

## Official Announcement

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Studies and Examination Regulations of Karlsruhe Institute of Technology (KIT) for the Master's Program of Business Mathematics

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This is a condensed translation of the following German documents:

- Studien- und Prüfungsordnung des Karlsruher Instituts für Technologie (KIT) für den Masterstudiengang Wirtschaftsmathematik, 17. Dezember 2015
- Berichtigung der Studien- und Prüfungsordnung des Karlsruher Instituts für Technologie (KIT) für den Masterstudiengang Wirtschaftsmathematik, 4. Juli 2016
- Satzung zur Änderung der Studien- und Prüfungsordnung des Karlsruher Instituts für Technologie (KIT) für den Masterstudiengang Wirtschaftsmathematik, 31. Juli 2020
- Satzung des Karlsruher Instituts für Technologie (KIT) über die Änderung der Studien- und Prüfungsordnungen zur Anwendbarkeit der Satzung des Karlsruher Instituts für Technologie (KIT) zur Durchführung von Erfolgskontrollen im Antwort-Wahl-Verfahren, 4. September 2020
- Satzung des Karlsruher Instituts für Technologie (KIT) zur Änderung der Regelungen über den Nachteilsausgleich in den Studien- und Prüfungsordnungen gemäß § 32 Abs. 4 Nr. 5 LHG in der Fassung des 4. Hochschuländerungsgesetzes (HRÄG), 28. März 2022
- Satzung zur Änderung der Regelung über die mündliche Nachprüfung in den Studien- und Prüfungsordnungen des Karlsruher Instituts für Technologie (KIT), 30 März 2023
- Vierte Satzung zur Änderung der Studien- und Prüfungsordnung des Karlsruher Instituts für Technologie (KIT) für den Masterstudiengang Wirtschaftsmathematik, 11. Juli 2022

**Studies and Examination Regulations of Karlsruhe Institute of Technology  
(KIT) for the Master's Program of Business Mathematics**

dated December 17, 2015

Pursuant to Article 10, par. 2, clause 5 and Article 20 of the Act on Karlsruhe Institute of Technology (KIT Act – KITG) of July 14, 2009 (bulletin, p. 317 f.), last amended by Article 5 of the Third Act on the Modification of University Regulations (3<sup>rd</sup> University Regulations Modification Act – 3. HRÄG) of April 01, 2014 (bulletin, pp. 99, 167) and Article 8, par. 5 of the Act of Baden-Württemberg on Universities and Colleges (Landeshochschulgesetz – LHG) of January 01, 2005 (bulletin, p. 1 f.), last amended by Article 1 of 3. HRÄG of April 01, 2014 (bulletin, p. 99 ff.), the Senate of KIT adopted the following Studies and Examination Regulations for the Master's Program of Business Mathematics on December 14, 2015.

The President expressed his approval according to Article 20, par. 2 KITG in conjunction with Article 32, par. 3, clause 1, LHG on December 17, 2015.

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## **Preamble**

Within the framework of the implementation of the Bologna process for establishment of a European higher education area, it is the declared objective of KIT that higher education at KIT should be completed by a master's degree. KIT therefore understands the consecutive bachelor's and master's programs offered to represent an integrated concept with a consecutive curriculum.

### **I. General Provisions**

#### **Article 1 – Scope**

The present master's examination regulations cover the course of studies, examinations, and graduation in the Master's Program of Business Mathematics at KIT.

#### **Article 2 – Objective of Studies, Academic Degree**

(1) During the consecutive master's program, scientific qualifications acquired in the course of the bachelor's program are further enhanced, expanded, extended, or complemented. The student will be able to independently apply scientific findings and methods and to evaluate their significance and applicability to the solution of complex scientific and social problems.

(2) Upon successful completion of the master's examination, the academic degree of "Master of Science" (abbreviated by "M.Sc.") is conferred for the Master's Program of Business Mathematics.

#### **Article 3 – Regular Period of Studies, Organization of Studies, Credits**

(1) The regular period of studies is four semesters.

(2) The curriculum of the program is divided into subjects, the subjects into modules, and the modules are divided into courses. The subjects and their scopes are defined in Article 19. Details are outlined in the module manual.

(3) The work expenditure envisaged for passing courses and modules is expressed in credits. The criteria for assigning credits correspond to the European Credit Transfer

System (ECTS). One credit corresponds to a work expenditure of about 30 hours. As a rule, the credits must be distributed equally over the semesters.

(4) The coursework and examinations required for the successful completion of the studies are measured in credits and amount to a total of 120 credits.

(5) Upon prior announcement, the courses may also be offered in English.

