COBRAMAN EUROPEAN SCHOOL FOR BROWNFIELD REDEVELOPMENT – A NEW MASTER STUDY COURSE FOR FUTURE BROWNFIELD MANAGERS OF EUROPEAN UNION

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ABSTRACT

This Article presents a new follow-up Master's degree course, the European School for brownfield redevelopment, which proposes to prepare graduates - Brownfield Managers - experts in the field of Renewal and Redevelopment of brownfields and "Derelict Lands" in different states of the European Union.

Keywords: COBRAMAN, Brownfield Redevelopment, Master Study

INTRODUCTION

Brownfields, - abandoned and damaged industrial and building areas, first threaten public health, create environmental risks and second decrease usable area within the urbanized units. Retrieval, reclamation of brownfields has a growing importance for all member states of The European union; restoration of their use is an important contribution for creating the conditions essential for sustainable development. This on the other hand demands considerable investment. Simultaneously it is often concerned with long - term, complex activities covering a wide range of technical/special disciplines. Considering the fact, that currently there aren't any professional or educational standards in the EU for Brownfields recovery, giving rise to the project, its main objective is to find a way how to solve brownfields issues in the educational and application area/ on the educational and application level.

CENTRAL EUROPE project 1CE014P4 "Manager Coordinating Brownfield Redevelopment Activities" (COBRAMAN) is solved in cooperation between 5 states of The European union (Czech Republic, Germany, Italy, Poland, Slovenia) and 9 partner organizations within these states. The Project consists of two closely successive lines - I) education in the rehabilitation and brownfield's reuse and II) implementation of pilot projects, that should be within the professional solutions the basis for following case

studies of future experts - managers in the brownfield reuse. The main aim of Technical University of Ostrava as a project partner is to establish Contact Training Centre, preparation and implementation of the master program "European School for Brownfield Redevelopment", which will be part of the program N2102 Raw materials and it is being prepared for bachelor graduates of all Czech universities (taught in Czech) and the universities within the European Union (taught in English).

STUDY CHARAKTERISTIC

Study the "European School for Brownfield redevelopment" is presented as multidisciplinary based on the combination of natural, economical and constructional - technical sciences, including concerned sphere disciplines. The study is intended on producing graduates - experts - oriented on a complex care of the environment in the industrial influenced areas (including agriculture areas and military buildings). The main aim of the study is to prepare graduates to manage project and work activities in the field of restoration and development of abandoned industrial areas - brownfields. This study prepares engineers capable to solve problems associated with understanding, analysis, synthesis, evaluation, applications, and addressing the issue of integration and reuse of abandoned sites in the urbanized and the land system, and also addressing the issue of restoration of the function after industrial elements in the landscape.

Graduates gain presumption to professional activities in different sections such as:

- Nature and landscape conservation, their components and functions
- Function reclamation of landscape segments
- Environmental assessment of brownfields
- Civil engineering and technical assessment
- Economical and socio-economical assessment
- Remediation and regeneration of areas
- Consultancy and Expert activities
- Environmental protection and design

The curriculum is implemented consistently with the usual methods of education in the credit system ECTS: 30 credits in the winter semester, 30 credits in the summer semester, for the entire period of study students acquire 120 ECTS credits.

Teaching and learning in the present study is based on knowledge of mathematics, physics and chemistry, whose bases has a bachelor's degree graduate. The curriculum is made up of compulsory basic subjects: Selected Topics in Mathematics, Selected Topics in Physics, Statistics in the environment; and compulsory technical subjects: applied ecology, environmental geochemistry, engineering geology, contaminating hydro geology, establishment and maintenance of vegetation, Brownfields remediation, development Cities and Municipalities, Urban planning, Brownfield Management,

Industrial Architecture, Computer Practice (GIS, CAD and database), Information Systems in landscape management, Modeling landscape management, Risks in Brownfields remediation, socioeconomic and economic tools for Brownfields remediation, Statistics in environment, investment processes and Brownfield regeneration, EU legislation in the environment and more.

