

University of Tübingen exam regulations for the study program in Applied & Environmental Geoscience culminating in an examination for a Master of Science (M.Sc.) degree Sc.) – Special Provisions –

In accordance with §§ 19 paragraph (1) sentence 2 no. 9, 32 paragraph (3) of the law governing institutions of higher education, LHG of 1 January 2005 (GBl. p. 1), in the version published 1 April 2014 (GBl. p. 99) most recently amended by article 1 of the law dated 24 June 2020 (GBl. p. 426), the University of Tübingen Senate on 11.02.2021 passed these Special Provisions of the exam regulations for the study program in Applied & Environmental Geoscience at the University of Tübingen culminating in an examination for a Master of Science (M.Sc.) degree.

Approved by the President and Vice-Chancellor on ...

Contents

- A. Validity of General Provisions and admission requirements
 - § 1 Validity of General Provisions
 - § 2 Requirements for admission to program
- B. Goals, content and structure of the program
 - § 3 Goals and content of program, regular duration of study, scope of program
 - § 4 Academic degree
 - § 5 Program structure
 - § 6 Module coursework
 - § 7 Languages of instruction and examination
- C. Assessment in the program
 - I. General provisions for assessed coursework
 - § 8 Examiners
 - II. Special provisions for the final module
 - § 9 Final module
 - § 10 Subject-specific provisions for admission to final module
- D. Deadlines for examinations in the program
 - § 11 Deadline for completion of studies
- E. Master's overall grade, certificate and other documentation
 - § 12 Calculation of overall grade
 - § 13 Certificate and other documentation
- F. Closing remarks
 - § 14 Effective date and transitional arrangements

A. Validity of General Provisions and admission requirements

§ 1 Validity of General Provisions

The University of Tübingen exam regulations for Master's degree programs culminating in the academic degree of Master of Science (M.Sc.) / Master of Arts (M.A.) – Master's degree framework exam regulations (MRPO) – as amended represent the General Provisions of these exam regulations and are an integral part of them, insofar as no more specific provisions have been made.

§ 2 Requirements for admission to program

(1) ¹Prerequisite for the Master's program is a Bachelor's degree in one of the subjects of geology, geoecology, environmental science, geophysics, mineralogy, physical geography, soil science, mathematics, physics, chemistry, biology, computer science, civil engineering, or in a related subject with environmental relevance in which a grade of 2.5 or better was achieved. ²The re-

sponsible examination board decides on the equivalency of a degree. ³The board of examiners may transfer the making of this decision revocably to the head of the board. ⁴If there is a restricted number for admission, the articles may specify that the selection committee formed for the relevant selection process decides instead.

(2) To take part in the Master's program, applicants must also document knowledge of English at least at the level of B2 of the Common European Framework of Reference for Languages (CEFR).

B. Goals, content and structure of the program

§ 3 Goals and content of program, regular duration of study, scope of program

(1) ¹Studies in the Master of Science program (M. Sc.) in Applied & Environmental Geoscience (hereinafter: the program) enable students to acquire the specific qualifications, competencies, knowledge, abilities and skills required for a Master's degree in the subject of Applied & Environmental Geoscience under § 7 (1) of the Master's degree framework exam regulations (MRPO).

²The students build upon the foundations and methodological knowledge obtained in a suitable Bachelor's degree, developing advanced competence in the more specialized fields of Environmental Chemistry and Environmental Microbiology, Environmental Physics and Hydrogeology.

³Students learn to analyze and evaluate complex environmental problems on the basis of environmental-geoscientific and multidisciplinary approaches, in order to develop appropriate strategies to solve them. ²The objective of the degree program is to deepen or expand the knowledge acquired in the Bachelor's degree program, thus providing the basis for the development and/or application of the student's own ideas (application or research-oriented); graduates possess a broad, detailed and critical understanding at the cutting edge of knowledge in one or more specialized fields and are able

- to apply their knowledge and understanding as well as their problem-solving skills in new and unfamiliar situations related to their field of study in a wider and/or multidisciplinary context (instrumental competencies),
- to integrate knowledge and deal with complexity,
- and to make scientifically sound decisions on the basis of incomplete or limited information, taking into account social, scientific and ethical findings resulting from the application of their knowledge and from their decisions,
- to acquire new knowledge and skills independently and to carry out largely self-directed and/or autonomous independent research- or application-oriented projects (systemic competencies)
- to communicate their conclusions and the information and motives underlying them to expert representatives and laypersons in a clear and unambiguous manner, to exchange information, ideas, problems and solutions with both experts and laypersons on a scientific level and to assume prominent responsibility in a team (communicative competencies).

