

# COBRAMAN



Manager Coordinating Brownfield  
Redevelopment Activities

CENTRAL EUROPE Project 1CE014P4 COBRAMAN

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## Implementation of courses

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# 1. Study courses

## 1.1. Master course

The field of study is designed as an interdisciplinary. It is based on a combination of natural, economic and construction - engineering sciences, including the professional disciplines. The study is intended on producing graduates – experts - oriented on a complex care of environment in the industrially 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 is a study preparing an engineer who is able to solve problems associated with understanding, analysis, synthesis, evaluation, application re-use and solving problems of integration into the abandoned areas urbanized landscape system, and restoration of functions after industrial elements in the landscape.

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

- Landscape conservation, their components and functions
- Restoration of functions of landscape segments in postindustrial landscape
- 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.

Teaching and education has its base in scientific disciplines such as mathematic, physics and chemistry. It is supposed that such knowledge has an bachelor study graduate. Study plan is compiled from basic compulsory subjects: Selected topics in mathematics, Selected topics in physics, Statistics in the environment and expertise compulsory subjects: Applied Ecology, Environmental geochemistry, Engineering Geology, Contaminants hydrogeology, Greenery setting and management, Regeneration and reclamation of Brownfields, Municipal development, Urban planning, Brownfield management, Industrial architecture, Computer

practice (for GIS, CAD and databases), Information systems at landscape cultivation, Modelling of landscape management, Remediation and risks in the restoration of Brownfields, Socio-economical and economical tools for Brownfields regeneration, Investment processes and Brownfields regeneration, EU legislation in the environment and more.

Besides the basic 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 (students can choose compulsory optional subjects also offer other disciplines, the guarantor approves the subjects).

The significant role in the educational process has an 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, colloquia 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](http://www.cobraman-ce.eu)), both accessible through a Technical university of Ostrava's Central library and the Internet, further use of the audio visual programs and other sources as a basis for work in brownfield management and environmental protection.

To fulfil the aim of education objectives of the present field will also serve a "COBRAMAN - Contact Centre Training - a well-equipped dedicated classroom designed for teaching subjects in the rehabilitation of abandoned sites – brownfields.

Teaching is based on an ordinary employees from Technical university of Ostrava, in specialized (colloquiums, field study exercises etc.) and professional subjects will be made a space for experts and teachers of the other European universities (ERASMUS), that are leading experts from research and practice, providing the connection between theory and practice, and significantly enhance the cognitive learning process within the reuse of the Brownfields.

## **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 specializing in reclamation, regeneration and reuse of Brownfields. 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”(which are: preparing and to training 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 got an integrated approach to the landscape environment.

Graduates will have the right to use the title Engineer (Ing., Dipl. Ing.), they will find their application as brownfield 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.

**Duration of Master studies: 4 semesters**

**ECTS Credits: 120**

**Program of studies**

| <b>Subjects</b>   | <b>Course hours/semester</b> | <b>Basic forms of activity</b> |
|---|------------------------------|--------------------------------|
| Selected topics of mathematics                                  | 2+2/1                        | lecture + <i>exercises</i>     |
| Environmental geochemistry                                      | 3+2/1                        | lecture + <i>exercises</i>     |
| Applied Ecology   | 3+2/1                        | lecture + <i>exercises</i>     |
| Industrial architecture   | 2+2/1                        | lecture + <i>exercises</i>     |
| Engineering geology   | 3+2/1                        | lecture + <i>exercises</i>     |
| Computer practise   | 1+2/1                        | lecture + <i>exercises</i>     |
| Branch Colloquium I.  | 3/1                          | seminar                        |
| Selected topics of Physics                                      | 2+2/2                        | lecture + <i>exercises</i>     |
| Contaminating hydrogeology                                      | 2+2/2                        | lecture + <i>exercises</i>     |
| Establishment and maintenance of greenery                       | 3+2/2                        | lecture + <i>exercises</i>     |
| Socio-economic and economic tools for Brownfields redevelopment | 2+2/2                        | lecture + <i>exercises</i>     |
| Development of cities and municipalities                        | 2+2/2                        | lecture + <i>exercises</i>     |
| Statistics in the environment                                   | 1+3/2                        | lecture + <i>exercises</i>     |
| Branch Terrain training   | E 1 Week/2                   |                                |
| Urban planning  | 3+2/3                        | lecture + <i>exercises</i>     |
| Remediation and Risks for Brownfields redevelopment             | 3+2/3                        | lecture + <i>exercises</i>     |
| Investment Processes Brownfields redevelopment                  | 2+2/3                        | lecture + <i>exercises</i>     |
| Information Systems in the Landscape Management                 | 2+2/3                        | lecture + <i>exercises</i>     |
| Waste Management  | 2+2/3                        | lecture + <i>exercises</i>     |
| EU Legislation in the Living Environment                        | 3/3                          | seminar                        |
| Branch Colloquium II  | 2/3                          | seminar                        |
| Biotechnology   | 2+1/3                        | lecture + <i>exercises</i>     |
| History of Technique and Industrial Heritage Protection         | 2+1/3                        | lecture + <i>exercises</i>     |
| Landscape Modelling   | 3+3/4                        | lecture + <i>exercises</i>     |
| Brownfield Management   | 3+3/4                        | lecture + <i>exercises</i>     |
| Regeneration and Reclamation of Brownfields                     | 3+3/4                        | lecture + <i>exercises</i>     |
| Quality Management in Building Industry                         | 1+2/4                        | lecture + <i>exercises</i>     |
| Branch Seminar  | 3/4                          | seminar                        |