#### **Article 4 – Module Examinations, Coursework and Examinations**

(1) The master's examination consists of module examinations. Module examinations consist of one or several controls of success. Controls of success consist of coursework and examinations.

(2) Examinations are:

1. Written examinations,
2. oral examinations, or
3. examinations of another type.

(3) Coursework is written, oral, or practical work that is usually accomplished by students parallel to the courses. The master's examination must not be completed by a coursework.

(4) At least 70% of the module examinations are graded.

(5) In case of complementary contents, module examinations of several modules may be replaced by a module-overlapping examination (par. 2, nos. 1-3).

#### **Article 5 – Registration for and Admission to Module Examinations and Courses**

(1) To participate in module examinations, students must register online on the Students Portal for the corresponding controls of success. In exceptional cases, registration can be made in writing with the Students Office or another institution authorized by the latter. For controls of success, registration deadlines may be specified by the examiners. Registration of the master's thesis is outlined in the module manual.

(2) For admission to an examination in a certain module of choice, students, prior to the first examination in this module, must submit together with their registration for the examination a binding declaration relating to their choice of the module and its assignment to a subject. At the request of the student to the examination committee, the choice or assignment can be changed later on.

(3) Admission to a control of success is granted to students, who

1. are enrolled in the Master's Program of Business Mathematics at KIT, with the admission of students on leave being limited to examinations, and to students, who
2. can prove that they meet the requirements for admission to a control of success outlined in the module manual and
3. can prove that their entitlement to an examination in the Master's Program of Business Mathematics has not been lost.

(4) According to Article 30, par. 5, LHG, admission to individual mandatory courses may be restricted. The examiner decides on the selection of students, who have registered in due time before the deadline given by the examiner, taking into account the study progress made by these students and taking into consideration Article 4, par. 1, clauses 1 and 2 of the Satzung über nachteilsausgleichende Regelungen in den Bachelor- und Masterstudiengängen am Karlsruher Institut für Technologie (KIT) (statutes on the compensation of disadvantages in the bachelor's and master's programs of Karlsruhe Institute of Technology (KIT)), as amended, if the surplus of registrations cannot be reduced by other or additional courses. In the case of identical study progress, further criteria will be specified by the KIT departments. The result will be announced to the students in due time.

(5) Admission will be refused, if the conditions outlined in pars. 3 and 4 are not fulfilled. Admission may be refused, if the corresponding control of success was already passed in a KIT bachelor's program that was required for admission to this Master's Program. This does not apply to premature master's examinations. Admission to these must be approved explicitly according to clause 1.

## **Article 6 – Execution of Controls of Success**

(1) Controls of success are performed parallel to the studies, usually while imparting the contents of the individual modules or shortly afterwards.

(2) The type of control of success (Article 4, par. 2, nos. 1 – 3, par. 3) is specified by the examiner of the respective course depending on the contents of the course and teaching objectives of the module. The type of controls of success, their frequency, sequence, weighting, and the determination of the module grade, if applicable, must be announced in the module manual six weeks prior to the start of the lecturing period at the latest. The examiner and student may agree on changing the type of examination and the examination language later on. In the former case, Article 4, par. 4 has to be observed. When organizing examinations, the needs of students with a disability or chronic disease must be considered according to Article 4, par. 1 of the *Satzung über nachteilsausgleichende Regelungen in den Bachelor- und Masterstudiengängen am Karlsruher Institut für Technologie (KIT)* (statutes on the compensation of disadvantages in the bachelor's and master's programs of Karlsruhe Institute of Technology (KIT)), as amended. Article 2 and Article 4, par. 1, cl. 3 of the above statutes, as amended, apply accordingly.

(3) In case of an unreasonably high examination expenditure, a written examination may also be passed orally or an oral examination may also be passed in writing. This modification must be announced six weeks prior to the examination at the latest.

(4) In case of courses in the English language (Article 3, par. 5), the corresponding controls of success can be executed in this language. Article 6, par. 2 applies accordingly.

(5) *Written examinations* (Article 4, par. 2, no. 1) are usually evaluated by an examiner according to Article 17, par. 2 or par. 3. If an evaluation is made by several examiners, the grade is the arithmetic mean of the individual evaluations. If the arithmetic mean does not correspond to any of the grade levels defined in Article 7, par. 2, clause 2, the grade is rounded to the next higher or lower grade level. In case of equal distance to the next higher and lower levels, the grade is rounded to the next higher grade level.

The evaluation procedure must not exceed six weeks. Written examinations last at least 60 and not more than 300 minutes.

