



Curriculum
for the Certified University
Program for Further
Education
"Rock Engineering for Deep
Mines" at the
Montanuniversität

Announced in the newsletter of the Montanuniversität of xy, issue no. xy (original version), academic year 2017/2018

The Senate of the Montanuniversität, in its session of [...], approved the curriculum "Rock Engineering for Deep Mines", which was adopted by the Curriculum Commission, set up with decision-making powers in accordance with Section 25 Paragraphs 8, 3, and 10 of the University Act 2002 (UG), and was not prohibited by the Rectorate in accordance with Section 22 Para. 1 No. 12 UG, in the following version in accordance with Section 25 Para. 10 UG.

1 Objectives and Qualifications Profile

- (1) The certified university program for further education "Rock Engineering for Deep Mines" offers a scientifically sound practical education in the field of rock mechanics, in particular rock mechanics in deep mining and the scientific disciplines involved, at postgraduate level.
- (2) The certified university program for further education is aimed at mining engineers, public authorities, employees of institutions and educational institutions from the mining and tunnelling industry who would like to receive further training at a high level in the field of the challenges of deep mining part-time. The training focuses on the assessment of the underground tension situation, the analysis and treatment of tension-induced problems as well as the implementation of suitable mining variants.
- (3) The certified university program for further education combines a unique selection of specialised courses into an integrated, intensive and comprehensive educational program using outstanding teaching facilities, assistive technologies and academic resources.
- (4) The certified university program for further education will be conducted in cooperation with the following international universities:

Politechnika Śląska, Poland

Freiberg University of Mining and Technology, Germany

Clausthal University of Technology, Germany

2 ECTS-Credits

In accordance with the European Credit Transfer and Accumulation System, ECTS credits are allocated to the individual achievements and reflect the workload of the students. The workload of a full-time academic year is 60 ECTS credits.

3 Duration and Structure

- (1) The certified university program for further education comprises a total workload of 62 ECTS points. Courses account for 54 ECTS (36 semester hours) and the written thesis for 8 ECTS. The certified university program for further education is organised in such a way that it can be completed within 4 semesters part-time.

- (2) The certified university program for further education may also be held during those periods in which no courses for regular full-time students are held.
- (3) The certified university program for further education consists of the following compulsory and elective course units and a written thesis.

	Semester hours	ECTS credits
Compulsory course units	28	42
Elective course units	8	12
Written thesis	6	8
Total	42	62

a) Compulsory Course Units

The compulsory course units comprise the following subjects and the following workload:

Subject	Semester hours	ECTS-Credits	Semester	Exam mode
Fundamentals of rock mechanics	4	6	winter or summer	oral and/or written
Rock mechanical lab testing	4	6	winter or summer	oral and/or written
Numerical modelling	4	6	winter or summer	oral and/or written
Field work and Monitoring	4	6	winter or summer	oral and/or written
Ground Support	4	6	winter or summer	oral and/or written
Rock engineering design in mines	4	6	winter or summer	oral and/or written
Mining induced seismicity rock bursts general	2	3	winter or summer	oral and/or written
Management of rock pressure risk	2	3	winter or summer	oral and/or written

b) Elective Course Units

The elective course units include the following subjects and workloads:

Subject	Semester hours	ECTS credits	Semester	Exam mode
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Management of rock burst problems in deep mines	2	3	winter or summer	oral and/or written
Rock engineering aspects in salt mining	2	3	winter or summer	oral and/or written
Rock engineering aspects in block caving	2	3	winter or summer	oral and/or written
Backfill in deep mines	2	3	winter or summer	oral and/or written

From the elective course units, 8 semesters hours/12 ECTS points must be completed. Participants are free to choose their own subjects. The elective course units are held with a minimum number of 5 participants.

4 Language of Instruction and Examination

The language of instruction and examination is English.

5 Program Director

- (1) The certified university program for further education “Rock Engineering for Deep Mines” is managed by a Program Director
- (2) The Rectorate is responsible for appointing the Program Director.

6 Course Fees

- (1) Participants have to pay course fees for attending the certified university program for further education. The course fees are proposed by the Program Director on the basis of the actual costs of the certified university program for further education and are determined by the Rectorate.
- (2) A financial report on the management of the certified university program for further education is to be submitted annually to the Rectorate.

7 Types of Courses

The courses of the certified university program for further education are offered as lectures and integrated courses:

- a) Lectures (VO) are courses in which the transfer of knowledge takes place through lectures by the instructors.

- b) Integrated Courses (IV) are combinations of lectures with courses which are closely interlinked didactically and jointly assessed in accordance with Section 2 Para. 1 lit. b-e of the Statutory Part of Study Regulations.

8 Admission Requirements

- (1) Prerequisites for admission to the certified university program for further education are:
 - a) the general university entrance qualification in accordance with Section 64 Para.1, Nos. 1-4 of the University Act 2002, or
 - b) evidence of relevant professional practice lasting at least five years, and
 - c) evidence of adequate command of the language of instruction, except where English is the native language; and
 - d) the existence of a free place of study, and
 - e) payment of the course fee.
- (2) Applications for admission to the certified university program for further education must be submitted in writing to the Program Director. The application must be accompanied by the documents referred to in Para 1 lit (a), lit (b) and, if applicable, lit (c). If it is deemed expedient for the assessment of the fulfilment of the admission requirements of Para 1 lit (b) or lit (c), the Program Director may assess the suitability of the candidates in a personal interview. The Rectorate shall decide on admission on the basis of a proposal made by the Program Director.

9 Study Places

- (1) The number of possible course participants is determined by the Program Director on the basis of pedagogical and organisational aspects. As far as possible, it should not exceed 20.
- (2) If the number of applicants exceeds the number of possible course participants, admission is based on the chronological order of registration for the certified university program for further education.

10 Examination Regulations

- (1) Courses are generally examined in writing and/or orally by the respective course instructor. The examination takes place in a single examination file. In addition, if it appears didactically sensible, alternative examinations may be offered to accompany the course.
- (2) Exams with a negative grade may be repeated at the latest until the end of the second semester following that in which the course was held.
- (3) The final examination has to be taken in the form of course examinations. The course is concluded with the positive assessment of all courses as well as the positive assessment of the written thesis. If all required individual assessments are available, a certificate of

completion will be issued. An overall assessment is also issued. The overall assessment is "passed" if every examination subject has been assessed positively, otherwise it must be "failed". The overall assessment will be "passed with distinction" if no examination subject has been rated worse than "good" and at least half of the examination subjects has been rated "very good".

- (4) The positive completion of examinations (including the thesis) is to be assessed as "very good" (1), "good" (2), "satisfactory" (3) or "sufficient" (4), the negative success as "fail" (5). Intermediate assessments are not permitted.
- (5) The examination procedure is also subject to the provisions of Sections 32 et seq. of the section of the Statutory Part of Study Regulations.

11 Written Thesis

- (1) The participants of the certified university program for further education have to write a final thesis. The thesis provides evidence that the students have methodological knowledge and are able to integrate the course contents in an interdisciplinary manner.
- (2) The course participants are entitled to propose the topic of the final thesis and the thesis supervisor to the Program Director in writing. The final thesis is assigned 8 ECTS credits.
- (3) The thesis must be evaluated within six weeks by the thesis supervisor.

12 Academic title

Graduates of the certified university program for further education are awarded the academic title "Rock Engineer for Deep Mines" by the Montanuniversität.

13 Coming into effect

This curriculum will come into effect after publication in the newsletter of the Montanuniversität with **1.xx.2015**

For the senate:
Chairperson:

O.Univ.-Prof. Mag. Dr. Peter Kirschenhofer