## ***1.2. Postgraduate course***

Aim of postgraduate studies was training of project managers who could effectively create revitalization projects, and then skilfully manage them both in the public and private sector.

The dynamic technological progress forces us to occupy new space or modernize the sites which have already been developed. A large number of degraded areas, a tremendous impact on the landscape industry, changes in the formation of sites and the need to rebuild the infrastructure require specialists in urban planning with special knowledge of regeneration issues. Modern conditions have caused the demand for new professional project managers who could effectively create revitalization projects, and then skilfully manage them both in the public and private sector. This profession requires a wide knowledge in the field of effective management, real estate management, architecture and urban planning, environmental protection, socioeconomic sciences and law.

The first classes of postgraduate studies were held in November the 26th 2010. Whole course consisted of 220 hours. The two semesters of postgraduate study were successfully completed. Lecturers carried out a planned program. In the second semester the course hosted three study visits. During the course the student chose a theme of work. Then a few months preparing the diploma work. After graduation, each student took the defence of the dissertation written by himself, under the direction of a selected professor. For the thesis defence were allowed only those students who had successfully passed all the subjects. Information on the results of students were located in the examination of their cards. The end of postgraduate course was in autumn 2011. 31 students completed the course.

### Program of studies – I semester

| Subjects   | Course hours | Basic forms of activity |
|--|--------------|-------------------------|
| Fundamentals of Management<br>30 hours of lecture and 15 hours of classes                                  | 45 hours     | Lecture, classes        |
| Project Management<br>15 hours of lecture and 10 hours of workshops  | 25 hours     | Lecture, workshop       |
| Property Management<br>15 hours of lecture   | 15 hours     | Lecture                 |
| Spacial development<br>10 hours of lecture and 5 hours of classes (case study)                             | 15 hours     | Lecture, case study     |
| Aspects of financial and economic revitalization projects<br>15 hours of lecture and 15 hours of workshops | 30 hours     | Lecture, workshop       |

### Program of studies – II semester

| Subjects   | Course hours | Basic forms of activity |
|--|--------------|-------------------------|
| The processes of revitalization in the modern economy<br>30 hours of lecture and 10 hours of workshops | 40 hours     | Lecture, project        |
| Sources of funding projects  | 15 hours     | Workshop                |
| Legal aspects of the revitalization processes  | 15 hours     | Lecture                 |
| Environmental protection of degraded areas<br>10 hours of lecture and 5 hours of classes               | 15 hours     | Lecture, classes        |
| Architecture and urban studies<br>10 hours of lecture  | 10 hours     | Lecture, workshop       |



Detailed Information about the postgraduate study courses is available at

**<http://onte.wsg.byd.pl/cobra/file.php/1/pdf/postgraduate.pdf>**

Postgraduate study is for: councillors, government and municipal administration employees, private sector representatives interested in investing, geographers, architects, urban planning and construction engineers etc .