Besides the fundamental and compulsory subjects there are also profiling, compulsively chosen subjects, that enable an individual study associated to students own interests and professional intention and future graduate. The significant role in the educational process has case study solutions, discussed and dealt in professional colloquium and practical field works. Case studies should help to develop professional way of study and systematic and independent work of students.

Individual courses are designed to give students a theoretical and practical knowledge in the spectrum of master study. Theoretical knowledge from lectures is deepen later in field work, seminars, colloquy and field work and exercises). Important part of the study is also the possibility of using specialized databases, prepared in cooperation with Cobraman project (www.cobraman-ce.eu), both accessible through a Technical university of Ostrava's Central library and the Internet, further use of the audiovisual programs and other sources as a basis for work in brownfield management and environmental protection.

For master program will be applicants admitted in case if they finish successfully the bachelor´s degree from related technical, environmental or scientific specialization. Foreign students will be admitted in according to the legislation of the CR consistent with admission procedure for Czech students.

GRADUATE PROFILE

Presented multidisciplinary study is aimed on educating university-educated professionals, focused on science (mostly environmental and landscape subjects) and structural, technical, techno-economic disciplines. Finally, the graduate will significantly enhance his education in the field of modern information technologies, database applications, and in the field of European environmental legislation.

Absolvents are in keeping with the aims of COBRAMAN CENTRAL EUROPE project 1CE014P4 "Manager Coordinating Brownfield Redevelopment Activities" able to prepare and to train professionals Master study graduates focused on problems with reusing abandoned industrial, agriculture and constructional areas (including military ones), professionals capable of synthesis, generalist, that will have an integrated approach to the landscape environment.

GRADUATE EXPERTISE

Graduates with a Master's in the field will be equipped with complex knowledge in the conservation and creation of the environment with a focus on the reuse of brownfields in urban area and open countryside. Graduates will be able to use knowledge and expertise of individual disciplines and to solve problems related to environmental protection and its components, protection and landscaping. They will be able not only to use the contemporary state of knowledge, but they will be able to solve research problems and contribute to the further development of knowledge.

GRADUATE PROFESSIONAL SKILLS

Graduates from Master's degree programs will be prepared to use their expertise and abilities for self-defining research, theoretical or practical problem in disciplines dealing with brownfields. They will be able to identify the problem and contribute knowledge acquired for further studies (literature, applications and professional resources) and graduates knowledge they will be able to solve and defend these problems. They will be orientated experts in domestic and foreign literature and professional databases will be able to creatively generate new data, information and procedures. Graduates will be able to issue not only in a professional orientation, but also be able to make decisions and solve technical problems.

GRADUATE PROFESSIONAL COMPETENCE

Graduates will be independent experts who can make responsible decisions, will be able to understand the wide range of issues related to the problems of brownfields. They will be able to build up and lead a professional team and work in it. According to evolving context and available resources they will be able to define the terms of reference for professional activities, coordinate them and to bear ultimate responsibility for the results. Graduates will be able to clearly and persuasively communicate their own expert opinion with professionals and the general public , they will be able to express themselves verbally and also in specialized press. They will use mainly English but also Spanish, German and other languages. Of course there is a continuous professional development, acquisition and use of new knowledge in the field. Master's degree graduates will be also able to independently and responsibly solve the ethical problems.

ASSERT CHARAKTERISTICS

Graduates will have the right to use the title Engineer (Ing., Dipl. Ing.), they will find their application as managers and technologists in a companies focused on regeneration of derelict industrial buildings, landscapes and areas, as professionals and executive directors in municipalities, first of all in the field of environmental protection and creation, in building authorities, urban enters, as experts in the field of renovation and reuse of abandoned areas, in industrial or agriculture companies, projection offices, business companies, in a research and other social activities. Graduates can also teach at the colleges and universities in Czech Republic and all member states of the European Union. Graduates will be fully eligible for PhD. studies.

CONCLUSION

The main objective of the new master's degree major in European schools for brownfield regeneration, is to prepare well-educated professional and practically equipped graduates, able to solve the problems of the European Union related to the degradation and damage the landscape and areas on the one hand, with problems of practice, technology and implementation of revitalization damaged areas on the other. More information about the project and programs prepared by the working teams you can find on the web pages www.cobraman-ce.eu