⁵Further details of the course objectives are set out in the module handbook.

(2) ¹The regular duration of study for this degree program is 4 semesters. ²The program comprises 120 credit points (ECTS credit points or CP).

(3) ¹Over and above the number of credit points prescribed for the degree program according to these regulations, students may obtain no more than a 60 additional credit points from the degree program modules specified in § 5, para. (1); in all other respects, § 2, para. (5) of the Master's degree framework exam regulations applies.

§ 4 Academic degree

The academic degree "Master of Science" (abbr. "M.Sc.") is awarded on the basis of a successful completion of a Master of Science examination.

§ 5 Program structure

(1) ¹Students complete a program to earn credit points as set out in § 3 para. (2); the program consists of the following modules:

Se- mes- ter no.	Module no.	P/WP	Module title	Work for as- sessment	CP
Compulsory Modules (Pflichtbereich)					
1	M 201	P	Groundwater Modeling 1	written	6
1	M 207	P	Environmental Chemistry	written	6
1	M 229	P	Global Change	written / oral	6
3	M 101	P	Scientific Practice	-	6
4	M 103	P	Scientific Presentation	-	6
Option 1: Specialization Environmental Physics (see sentence 2)					
1	M 301	WP	Physics of the Earth's Surface	written	6
2	M 216	WP	Atmospheric Physics	written	6
2	M 322	WP	Climate Dynamics	written / oral	6
Option 2: Specialization Environmental Chemistry and Environmental Microbiology (see sentence 2)					
2	M 222	WP	Hydrogeochemical Modeling	written	6
2	M 218	WP	Environmental Analytical Chemistry	written / practical	6
2	M 233	WP	Biotransformation of Pollutants	written / oral	6
Option 3: Specialization Hydrogeology (see sentence 2)					
2	M 202	WP	Hydrogeological Field Investigation Techniques	written / practical	6
2	M 205	WP	Remediation of Contaminated Sites	written / oral	6
2	M 203	WP	Groundwater Modeling 2	written	6
Elective Modules (required electives, see sentence 3)					
1-4	M WP	WP	Modules from programs run by the Department of Geoscience or by other departments in accordance with the module handbook.	depending on module chosen, s. module handbook	42

Final module section					
4	M 104	P	Master's thesis (final module)	Master's thesis	30

Notes: FS = recommended semester (subject to availability and change, see module handbook); module no. = current module no. or abbreviation (subject to change, see module handbook), P = compulsory, WP = required elective, CP = credit points, foP = formative assessment, K = written exam, H = assignment; mP = oral defense; final module: Master's thesis and, if required by the exam regulations or the module handbook, an oral examination in the final module.

²One of the specialization areas set out in the table in sentence 1 above must be selected and the modules listed there successfully completed. ²Sufficient modules must be selected from among the compulsory electives - in accordance with the module handbook - to earn a total of 42 credit points. ⁴Details of required electives may be found in the current module handbook. ⁵Other modules relating to the content and qualification goals of this degree program may be admitted as required electives upon application; the head of the examination board will decide. ⁶However, a maximum of two modules from Bachelor programs is permitted - and then only modules which the student did not complete in the previous Bachelor's degree program. ⁷If modules in the "compulsory modules" area were completed in the student's previous Bachelor's degree studies or in the specialization field selected under sentence 2, these must be replaced by further required electives with the same workload; the head of the examination board may specify the content of the replacement modules.

§ 6 Module coursework

¹Details of the module coursework required in each of the modules is set out in the module table in these regulations (§ 5) and in the module handbook. ²Assessment must be clearly specified as to its type and scope, if this is not set out in the module table. ³For the modules in the required electives area, students may be directed to the module handbook of the respective department from which the modules originate.

§ 7 Languages of instruction and examination

¹English is the language of instruction and examination in this degree program. ²Classes and module coursework may be conducted, promoted and taught in the following languages:

- German.