Requirements for candidates:

- Completion of higher education with a master's degree, in one of the following specialties: Management, Real estate management, Architecture and urban planning, Spatial development, Urban spatial planning, Geography, Environmental preservation, The construction industry

## **2. Evaluation report**

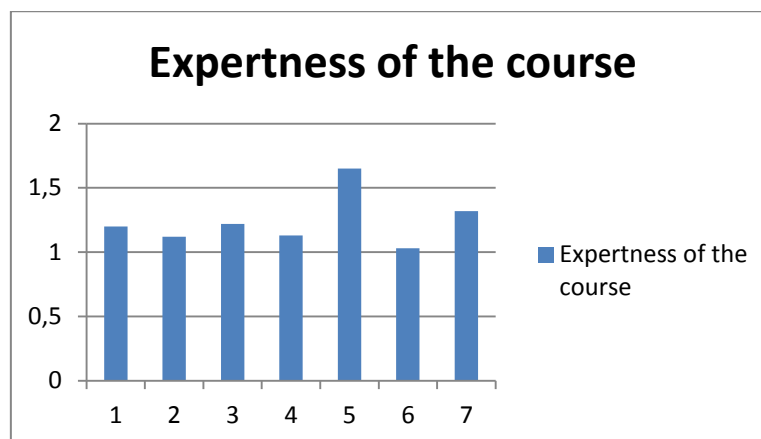
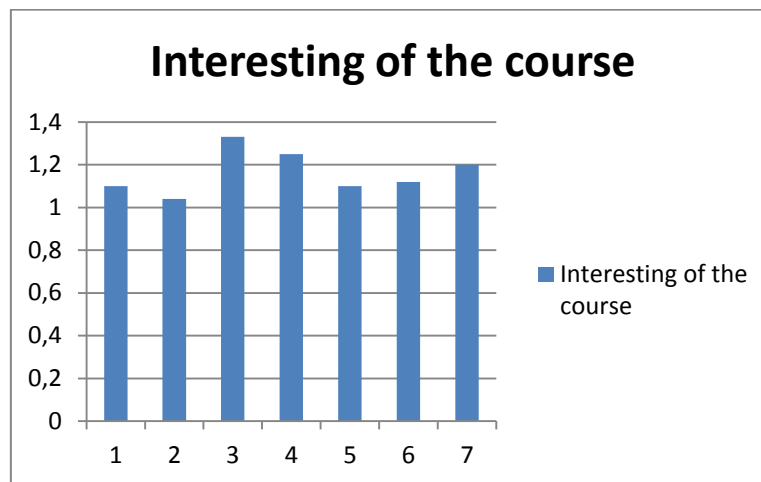
### ***2.1. Master course***

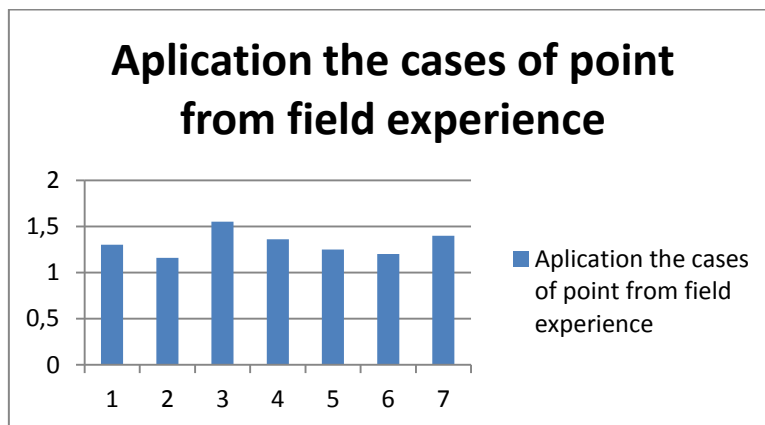
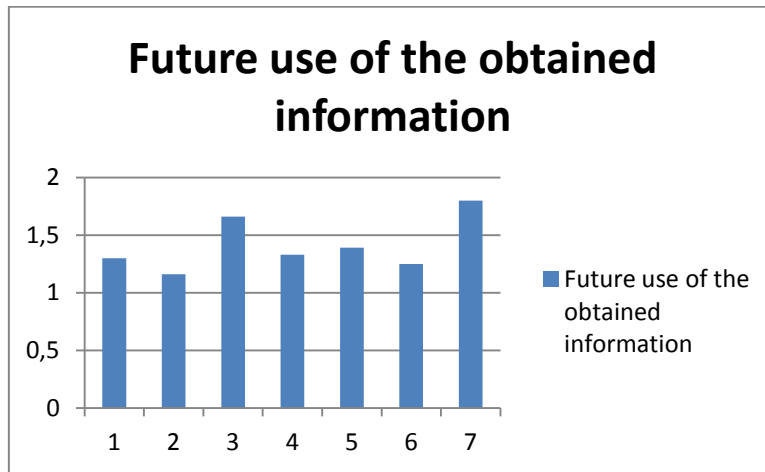
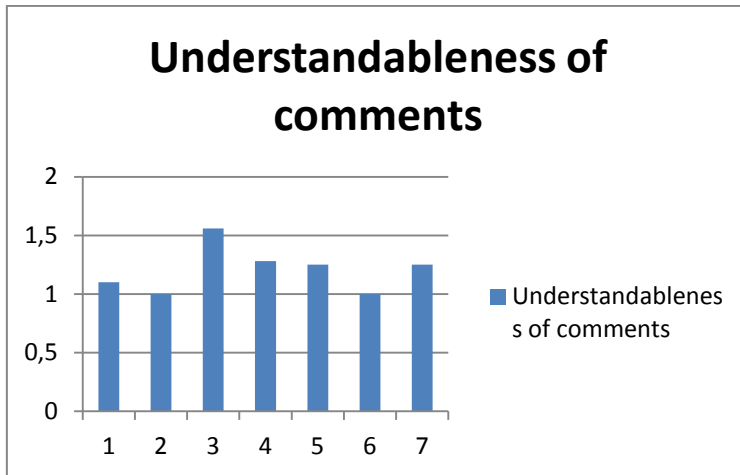
The first testing cycle of master courses ended with evaluation of following areas:

