



Technische  
Hochschule  
Georg Agricola

**Appendix 4  
to the university examination regulations  
of 14 July 2020 for all Master Study Programmes**

**in its version of 10 June 2021**

**for the master's programme  
Mineral Resource and Process Engineering (MRPE)**

- A. Regulations specifically applicable to this master's programme**
- B. Study schedule and examination schedule**
- C. Module handbook**

## A.1. Regulations specifically applicable to this master's programme

### 1. Qualification aims

- (1)
- (2) The higher objective of the master's programme Mineral Resource and Process Engineering (MRPE) is to qualify the graduates for an engineering profession close to research purposes in the fields of mineral resource engineering or process engineering including refining, recycling and energy efficiency.
- (3) Moreover, graduates of this consecutive programme will have enhanced their in-depth specialist knowledge and supplemented those by in-depth knowledge of management skills. In addition, graduates of the major Mineral Resource Engineering will also enhance their knowledge of mineral resource projects and how to plan those sustainably, while graduates of the major Process Engineering will enhance their knowledge of methodology and the planning and design of plants and systems in process engineering.
- (4) In particular, the graduates will be able to define, structure, plan responsibly and work on complex projects in the fields of mineral resource engineering or process engineering. To do so, they will consider the current global, economic, ecological and societal context. They will be able to identify deficiencies as a need for further research using problem-solving methods and to develop solutions independently by applying engineering methods. They will be able to work in a team and to lead a team and to communicate work results.

### 2. Availability and admission

- (1) The Master's Programme Mineral Resource and Process Engineering continues the following university degree programmes (either Bachelor or German *Diplom*): Mineral Resource Engineering, Mineral Resources Engineering and Resource Management, Process Engineering or similar. There are two majors offered: Mineral Resource Engineering and Process Engineering of which one has to be completed.
- (2) The following students shall be able to enrol as full-time students or visiting students of the Master's programme Mineral Resource and Process Engineering: students who have been awarded a bachelor degree or a *Diplom* degree in the fields of Mineral Resource Engineering or Process Engineering or similar. Moreover, the qualifications and other admission criteria as stipulated in section 49 HG do apply.
- (3) Another prerequisite to commence the studies is a qualified degree awarded in a study programme specified in paragraph 1 with a result of at least 180 credit points and the overall mark 3.0 (ECTS mark C) or higher. If the student does not provide these minimum results according to paragraph 1, he or she may be permitted to enrol in the programme in individual cases. Whether the admission criteria are fulfilled will be determined by an admission committee that shall be established according to the admission regulations. In the case of doubt, an admission interview or a written test will determine whether the candidate is eligible to commence his or her studies. The decisive criteria to assess the candidate's eligibility for the admission interview are a separate determination of the specialist qualification, the identification of special achievement in the

field of Mineral Resource and Process Engineering or the identification of a special disadvantage on which the curriculum vitae is based.

- (4) The following students shall also be able to enrol as full-time students or visiting students of the Master's programme Mineral Resource and Process Engineering: students who have been awarded a Bachelor's degree or a *Diplom* degree in other fields of engineering and science within scope of the jurisdiction of the German Constitution. In such cases, enrolment or admission will only be successful if the specialist preconditions for a successful completion of the Master's programme Mineral Resource and Process Engineering are given, and the study objectives as stipulated in section 2(2) of the relevant examination regulations can be achieved. The same applies to students who have obtained university degrees of science and engineering outside the scope of the jurisdiction of the German Constitution provided the degrees meet the requirements of paragraph 1 and contain a final thesis.

Whether the admission criteria are fulfilled will be determined by an admission committee that shall be established according to the admission regulations. This procedure is also regulated in the pertinent admission regulations. In the case of doubt, an admission interview will determine whether the candidate is eligible to commence his or her studies. The admission interview is subject to the criteria listed in paragraph 2.

To determine whether the conditions of specialist content qualification are met, the applicant needs to provide evidence that he or she has acquired competence in the subjects listed below in order to successfully complete the Master's programme Mineral Resource and Process Engineering:

<b>For both majors</b>	
Mathematics	
Physics	
Foundations of electrical engineering	
Foundations of chemistry	
Applied material science	
Law	
Technical English	
Business administration	40 CP
<b>Major Mineral Resource Engineering</b>	
Geology, geology of mineral deposits	
Applied CAD, deposit modelling	
Surveying	
Introduction to mineral resource economy	
General underground mining	
General surface mining	
Sustainability, environmental protection, occupational health and safety	
Mechanical process engineering and resource refinement	
Machine technology in mineral resource industry	50 CP

### Major Process Engineering

Thermal process engineering	
Mechanical process engineering	
Chemical process engineering	
Plant construction	
Theory of matter and thermodynamics	30 CP
Fluid dynamics	
Chemistry	
Simulation	
Environmental technology	20 CP

The performance evidenced need to be equivalent to that of the Bachelor's programme Mineral Resources Engineering and Resource Management offered at THGA.

The courses of the study programme can be taken in either German and English or in English only.