³Furthermore, teachers and examiners may promote and/or conduct classes and/or module coursework in another language for the purpose of teaching that language. ⁴Exams are usually conducted in the language in which the relevant classes were held; other assessment is usually conducted in the language in which the relevant classes were held. ⁵It is therefore assumed that students have sufficient knowledge of the relevant languages.

C. Assessment in the program

I. General provisions for assessed coursework

§ 8 Examiners

Notwithstanding § 14 (1) sentence 3 MRPO, assessment may be conducted by more than one examiner if the contents of the module straddle more than one sub-field of the degree program; the examination board decides.

II. Special provisions for the final module

§ 9 Final module

(1) ¹The student writes the Master's thesis in the final module; this is regulated in § 28 of the MRPO. ²In the final module, 30 credit points must be obtained.

(2) ¹The time limit for writing a Master's thesis - from the issuing of the topic to submission of the thesis - is six months. ²Admission to the Master's thesis is allowed at the start of the second year of study at the earliest. ³The Master's thesis may not be submitted prior to the end of the fourth month following the issuing of the topic.

(3) Notwithstanding § 28 (5) sentence 1 MRPO, the Master's thesis is to be written in English; the board of examiners will decide on applications to write the thesis in any other language.

§ 10 Subject-specific provisions for admission to final module

¹In addition to the prerequisites set out in the MRPO of these exam regulations, the subject-related prerequisites for admission to the Master's thesis process are:

- the successful completion of modules worth a total of at least 54 ECTS credits, including
- obtaining the CP in the module table for the compulsory modules and for the modules selected in the chosen area of specialization, see § 5 (1) sentence 2.

²Furthermore, the following work must be completed in the following subjects and/or areas of knowledge in the prior Bachelor's degree studies or Master's degree studies:

- Mathematics (min. 6 CP)
- Physics (min. 6 CP)
- Chemistry (min. 6 CP)
- Geology (min. 6 CP)

³The responsible examination board decides on the requirements set out in sentence 2; the board may determine that competencies of up to 30 CP which are lacking at the start of the student's Master's studies must be obtained prior to registration for the Master's thesis process, for instance within the framework of a learning agreement and in cases of accreditation under § 5 (1) sentence 6.

D. Deadlines for examinations in the program

§ 11 Deadline for completion of studies

¹All coursework and assessment required under the exam regulations for the module coursework must be completed by the end of the student's 7th semester in the subject. ²If this time limit is exceeded, the student's right to be examined is lost, unless the failure to meet the deadline is beyond the control of the student.

E. Master's overall grade, certificate and other documentation

§ 12 Calculation of overall grade

The overall grade for the Master's examination process is calculated from the average of all graded modules, as weighted by credit points.

§ 13 Certificate and other documentation

(1) Along with the details provided for under § 36 par. 1 MRPO, the following details are entered:

- the area of specialization selected, see § 5 (1) sentence 2.

F. Closing remarks

§ 14 Effective date and transitional arrangements

¹These exam regulations come into effect on the date of their publication in the University of Tübingen's official bulletin, the Amtliche Bekanntmachungen. ²Their first semester of validity is the winter semester 2021/2022.

³Students who commenced their studies at the University of Tübingen prior to the semester specified in sentence 2 are - subject to the following provisions - entitled to complete their module coursework in this degree program at the University of Tübingen by 30.09.2024 under the previously valid rules; however, regarding the examination board, § 6 MRPO applies. ⁴Students who commenced their studies at the University of Tübingen prior to the semester specified in sentence 2, are entitled to switch and complete their module coursework in the degree program under these current exam regulations upon written application, which must be submitted to the responsible examination office by 31.03.2022. ⁵If no application under sentence 4 above is lodged, then - after the deadline specified in sentence 3 - the module coursework in the degree program must be completed under these current regulations. ⁶Module coursework completed previously will only be accredited according to the new exam regulations and the corresponding module handbook, subject to the following provisions. ⁷These exam regulations do not grant any new or additional right to be assessed in an area already assessed; any fails in assessed work under the previous exam regulations will be included. ⁸Furthermore the responsible board of examiners may agree suitable transitional arrangements in individual cases, particularly if previous classes are no longer offered as before or if certain classes have been completed, possibly offering partial accreditation and/or requiring certain conditions to be fulfilled, particularly if a "learning agreement" is to be considered.

Tübingen,

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