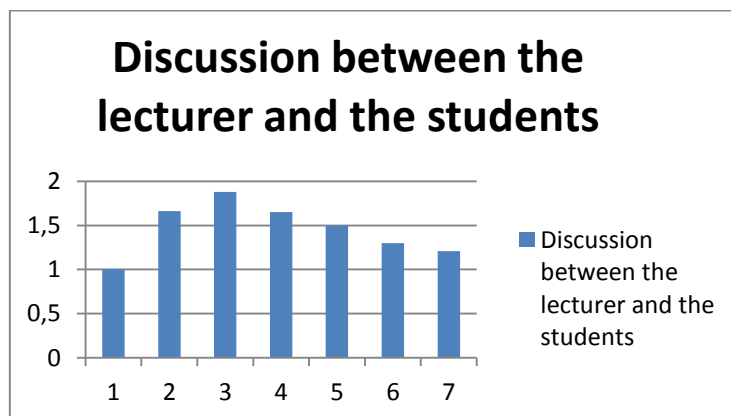
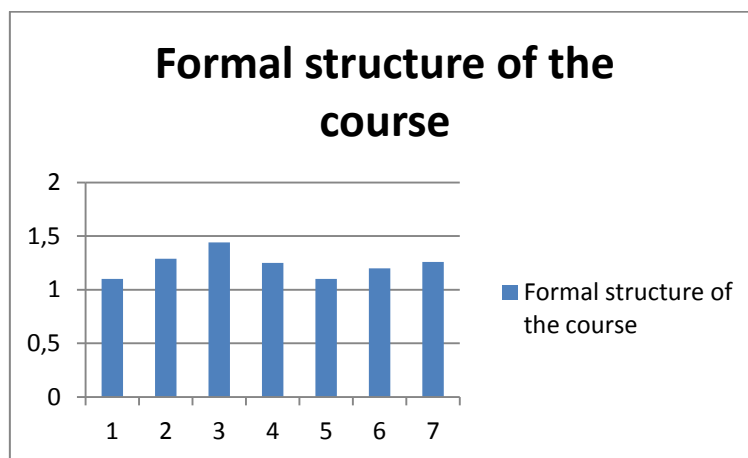
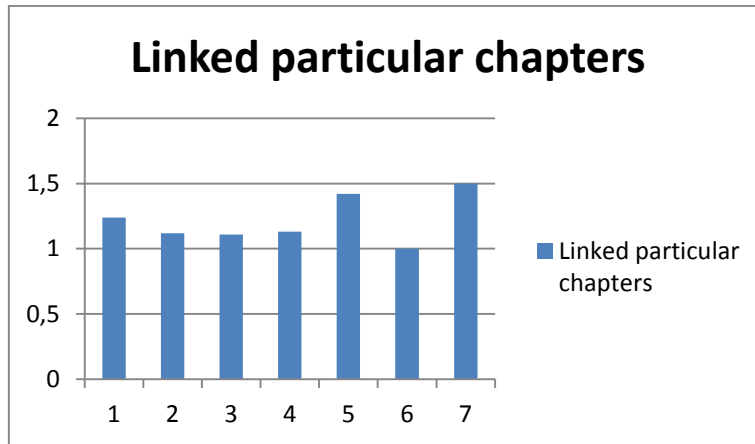
1. Interesting of the course
2. Expertness of the course
3. Understandableness of comments
4. Future use of the obtained information
5. Application the cases of point from field experience
6. Linked particular chapters
7. Formal structure of the course
8. Discussion between the lecturer and the students.