(5) Another criterion of admission is the evidence of English language knowledge at a level of minimum B2 according to the Common European Framework of Reference. To evidence this knowledge, one of the following qualifications must be provided:

- (a) having passed the TOEFL iBT with a result of 87 points minimum
- (b) having passed the IELTS test with a result of 6.0 points
- (c) having passed another acknowledged language test with a result equivalent to TOEFL and IETLS points
- (d) having completed a study programme fully in English at an acknowledged university of a duration of at least one year
- (e) having completed school education fully in English at an acknowledged school of a duration of at least one year
- (f) having obtained a degree in a relevant study programme that offers courses of technical English with a scope of at least 2 credit points
- (g) speaking English as a native language or having grown up and completed school education in an English-speaking country.

(6) Where German-language modules are selected, another admission criteria to be fulfilled is sufficient evidence of knowledge of German language according to section 3(2) of the enrolment regulations. This evidence is usually provided by a certificate that proves the successful passing of the German language test for the university admission of foreign applicants (DSH) or of the test German as a foreign language (TestDaF).

If students have obtained their Bachelor's degree at the THGA, their language knowledge is deemed as evidenced.

(5) Principally, and in particular with regard to the cases mentioned in paragraph 3, admission to the Master's programme can be subject to the condition that certain knowledge needs to be evidenced latest when completing the programme. The type, scope and deadline for rendering the performance required are specified by the admission committee according to Section 2 of this appendix for each case based on the study modules need to be completed for the previous study degree and those needed to be completed for the intended degree.

### **3. Admission and selection committee and selection guidelines**

- (1) The responsible department is to establish an admission and selection committee for the Master's programme Mineral Resource and Process Engineering to arrange the duties entrusted to it by section 2 and section 3 of this appendix.
- (2) The members of this committee and its chairperson are proposed by the vice president in charge and appointed by the examination board for four years. Any further details on the election, assignment of duties, procedures and decision-making are regulated in the stipulated in the rules of procedure enacted in consultation with the senate.
- (3) The committee shall constitute of not fewer than two, and not more than three persons entitled to vote; at least two of them have to be selected from the group of professors teaching the Bachelor's programmes Mineral Resource Engineering or Process Engineering or the Master's programme Mineral Resource and Process Engineering. The head of the Master's programme Mineral Resource and Process Engineering is automatically member of the committee. Each public servant of the department or other members of the university can be appointed as voting members of the admission committee provided they have the necessary personal and specialised eligibility. Other members of the THGA and executives of companies can be appointed as non-voting members of the admission committee.
- (4) The admission committee constitutes a quorum if more than half of its voting members are present and if the meeting has been called in with a written invitation sent out at least five working days prior to the date of the meeting. Important documents relevant for any resolution have to be enclosed with or attached to the invitation. Resolutions shall be passed with the majority of the votes cast of the voting members being present.
- (5) After the admission committee has finished the assessment of the admission criteria and, if necessary, applied a selection procedure, the examination board in charge will decide on the students' admission to the study programme.
- (6) The admission committee can restrict the admission to Master's programme Mineral Resource and Process Engineering in that regard that applicants, depending on their specialised qualification, can only opt for one of the two majors, either Mineral Resource Engineering or Process Engineering.

### **4. Enrolment, standard programme duration, structure and scope (modules/ credit points)**

- (1) Information on the begin of studying and the standard study duration is provided in paragraphs 1 and 2 of section 5.
- (2) The programme consists of compulsory modules for both disciplines, optional compulsory modules for each discipline, and a work placement of a total

number of 40 working days as stipulated in the Guidelines for the Work Placement (Appendix 2).

- (3) The study programme contains face-to-face modules (lectures, seminars, exercises etc.) of a scope of 60 CP, and research-focused self-study courses of a scope of 60 CP; the latter ones include the Master's thesis. The face-to-face modules are self-contained, independent modules of the same size (5 CP each) so that the students can easily and flexibly compile their semester programme from the modules offered in the winter and summer semester. The research-related modules can be freely chosen disregarding the semester.

## **5. Compulsory optional modules**

- (1) During their studies, students have to take one compulsory optional module. It is recommended to select one module from the list provided in the curriculum (section B9).
- (2) One or several modules or sub-modules can be selected as a compulsory optional module from the compulsory optional modules listed in the curriculum provided they are credited with at least 5 credit points.
- (3) On behalf of the students, the vice president can decide that additional compulsory optional modules will be offered.

## **6. Master's thesis**

- (1) The module "Master's thesis and final oral examination (*colloquium*)" always have to be evaluated by two examiners who have to reason their evaluation in writing according to section 9.
- (2) The topic of the Master's thesis can only be assigned once the student has achieved 60 credit points and the work placement has been completed. For reasons of a better feasibility of studies it is strongly recommended to render the module "Master's thesis and final oral examination (*colloquium*)" as the final part of the examinations.
- (3) Students have six months (full-time) or nine months (part-time) to write their Master's thesis; the thesis must have a scope of 27 CP. The topic and assignment must be designed in a way that allows for the Master's thesis to be completed within the allocated time frame.