(6) *Oral examinations* (Article 4, par. 2, no. 2) are performed and evaluated as group or individual examinations by several examiners (examining board) or by one examiner in the presence of an associate. Prior to determining the grade, the examiner consults the other examiners of the examining board. Oral examinations usually last at least 15 minutes and not more than 60 minutes per student.

Major details and results of the *oral examination* are documented in the minutes. The result of the examination will be announced to the student directly after the oral examination.

Students who intend to take the same examination in a later semester will be admitted to oral examinations as an audience depending on the space available and upon approval of the examinee. They will not be admitted to the consultation of the examining board and announcement of the examination results.

(7) For *examinations of another type*, (Article 4, par. 2, no. 3), appropriate deadlines and submission dates are specified. Proper description of the task and adequate documentation ensure that the examination passed can be credited to the student. Major details and results of the control of success are recorded in the minutes.

During *oral examinations of another type*, an associate is present in addition to the examiner, who also signs the minutes together with the examiner.

*Theses or papers to be written for an examination of another type* must be provided with the following declaration: "Ich versichere wahrheitsgemäß, die Arbeit selbstständig angefertigt, alle benutzten Hilfsmittel vollständig und genau angegeben und alles kenntlich gemacht zu haben, was aus Arbeiten anderer unverändert oder mit Abänderungen entnommen wurde." (I herewith declare that the present thesis/paper is original work written by me alone and that I have indicated completely and precisely all aids used as well as all citations, whether changed or unchanged, of other theses and publications). If the thesis/paper does not contain this declaration, it will not be



accepted. Major details and results of such a control of success are recorded in the minutes.

### **Article 6 a – Controls of Success by a Multiple Choice Test**

Execution of controls of success by a multiple choice test is subject to the Satzung des Karlsruher Instituts für Technologie (KIT) zur Durchführung von Erfolgskontrollen im Antwort-Wahl-Verfahren (statutes of Karlsruhe Institute of Technology (KIT) on the execution of controls of success by a multiple choice test), as amended.

### **Article 6 b – Online Examinations**

Execution of online examinations is subject to the Satzung zur Durchführung von Online-Prüfungen am Karlsruher Institut für Technologie (KIT) (statutes on the execution of online examinations at Karlsruhe Institute of Technology (KIT)), as amended.

### **Article 7 – Evaluation of Coursework and Examinations**

(1) The result of an examination is specified by the examiners in the form of a grade.

(2) The following grades are used:

|                               |   |
|-------------------------------|---|
| “sehr gut” (very good)        | for an outstanding performance;   |
| “gut” (good)                  | for a performance that is far above the average;                          |
| “befriedigend” (satisfactory) | for a performance meeting average requirements;                           |
| “ausreichend” (sufficient)    | for a performance that is still acceptable in spite of its deficiencies;  |
| “nicht ausreichend” (failed)  | for a performance that is no longer acceptable due to major deficiencies. |

For the differentiated evaluation of individual examinations, the following grades are applied exclusively:

|               |                              |
|---------------|------------------------------|
| 1.0, 1.3      | sehr gut (very good),        |
| 1.7, 2.0, 2.3 | gut (good),                  |
| 2.7, 3.0, 3.3 | befriedigend (satisfactory), |

|          |                               |
|----------|-------------------------------|
| 3.7, 4.0 | ausreichend (sufficient), and |
| 5.0      | nicht ausreichend (failed).   |

(3) Coursework is evaluated with “bestanden” (passed) or “nicht bestanden” (failed).

(4) When determining the weighted means of module grades, subject grades, and the total grade, only the first decimal place is considered. All following decimal places are deleted without rounding.

(5) Every module and control of success may only be credited once in the same program.

(6) An examination is passed, if the grade is at least “ausreichend” (4.0, sufficient).

(7) A module examination is passed, if all required controls of success are passed. The module examination and determination of the module grade are outlined in the module manual. If the module manual does not contain any regulation about the determination of the module grade, the module grade is calculated from the grade average weighted according to the credits of the individual partial modules. The differentiated grades (par. 2) are used for calculating the module grades.

(8) The results of the controls of success as well as the credits acquired are administered by the Students Office of KIT.

(9) The grades of the modules of a subject are considered proportionally to the credits assigned to the modules when calculating the subject grade.