**Number of course: 1 Brownfield Management; 2 Regeneration and Reclamation of Brownfields and Greenery Maintenance; 3 Information systems and Landscape Modelling; 4 Remediation and Risks for Brownfields redevelopment; 5 Regeneration and Reclamation of Brownfields; 6 Socio-economic and economic tools for Brownfields redevelopment**

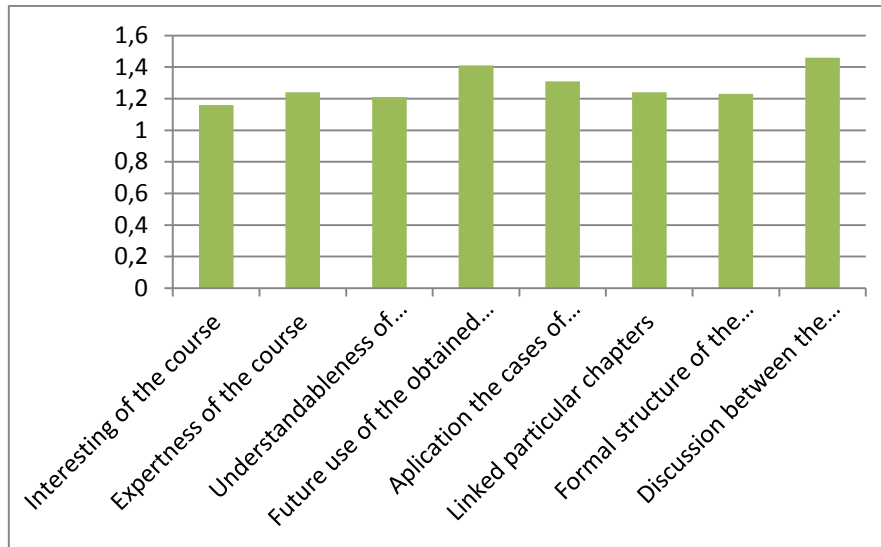
**Student Evaluation - Criteria 1. – 8. (1 very good, 2 – good, 3 – average, 4 – poor, 5 – very poor)**







