claimed by real estate agencies, large industrial enterprises, business centers, public sector organizations (hospitals, government agencies, etc.).

The content of education – basic training.

The first 4 semesters study subjects included in the basic framework of civil engineering bachelor's degree. In the future this knowledge demanded master curriculum in civil engineering.

Basic disciplines a bachelor's degree: Math I, II and III level, physics, geology, and 2 foreign languages, theoretical foundations of the statics of the construction of buildings, elasticity and plasticity, and structural analysis of building structures, soil mechanics, surveying, designing buildings and structures I and II levels. Studied basic disciplines are fully compatible with other branches of civil engineering.

Next, we study the discipline of building the profile: the theory of engineering structures – foundations, brick and concrete structures, steel and wooden structures, technical infrastructure, technical equipment of buildings, types of civil and industrial construction, construction of buildings. This program will provide training to achieve full readiness Bachelor of profile construction.

Specialization in asset management (asset management).

In 5–8 semesters completed the main topics in the field of asset management – construction and renovation, major investments, pricing. Construction and technical subjects are complemented by economic and legal, research subjects and objects in the field of safety, information systems, computer support asset management, computerized building management systems.

Practice and the realities of Facility Management have high professional standards for quality of graduates of the department. Sophisticated theoretical foundations of higher education in the Facility Management in the form of a bachelor's degree curriculum cannot be completely ignored, in spite of global ex-

pansion and the dynamic development of the profession and practice in the Czech Republic. Currently, no comprehensive system of education - substitutes for Facility Management. You can name just one week training cycle at the Faculty of Business Economics in Prague (Department of Management), which does not include the most important technical and operational aspects of Facility Management, and professional conferences organized by the Czech branch of the IFMA. Faculty of Civil Engineering of the Technical University of Ostrava with the advent of new research and training in Facility Management plans to meet labor market demand for this new profession.

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## **ENVIRONMENTAL PROJECT RISKS DEFINITION**

### **Abstract**

Project risk management is one of the deciding factors differentiating a systematic approach to a process from an intuitive one. Obviously, the same is true in the case of environmental projects. The process of risk management occurs in all project phases. Its aim is to identify the sources of possible losses in advance and consequently, through active work with risks, to restrict the likelihood of their appearance and seriousness to the acceptable value. The aim of this thesis is to define basic procedures in the course of risks recognition in environmental projects.

### **Key words**

Risk, hazard, project, flow chart, checklist

### **Introduction**

In the framework of environmental projects, risks are represented by uncertain cases or situations with possibly negative impacts that could influence a project's success or partial outcomes, or by those events in a project which can cause unpredictable damage. Risks can occur in any kind of project regardless of their range and complexity, both in manufacturing and among service providers. Risk management in environmental projects is one of the deciding factors differentiating a systematic approach to a process from an intuitive one. The process of risk management occurs in all project phases (STANÍČEK Z., HAJKR J., MOTAL M., MÁCHAL P., PITAŠ J., 2008). Its aim is to identify the sources of possible losses in advance and consequently, through active work with risks, to restrict the likelihood of their appearance and seriousness to the acceptable val-