(10) The total grade of the master’s examination, the subject grades, and the module grades are:

|                 |                                |
|-----------------|--------------------------------|
| Down to 1.5     | “sehr gut” (very good),        |
| from 1.6 to 2.5 | “gut” (good),                  |
| from 2.6 to 3.5 | “befriedigend” (satisfactory), |
| from 3.6 to 4.0 | “ausreichend” (sufficient).    |

## **Article 8 – Repetition of Examinations, Ultimate Failure**

(1) Students may repeat once a written examination that has not been passed (Article 4, par. 2, no. 1). In case a repeated written examination is given the grade of “nicht ausreichend” (5.0, failed), the reexamination will be continued orally soon after the date of the failed examination. The grade of this reexamination may only be “ausreichend” (4.0, sufficient) or “nicht ausreichend” (5.0, failed) and is determined by the examiners or examiner taking into consideration the written examination result and the result of the oral reexamination. Oral reexaminations usually last between 15 and a maximum of 30 minutes. Article 6, par. 6, clauses 1 and 2 and clauses 4 and 5 apply accordingly. In case a written reexamination is evaluated “nicht ausreichend” (5.0, failed), an oral reexamination is excluded.

(2) Students may repeat once an oral examination that has not been passed (Article 4, par. 2, no. 2).

(3) Repeated examinations according to paragraphs 1 and 2 correspond to the first examination in terms of contents, scope, and type (oral or written). At request, exceptions may be approved by the responsible examination committee.

(4) Examinations of another type (Article 4, par. 2, no. 3) can be repeated once.

(5) Coursework can be repeated several times.

(6) An examination is ultimately not passed, if the oral reexamination according to par. 1 was evaluated with the grade of “nicht ausreichend” (5.0, failed). The examination also is ultimately not passed, if the oral examination according to par. 2 or the examination of another type according to par. 4 was evaluated twice with the grade of “nicht bestanden” (failed).

(7) The module is ultimately not passed, if an examination required for passing the module is ultimately not passed.

(8) A second repetition of the same examination according to Article 4, par. 2 is possible in exceptional cases at the request of the student only (“Antrag auf

Zweitwiederholung" – application for a second repetition). As a rule, the application must be submitted in writing to the examination committee within two months upon announcement of the grade.

The examination committee decides on the first application of a student for a second repetition. If the examination committee dismisses the application, a member of the Executive Board decides. Upon comment of the examination committee, a member of the Executive Board decides on further applications for a second repetition. If the application is accepted, the second repetition takes place on the next but one examination date at the latest. Paragraph 1, clauses 2 and 3 apply accordingly.

(9) Repetition of a passed examination is not permitted.

(10) In case a master's thesis has been granted the grade "nicht ausreichend" (5.0, failed), it can be repeated once. A second repetition of the master's thesis is excluded.

### **Article 9 – Loss of the Entitlement to an Examination**

In case coursework or an examination required according to the present Studies and Examination Regulations is ultimately not passed or the master's examination, including potential repetitions, is not passed completely by the end of the examination period of the seventh semester, the entitlement to examination in the Business Mathematics Program will expire, unless the student is not responsible for having exceeded the deadline. The decision on extending the deadline and on exceptions from the deadline regulations will be made by the examination committee taking into account the activities listed in Article 32, par. 6, LHG at the request of the student. This request must be made in writing usually not later than six weeks prior to the expiry of the deadline.

### **Article 10 – Deregistration, Absence, Withdrawal**

(1) Students can revoke their registration for *written examinations* until the issue of the examination tasks without having to indicate any reasons (deregistration). Deregistration can be made online on the Students Portal by 12 pm on the day before the examination or in justified exceptional cases with the Students Office during office

hours. If the deregistration is addressed to the examiner, the latter will ensure that the deregistration is documented in the Campus Management System.

(2) In case of *oral examinations*, deregistration must be declared to the examiner at least three working days before the date of examination. Withdrawal from an oral examination less than three working days before the date of examination is possible under the conditions outlined in par. 5 only. In principle, withdrawal from oral reexaminations in the sense of Article 8, par. 1 is possible under the conditions of par. 5 only.

(3) Withdrawal from *examinations of another type* and from coursework is subject to the provisions given in the module manual.

(4) A control of success is deemed to have been “nicht ausreichend” (5.0, failed), if the student fails to be present at the examination without a good reason or if she/he withdraws from the examination after its start without a good reason. The same applies, if the master’s thesis is not submitted within the period envisaged, unless the student is not responsible for having exceeded the deadline.

(5) The reason given for withdrawal after the start of the control of success or absence must be notified immediately, credibly, and in writing to the examination committee. In case of sickness of the student or of a child maintained by the student alone or of a relative in need of care, submission of a medical certificate may be required.

### **Article 11 – Deception, Breach of Regulations**

(1) In case the student tries to influence the result of her/his examination by deception or the use of impermissible aids, this examination will be deemed to have been “nicht ausreichend” (failed, 5.0).