## Summary of evaluation (1 very good, 2 – good, 3 – average, 4 – poor, 5 – very poor)



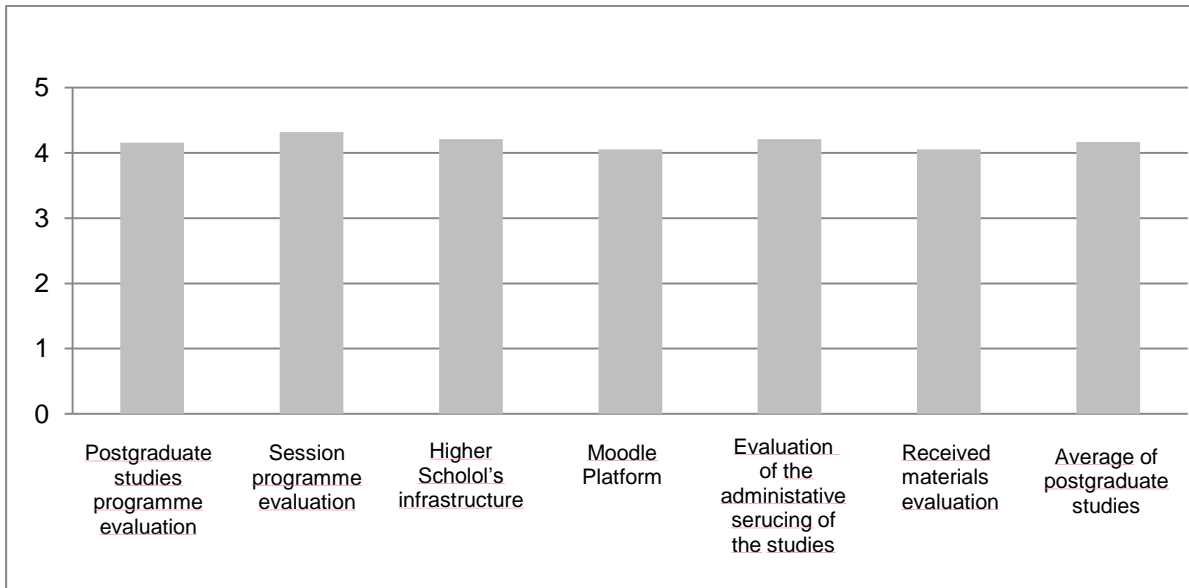
## 2.2. Postgraduate course

The first postgraduate studies edition ended with evaluation of following areas:

### 1) Postgraduate studies evaluation criteria

- postgraduate studies programme (appropriate subjects, sufficient number of hours),
- session programme (methods of checking students knowledge),
- Higher School's infrastructure (classrooms preparation, quality of multimedia equipment)
- Moodle Platform (participants of postgraduate studies were the first group, which tested e-learning course on Moodle Platform),
- the administrative securing of the studies (access to information, contact with employees etc.).

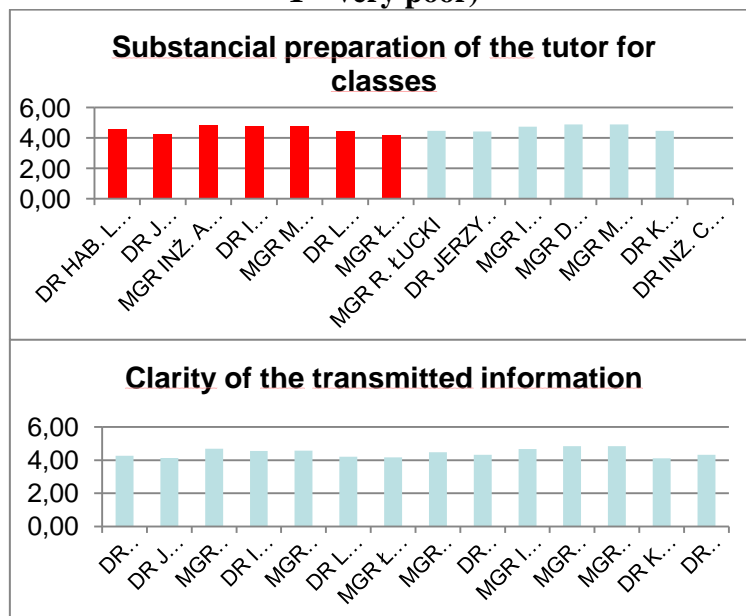
**Summary of postgraduate studies evaluation (5 – very good, 4- good, 3– average, 2 – poor, 1 – very poor)**

