

Examination regulations for conducting the external examination

Master of Science (M.Sc.)

Professional Software Engineering

from 16.12.2024

Legal basis

Based on Section 32 (3) in conjunction with Section 33 of the Baden-Württemberg Higher Education Act (Landeshochschulgesetz -LHG) in the new version dated 1 April 2014 (GBl. p. 99), last amended by Article 1 of the Act dated 12 November 2024 (GBl. 2024 No. 97) and the General Study and Examination Regulations of Reutlingen University dated 23 May 2022, the Senate of Reutlingen University adopted these Examination Regulations in the following new version by resolution dated xx.xx.2024. The President of Reutlingen University gave his approval on xx.xx.2024 in accordance with § 32 para. 3 sentence 1 LHG.

§ 1 Objective / scope of application

- (1) The aim of the external examination is to enable employees of companies and the self-employed to acquire the academic degree of "Master of Science" through a part-time, consecutive, part-time programme.
- (2) Participants acquire the specialist skills, knowledge and abilities to work independently on issues relating to their profession and practical problems using scientific methods and findings, with a practical orientation and taking into account new findings from applied research.
- (3) These examination regulations apply to the examination of non-matriculated students (external examination) for the Master of Science (M.Sc.) degree in "Professional Software Engineering".

§ 2 Application of the general part of the study and examination regulations of Reutlingen University

The currently valid General Study and Examination Regulations for the Bachelor's and Master's degree programmes at Reutlingen University apply, unless otherwise specified in these Examination Regulations.

§ 3 Admission requirements for the external examination

(1) Prerequisites for admission to the external examination are

1. A qualified degree in a relevant degree programme with at least 180 ECTS credit points. The following are regarded as relevant degree programmes:

- Computer science degree programmes.
- Business informatics degree programmes.
- Technical, mathematical or engineering degree programmes with computer science components of at least 45 ECTS. The selection committee, which determines the subject-related criteria by resolution, decides on the study components to be allocated to the computer science components. Missing ECTS points can be proven by competences acquired outside the university.
- Degree programmes that are equivalent to those listed above. The comparability of the degrees is decided by the selection committee, which determines the subject and content criteria by resolution.

2. Good command of German and/or English (see §12 Course language):

- for the implementation of the study programme in primarily German language English level B2 according to the Common European Framework of Reference for Languages CEFR, or
- for the implementation of the study programme in English only English level C1 according to the Common European Framework of Reference for Languages CEFR.

3. Sufficient preparation for the external examination by participating in the preparatory further education programme of the Knowledge Foundation @ Reutlingen University.

(2) Participants who have earned fewer than 210 ECTS credits with their first university degree can have up to 30 ECTS credits of knowledge and skills acquired outside the university sector recognised as part of the admission process. In addition, applicants who have less than 210 ECTS credits from their first degree at the time of admission must complete an additional module "Research work, practical project or professional practice". The details are regulated by a guideline issued by the Examination Board for the recognition of qualifications equivalent to 30 ECTS. The module is ungraded.

(3) Anyone who is enrolled as a student at a university or who has definitively failed a university examination or an external examination in a degree programme related to the subject in which the external examination is to be taken or who has lost the right to take the examination will not be admitted to the external examination.

§ 4 Admission procedure for the external examination

- (1) The application for admission to the external examination must be submitted before the first module examination is taken. The application must be accompanied by
 1. a curriculum vitae in tabular form/overview of your academic and professional career
 2. an officially certified copy of the certificate of the first degree programme
 3. Proof of the ECTS credit points earned from the first degree programme
 4. Proof of sufficient preparation for the external examination at the Knowledge Foundation @ Reutlingen University
 5. Proof of the required language skills (see §12 Course language):
 - 5.1 For the implementation of the study programme primarily in German:
 - a) Proof of sufficient German language skills. This proof can be provided via the certificates listed in § 1 of the statutes on the required language skills for studying at Reutlingen University in the currently valid version.
 - b) English language skills at level B2 (according to the Common European Framework of Reference for Languages), as evidenced by the certificates listed in § 2 of the statutes on the language skills required for studying at Reutlingen University, as amended.
 - 5.2 For the implementation of the study programme in English only:

English language skills at level C1 (according to the Common European Framework of Reference for Languages), to be proven by the certificates listed in § 2 of the statutes on the language skills required for studying at Reutlingen University, as amended.
- (2) The examination board for the external examination decides on admission to the external examination (cf. § 6) or an authorised representative from this committee. The applicant must be informed of the decision in writing.

§ 5 Examination results of the external examination

- (1) The modules required for graduation can be found in Table 1 (first degree programme with at least 210 ECTS credit points) and in the respective module handbook.
- (2) Responsibility for the acceptance of the individual examinations, including the Master's thesis, lies with the respective module supervisors. Only full-time lecturers at Reutlingen University may be responsible for modules.
- (3) A maximum of 50% of the examination preparation courses should be held by professors from Reutlingen University.
- (4) The overall grade is calculated from the average of the module examinations weighted according to ECTS credit points in accordance with Table 1.