(2) A student disturbing the proper execution of the examination may be excluded from the continuation of this examination by the examiner or supervisor. In this case, the examination will be deemed to have been “nicht ausreichend” (failed, 5.0). In serious cases, the examination committee can exclude this student from other examinations.

(3) Details relating to honesty during examinations and internships are outlined in the General Statutes of KIT, as amended.

### **Article 12 – Maternity Protection, Parental Leave, Assumption of Family Obligations**

As regards the compensation of disadvantages of students in special life situations, the Satzung über nachteilsausgleichende Regelungen in den Bachelor- und Masterstudiengängen am Karlsruher Institut für Technologie (KIT) (statutes on the compensation of disadvantages in the bachelor's and master's programs of Karlsruhe Institute of Technology (KIT)), as amended, apply.

### **Article 13 – Students with a Disability or Chronic Disease**

As regards the compensation of disadvantages of students in special life situations, the Satzung über nachteilsausgleichende Regelungen in den Bachelor- und Masterstudiengängen am Karlsruher Institut für Technologie (KIT) (statutes on the compensation of disadvantages in the bachelor's and master's programs of Karlsruhe Institute of Technology (KIT)), as amended, apply.

### **Article 14 – Master's Thesis Module**

(1) For admission to the master's thesis module, the module examinations in the amount of 70 credits must have been passed successfully. At the request of the student, the examination committee decides on exceptions.

(2) The master's thesis can be assigned by university professors, executive scientists according to Article 14, par. 3, clause 1, KITG, or a habilitated member. In addition, the examination committee can authorize other examiners to assign the subject according to Article 17, pars. 2 and 3. The student is given the possibility of making proposals relating to the subject. If the master's thesis is to be written outside of the KIT Department of Mathematics or the KIT Department of Economics and Management, the approval of the examination committee is required. The master's thesis may also be accepted in the form of group work, if the contribution of the individual student to be evaluated in the examination can be distinguished clearly based on objective criteria and if the requirement outlined in par. 4 is fulfilled. In exceptional cases, the chairperson of the examination committee takes care of the student receiving a subject

for the master's thesis within four weeks upon her/his request. In this case, the subject is issued by the chairperson of the examination committee.

(3) The subject, task, and scope of the master's thesis are limited by the supervisor such that it can be handled with the expenditure outlined in par. 4.

(4) The master's thesis demonstrates that the student is able to deal with a problem of her/his subject area in an independent manner and within a limited period of time using scientific methods. The scope of the master's thesis corresponds to 30 credits. The maximum duration of work on the thesis amounts to six months. The subject and task are adapted to the scope envisaged. The examination committee specifies in which languages the master's thesis can be written. At the request of the student, the examiner can permit the master's thesis to be written in a language other than German.

(5) When submitting the master's thesis, the student assures in writing that the thesis is original work by her/him alone and that she/he has used no sources and aids other than indicated, marked all citations in word and content, and observed the Statutes of Karlsruhe Institute of Technology (KIT) for Safeguarding Good Research Practice, as amended. If this declaration is not contained, the thesis will not be accepted. The wording of the declaration may be: "Ich versichere wahrheitsgemäß, die Arbeit selbständig verfasst, alle benutzten Hilfsmittel vollständig und genau angegeben und alles kenntlich gemacht zu haben, was aus Arbeiten anderer unverändert oder mit Abänderungen entnommen wurde sowie die Satzung des KIT zur Sicherung guter wissenschaftlicher Praxis in der jeweils gültigen Fassung beachtet zu haben." (I herewith declare that the present thesis is original work written by me alone and that I have indicated completely and precisely all aids used as well as all citations, whether changed or unchanged, of other theses and publications, and that I have observed the Statutes of KIT for Safeguarding Good Research Practice, as amended).

If the declaration is not true, the master's thesis will be evaluated "nicht ausreichend" (5.0, failed).

(6) The time of assignment of the subject of the master's thesis is recorded in the files of the examination committee by the supervisor and the student. The time of submission of the master's thesis is recorded in the files of the examination committee

by the examiner. The student is allowed to return the subject of the master's thesis once only within the first month of the period of work on the thesis. At the justified request of the student, the examination committee may extend the time of work on the thesis given in par. 4 by three months at the maximum. If the master's thesis is not submitted in time, it will be deemed to have been "nicht ausreichend" (failed, 5.0), unless the student is not responsible for this failure.

(7) The master's thesis is evaluated by a university professor, a habilitated member, or an executive scientist according to Article 14, par. 3, clause 1, KITG, and another examiner at least. As a rule, one of the examiners is the person who assigned the thesis according to par. 2. In case of deviating evaluations of both persons, the examination committee will fix the grade of the master's thesis within the limits of the evaluations of both persons. It may also appoint another expert. The evaluation period must not exceed eight weeks upon submission of the master's thesis.