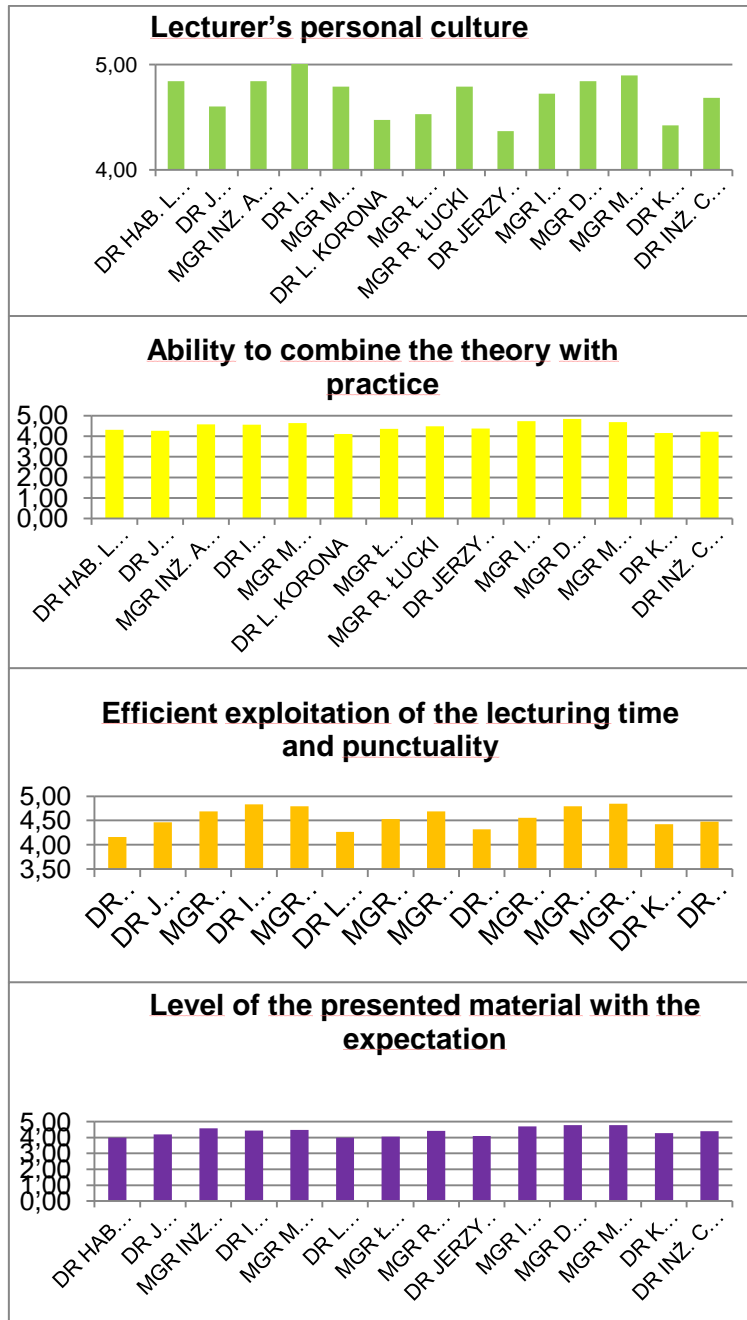


## 2) Postgraduate studies lectures evaluation criteria

- Substantial preparation of the tutor for classes,
- Clarity of the transmitted informaion,
- Lecturer's personal culture,
- Ability to combine the theory with practice,
- Efficient exploitation of the lecturing time and punctuality,
- Harmony of the level of the material presented with the expectation,
- Accurancy of selection of the discussed issues for the subject matter.

**Summary of lecturers evaluation (5 – very good, 4- good, 3– average, 2 – poor, 1 – very poor)**





### **3. Establishment of tests/certification**

#### ***3.1. Master course***

General conditions for master study based on the law 111/1998 Sb., Higher Education Act and amendments to other Acts (Higher Education Act) – Law. These conditions are specified under the statute of VŠB – Technical University of Ostrava, by procedure entrance examination and Faculty of Mining and Geology’s statute VŠB – TUO.

The Master Study ends by the Final State Exam (Defence of Diploma thesis and Oral exam).

The requirements for passing the Final State Exam are written in the Dean direction and in Study order of VŠB – TUO (<http://www.vsb.cz/okruhy/univerzita/uredni-deska/predpisy/vnitri-predpisy/>). Students are allowed to enrol (through the university database and information system Edison) at passing the state exam or its part, if they accomplish study by the date, which set study department. Before the state exam student has to:

- complete all of written subjects and finish them with a credit or an exam according to the study plan
- get ordered number of credits to the end of studies, i.e. 120 credits (ECTS);
- submit a thesis prepared in two printed copies, insert text thesis in electronic form on media (CD, DVD), simultaneously save thesis electronically in pdf version to the University Information System for study and teaching of the university (EDISON).

#### **The oral exam**

The applicant carry out a compulsory subject examination Regeneration and restoration of brownfields, then has opportunity to choose other two subjects from the offer:

- Remediation and Risks in Brownfields redevelopment
- Brownfield Management
- Landscape planning
- Landscape management modelling
- Establishment and green maintenance.

***The language used at the state exam is Czech for Czech students and English for foreign students.***



### ***3.2. Postgraduate course***

During the course the student chose a theme of work. Then they prepared in a few months the diploma work. After graduation, each student took the defence of the dissertation written by himself, under the direction of a selected professor. For the thesis defence were allowed only those students who had successfully passed all the subjects. Information on the results of students were located in the examination of their cards. The end of postgraduate course was in autumn 2011. 31 students completed the course.