§ 6 Examination board for external examinations

- (1) The Examination Board is made up of three members. Two of the members are full-time university lecturers at Reutlingen University and one member is the head of the Department of Student Affairs at Reutlingen University.

- (2) The academic director of the Knowledge Foundation @ Reutlingen University's external examination preparation programme may not be a member of the examination board at the same time. He or she may participate in the examination board as an advisory member.
- (3) The term of office of the members is four years. The university management of Reutlingen University appoints the members.

§ 7 Master thesis

- (1) Registration for the Master's thesis can take place at the earliest after passing modules totalling 50 ECTS credit points and must take place at the latest 2 months after passing all modules except for the Master's thesis module. The topic of the Master's thesis must be such that it can be completed within 6 months while working.
- (2) The processing time may be extended by a maximum of 2 months for reasons for which the person being examined is not responsible. The Chair of the Examination Board shall decide on the extension upon application by the non-matriculated student.
- (3) The Master's thesis must be submitted in English in two printed and hard-bound copies. At the request of the non-matriculated student and with the approval of the examiner, the Examination Board may allow the Master's thesis to be submitted in German. In addition, an electronic version of the Master's thesis and a short summary must be submitted in electronic form.
- (4) A colloquium takes place before the grade for the final assessment is determined. This covers the content of the Master's thesis and should not last longer than 45 minutes. A prerequisite for the colloquium is the submission of the Master's thesis as regulated in paragraph (3).
- (5) Each examiner awards a grade for the written Master's thesis and a grade for the colloquium. The overall grade for the Master's thesis module is made up of 2/3 of the average grades for the written Master's thesis and 1/3 of the average grades for the colloquium.

§ 8 Master's certificate, diploma and degree

- (1) The academic degree "Master of Science (M.Sc.)" is awarded, for which 90 ECTS credit points must be earned.
- (2) If the person being examined has passed all modules, the external examination is deemed to have been successfully completed. A Master's certificate is issued with the results, stating that the Master's degree was taken as an external examination.
- (3) The Diploma Supplement contains a grade distribution scale for the final grade. This is based on the final grades of the last three graduating years.

§ 9 Loss of admission to the external examination and the right to take the examination

Admission to the external examination and the right to take the examination expire if the participant has not successfully passed the examination within 5 years of admission to the external examination in accordance with Section 4 (2). In unjustifiable cases, the examination board may decide to extend the period.

§ 10 Examination fees

Examination fees are charged in accordance with the current version of Reutlingen University's fee regulations. They are due after admission to the external examination.

§ 11 Compulsory elective modules

- (1) The compulsory elective modules are listed in Table 2. There is no entitlement to all modules being offered in each semester. A module cannot be taken more than once.
- (2) Further modules can be added to the modules in Table 2 by decision of the Examination Board.
- (3) It is not possible to change a compulsory elective module if the person being examined has already made a first attempt.

§ 12 Event language

The courses in the study programme to prepare for the external examination by the Knowledge Foundation @ Reutlingen University as well as the external examination itself can be held either in a German-language version (primarily German language with individual English-language modules) or in an English-language version (English language only).

§ 13 Entry into force

These examination regulations for the external examination come into force on the day after their publication. They apply to participants in the study programme who are admitted to the external examination from the summer semester 2025.

Reutlingen, 16.12.2024

Professor Dr Hendrik Brumme
President

**Table 1: Examination schedule Master of Science "Professional Software Engineering"
(with first degree programme 210 ECTS credit points)**

Code	Module	ECTS Credits	Type of grading ¹	Type of examination
M 1	Methods and technologies of professional programming Methods and Technologies of Professional Programming	5	b	PA
M 2	Software Engineering Software Engineering	5	b	HA, RE
M 3	Database systems Database Systems	5	b	PA
M 4	Cloud computing Cloud computing	5	b	PA
M 5	Front-end development Frontend Development	5	b	PA
M 6	Backend development Backend Development	5	b	PA
M 7	Software architecture Software Architecture	5	b	PA
M 8	Software project 1 Software Project 1	5	b	PA, RE
M 9	Software project 2 Software Project 2	10	b	PA, RE
M 10	Compulsory elective module 1 Elective Subject 1	5	b	PA
M 11	Compulsory elective module 2 Elective Subject 2	5	b	PA
M 12	Master thesis Master's Thesis	30	b	MT
Total		90	----	---

Key to the examination results:

KL - Written exam

RE -Unit

HA -term paper

MT - Master thesis

MP -Oral examination

PA -Project work

CA -Continuous Assessment

¹ b = graded, u = ungraded

Table 2: Compulsory elective modules

Code	Module	ECTS Credits	Type of grading ²	Type of examination
W 1	Distributed Ledger Technology Distributed Ledger Technology	5	b	PA
W 2	Big data technologies Big Data Technologies	5	b	PA
W 3	Internet of Things Internet of Things	5	b	PA

Key to the examination results:

KL -Exam

RE -Unit

HA -term paper

MT - Master thesis

MP -Oral examination

PA -Project work

CA -Continuous Assessment

² b = graded, u = ungraded