### **Article 15 – Additional Achievements**

(1) Further credits (additional achievements) in the amount of 30 credits at the maximum may be acquired in the courses offered by KIT. Articles 3 and 4 of the examination regulations remain unaffected. These additional achievements will not be considered when calculating the total and module grades. The credits not considered when determining the module grade will be listed as additional achievements in the transcript of records. At the student's request, additional achievements are indicated in the master's certificate and marked as additional achievements. Additional achievements are listed with the grades outlined in Article 7.

(2) The student declares a module examination an additional achievement when registering for this examination already.

### **Article 16 – Examination Committee**

(1) For the Master's Program of Business Mathematics, an examination committee is formed. It consists of six members entitled to vote, with three members each being appointed by the KIT Department of Mathematics and the KIT Department of Economics and Management: Four university professors / executive scientists according to Article 14, par. 3, cl. 1, KITG / Privatdozentinnen or Privatdozenten, two



representatives of the group of academic staff members according to Article 52, LHG / scientific staff members according to Article 14, par. 3, cl. 2, KITG, and one student with an advisory vote. The term of office of the non-student members is two years, the term of office of the student member is one year.

(2) The chairperson, her/his deputy, the other members of the examination committee, and their deputies are appointed by the KIT Department Council. The members of the group of academic staff according to Article 52, LHG, the scientific staff members according to Article 14, par. 3, cl. 2, KITG, and the students are proposed by the members of the respective groups. Reappointment is possible. The chairperson and her/his deputy must be university professors or executive scientists according to Article 14, par. 3, cl. 1, KITG. The chairperson of the examination committee is responsible for current transactions and supported by the respective examination office.

(3) The examination committee takes care of the provisions of the present Studies and Examination Regulations being observed and decides on examination matters. It decides on the recognition of study periods, coursework, and examinations according to Article 18, par. 1, cl. 1. It regularly reports to the KIT Department about the development of examination and study periods as well as about the times of work on the master's theses and the distribution of module and total grades. It makes suggestions for reforms of the Studies and Examination Regulations and module descriptions. The examination committee decides with the majority of its votes. In the case of a split vote, the chairperson of the examination committee decides.

(4) The examination committee may delegate the execution of its tasks for all standard cases to its chairperson. In urgent cases that cannot be postponed until the next meeting of the examination committee, the chairperson of the examination committee decides.

(5) The members of the examination committee have the right to participate in examinations. The members of the examination committee, the examiners, and the associates are obliged to secrecy. If they do not work in the public service sector, they are obliged to secrecy by the chairperson.

(6) In matters of the examination committee, which are related to an examination to be passed at another KIT Department, a competent person authorized to examine and to be appointed by the respective KIT Department is consulted at the request of a member of the examination committee.

(7) The student is informed in writing about incriminating decisions by the examination committee. These decisions must be justified and provided with an information on legal remedies available. Prior to a decision, the student is given the opportunity to comment. Objections against decisions made by the examination committee must be addressed to the Executive Board of KIT in writing or for record within one month upon receipt of the decision.

### **Article 17 – Examiners and Associates**

(1) The examination committee appoints the examiners. It may transfer this task to its chairperson.

(2) Examiners are university professors and executive scientists according to Article 14, par. 3, cl. 1, KITG, habilitated members, and academic staff members according to Article 52, LHG from the KIT Department of Mathematics or the KIT Department of Economics and Management, who have been authorized to examine students. Also scientific staff members according to Article 14, par. 3, cl. 2, KITG may be authorized to examine. For appointment as examiner, persons must have the scientific qualification corresponding to the examination subject at least.

(3) If courses are held by persons other than those mentioned in par. 2, these are appointed examiners, if the KIT Department of Mathematics or the KIT Department of Economics and Management has authorized them to examine and they have the scientific qualification required in par. 2, cl. 2.

(4) Associates are appointed by the examiners. Persons having completed a master's program of business mathematics or having an equivalent academic degree only may be appointed associate.

## **Article 18 – Recognition of Coursework and Examinations as well as of Study Periods**

(1) Coursework and examinations made as well as study periods passed in study programs at state or state-recognized universities and cooperative state universities of the Federal Republic of Germany or at foreign state or state-recognized universities are recognized at the request of the student, if the competencies acquired do not differ considerably from the achievements or degrees to be replaced. For this, no schematic comparison, but an overall analysis is made. As regards the scope of a coursework to be recognized, the principles of the ECTS apply.

(2) The student submits the documents required for recognition. Students newly enrolled in the Master's Program of Business Mathematics submit the application together with the documents required for recognition within one semester upon enrollment. If documents are not available in the German or English language, an officially certified translation may be required. The examination committee bears the burden of proving that the application does not meet the recognition requirements.

(3) If achievements made at places other than KIT are recognized, they are listed as "anerkannt" (recognized) in the certificate. If grades exist, they are taken over in case of comparable grade scales and are included in the calculation of module grades and the total grade. In case of incomparable grade systems, the grades can be converted. In the absence of grades, the note "bestanden" (passed) is entered.

(4) When recognizing coursework and examinations as well as study periods passed outside of the Federal Republic of Germany, the equivalence agreements adopted by the Conference of Ministers of Education and the German Rectors' Conference as well as agreements concluded within the framework of university partnerships are considered.

(5) Knowledge and skills acquired outside of the university system are recognized, if they are equivalent to the coursework and examinations to be replaced in terms of contents and level and if the institution, where the knowledge and skills were acquired, has a standardized quality assurance system. Recognition may be refused in parts when more than 50% of the university's study program is to be replaced.

(6) The examination committee is responsible for recognitions. To determine whether a considerable difference in the sense of par. 1 exists, the responsible subject representatives are heard. Depending on the type and scope of coursework and examinations to be recognized, the examination committee decides on admission to a higher semester.

## **II. Master's Examination**

### **Article 19 – Scope and Type of the Master's Examination**

(1) The master's examination consists of the module examinations according to pars. 2 and 3 and the master's thesis module (Article 14).

(2) Module examinations must be passed in the following mandatory subjects:

1<sup>st</sup> subject: Mathematische Methoden 1 (mathematical methods 1): Module(s) in the amount of 36 credits, of which at least 8 credits are reached in the modules of Stochastik (stochastics) and another 8 credits are reached in the modules of Analysis (analysis) or Angewandte und Numerische Mathematik, Optimierung (applied and numerical mathematics, optimization)

2<sup>nd</sup> subject: Finance – Risk Management – Managerial Economics: Module(s) in the amount of 18 credits

3<sup>rd</sup> subject: Operations Management – Datenanalyse (data analysis) – Informatik (informatics): Module(s) in the amount of 18 credits

4<sup>th</sup> subject: Wirtschaftswissenschaftliches Seminar (economics seminar): Module(s) in the amount of 3 credits

5<sup>th</sup> subject: Mathematisches Seminar (mathematical seminar): Module(s) in the amount of 3 credits

The modules available for selection and their allocation to subjects are specified in the module manual.

(3) In the mandatory elective subject, module examinations in the amount of 12 credits must be passed. The modules available for selection are specified in the module manual.

## **Article 20 – Passing of the Master’s Examination, Calculation of the Total Grade**

(1) The master’s examination is passed, if all module examinations mentioned in Article 19 were evaluated with the grade “ausreichend” (sufficient) at least.

(2) The total grade of the master’s examination is the mean of the subject grades of subjects 1-4 as outlined in Article 19, par. 2, the mandatory elective according to Article 19, par. 3, and the master’s thesis module weighted with the credits.

(3) In case the student has completed the master’s thesis module with the grade 1.0 and the master’s examination with an average of 1.2 or better, the rating “mit Auszeichnung” (with distinction) is granted.

## **Article 21 – Master’s Transcript, Master’s Certificate, Diploma Supplement, and Transcript of Records**

(1) Upon evaluation of the last examination, a master’s certificate and a transcript are issued about the master’s examination. The master’s certificate and transcript are issued not later than three months upon the last examination. The master’s certificate and transcript are issued in the German and English languages. The master’s certificate and transcript bear the date of the successful passing of the last examination. They are handed over to the student together. The master’s certificate documents conferral of the academic degree of master. The master’s certificate is signed by the President and the Deans of the KIT Department of Mathematics and the KIT Department of Economics and Management and provided with the seal of KIT.

(2) The transcript lists the subject and module grades, the credits assigned to the modules and subjects, and the total grade. If a differentiated evaluation of individual examinations was made according to Article 7, par. 2, cl. 2, the respective decimal grade is indicated in the transcript. Article 7, par. 4 remains unaffected. The transcript is signed by the Deans of the KIT Department of Mathematics and the KIT Department of Economics and Management and the chairperson of the examination committee.

(3) In addition, the student is given a diploma supplement in the German and English languages, which corresponds to the requirements of the applicable ECTS Users’ Guide, as well as a transcript of records in German and English.

(4) The transcript of records lists all coursework and examinations of the student in a structured form. It includes all subjects and subject grades as well as the assigned credits, the modules assigned to the respective subject with the module grades and the credits assigned as well as the controls of success assigned to the modules together with the grades and the credits. Paragraph 2, cl. 2 applies accordingly. The transcript of records clearly reflects the assignment of courses to the individual modules. Recognized coursework and examinations are included in the transcript of records. All additional achievements are listed in the transcript of records.

(5) The master's certificate, master's transcript, and the diploma supplement, including the transcript of records, are issued by the Students Office of KIT.

### **III. Final Provisions**

#### **Article 22 – Certificate of Examination Achievements**

(1) In case a student has ultimately failed in the master's examination, she/he is given at request and against submission of the exmatriculation certificate a written certificate about the coursework and examinations made, the respective grades, as well as the confirmation that the overall examination has not been passed. The same applies when the entitlement to an examination has expired.

#### **Article 23 – Deprivation of the Master's Degree**

(1) If a student has been guilty of deception during an examination and if this fact becomes known upon the hand-over of the certificate only, the grades of the module examinations, during which the student was guilty of deception, can be corrected. If applicable, this module examination may be declared to have been "nicht ausreichend" (5.0, failed) and the master's examination may be declared to have been "nicht bestanden" (failed).

(2) If the conditions for admission to an examination were not fulfilled without the student wanting to deceive and if this fact becomes known upon the hand-over of the certificate only, this default is remedied by the passing of the examination. If the student intentionally and wrongly obtained admission to the examination, the module examination may be declared to have been "nicht ausreichend" (5.0, failed) and the master's examination may be declared to have been "nicht bestanden" (failed).

(3) Prior to a decision of the examination committee, the student must be given the opportunity to comment.

(4) The incorrect certificate is confiscated and, if applicable, a new certificate is issued. Together with the incorrect certificate, the master's certificate is also confiscated, if the master's examination was declared to have been "nicht bestanden" (failed) due to a deception.

(5) A decision pursuant to par. 1 and par. 2, cl. 2 is excluded after a period of five years upon the date of issue of the certificate.

(6) Deprivation of the academic degree is subject to Article 36, par. 7, LHG.

#### **Article 24 – Inspection of Examination Files**

(1) Upon completion of the master's examination, the students are granted the right to inspect the examination copy of their master's theses, the related opinions, and minutes of the examinations within one year at request.

(2) For inspection of the written module examinations, written module part examinations, and examination minutes, a period of one month after announcement of the examination result applies.

(3) The examiner determines the place and time of inspection.

(4) Examination documents must be kept for at least five years.

#### **Article 25 – Entry into Force, Transition Regulations**

(1) The present Studies and Examination Regulations enter into force on October 01, 2016 and apply to

1. students, who start their studies within the Master's Program of Business Mathematics at KIT in the first semester, and
2. students, who start their studies within the Master's Program of Business Mathematics at KIT in a higher semester, provided that this semester is not higher than the semester reached by students of the first year according to clause 1.

(2) The Studies and Examination Regulations of Universität Karlsruhe (TU) for the Master's Program of Business Mathematics of August 28, 2009 (Official Announcement of Universität Karlsruhe (TU) No. 76 of August 28, 2009), last amended by the Statutes of March 27, 2014 (Official Announcement of KIT No. 19 of March 28, 2014) remain in force for

1. students, who started their studies within the Master's Program of Business Mathematics at KIT not later than in the winter semester 2015/16, and
2. students, who, as of the summer semester 2016, start their studies within the Master's Program of Business Mathematics at KIT in a higher semester, provided that this semester is higher than the semester reached by the first year of students according to par. 1, clause 1.

As for the rest, they cease to be in force.

(3) Students, who started their studies based on the Studies and Examination Regulations for the Master's Program of Business Mathematics of August 28, 2009 (Official Announcement of Universität Karlsruhe (TU) No. 76 of August 28, 2009), last amended by the Statutes of March 27, 2014 (Official Announcement of KIT No. 19 of March 28, 2014), may pass examinations based on those Studies and Examination Regulations by the end of the 2020 summer semester examination period for the last time.

(4) Students, who started their studies based on the Studies and Examination Regulations for the Diploma Program of Business Mathematics of November 15, 2001 (Official Announcement of Universität Karlsruhe (TU) No. 30 of November 26, 2001), last amended by the Statutes of September 10, 2003 (Official Announcement of Universität Karlsruhe (TU) No. 28 of October 20, 2003), may pass examinations based on those Studies and Examination Regulations until the end of the 2020/2021 winter semester examination period.

Karlsruhe, December 17, 2015

Professor Dr.-Ing. Holger Hanselka  
(President)