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University of Tübingen exam regulations for the study programs Mathematics and Mathematical Physics culminating in an examination for a Master of Science (M.Sc.) degree – General Provisions –

In accordance with §§ 19 (1) sentence 2 nos. 9, and 32, para. (3) LHG of 04.01.2014 (GBl. p. 99), most recently amended by article 1 of the law dated 13 March 2018 (GBl. p. 85) the University of Tübingen Senate on 13.12.2018 passed the following General Provisions of the exam regulations for the degree programs at the University of Tübingen for the programs Mathematics and Mathematical Physics culminating in an examination for a Master of Science (M.Sc.) degree.

Approved by the President and Vice-Chancellor on 20.12.2018.

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A. General Provisions for Master's degree programs

§ 1 Area of Application

(1) These University of Tübingen exam regulations apply to the degree programs Mathematics and Mathematical Physics culminating in an examination for a Master of Science (M.Sc.) degree, referred to hereinafter as the Master's degree program.

(2) The Special Provisions of these regulations set out the qualification goals and regulate these General Provisions in more detail.

§ 2 Structure of the Master's program

(1) ¹The European Credit Transfer and Accumulation System (ECTS) is used in this Master's program; accordingly, ECTS credit points are allocated to all components of the program; the number of ECTS credits is in line with the student's foreseeable workload. ²One credit point assumes a workload for the student of 30 hours in class and in private study.

(2) ¹The Master's degree program has a modular structure and goes hand-in-hand with a module-specific system of assessment. ²The type, contents and workload of the required modules, and the credit points allocated to them, are set out in the Special Provisions of these exam regulations and/or in the module handbook.

(3) ¹The regular duration of study for this program up to conferral of the academic degree is four semesters, including all coursework and assessment. ²All coursework and assessment, including exams, set out in these exam regulations may be carried out ahead of the appointed time, if the student meets the necessary prerequisites and there is sufficient capacity. ³In tiered programs leading to a Bachelor's degree and a Master's degree building upon it, the overall regular duration of study is set at a maximum of five years.

(4) ¹The program comprises 120 credit points. ²For the scope of the Master's thesis work, § 28 (2) of these regulations applies. ³The scope of studies and allocation of credit points to modules and/or module coursework (cf. § 7 (2)) is set out in the Special Provisions. ⁴For the Master's degree, 300 ECTS credit points are required in total – including the student's preceding studies up to his/her first professional degree. ⁵The Special Provisions may allow for students to obtain additional credit points beyond those required under these regulations; however, students may not obtain more additional credit points than the number foreseen in the Special Provisions. ⁶Additional ECTS credits as defined in sentence 5 above will be accredited to the student's ECTS account and listed in the transcript of records (cf. § 36 paragraph (2)). ⁷The results from these additional ECTS credit units will not be included in the calculation of the module grades or overall grades.

(5) The Special Provisions and/or the respective module handbook may require students to carry out a practical exercise which serves the program's qualification goal.

(6) The Special Provisions may contain regulations on an obligatory and/or facultative stay abroad.

§ 3 Academic degree

The academic degree "Master of Science" (abbr. "M.Sc.") is conferred on the basis of a successful completion of a Master of Science examination (cf. § 7 of these regulations).

§ 4 Start of studies

The start of the program (winter or summer semester) is set out in the regulations governing admission and enrollment at the University of Tübingen, as amended.

§ 5 Admission to the program

The admission requirements for restricted-admission degree programs are set out in special articles on the selection and aptitude testing procedures.

§ 6 Examination board

(1) ¹In line with the provisions of these exam regulations, the Faculty of Science forms a Master's program examination board for the organization of exams and for all other tasks not expressly assigned elsewhere by these regulations. ²The head of the examination board, his/her deputy on the board, the board members and their deputies are each appointed by the Faculty. ³The examination board is composed as follows:

1. three members of the Faculty's full-time professors and/or extraordinary professors, insofar as they are full-time and predominantly carry out the tasks of a professorship,
2. one other member of the Faculty's academic staff,
3. one student (in an advisory role).

⁴Only a board member under sentence 3 no. 1 may be head of the board or its deputy. ⁵The head of the board will usually conduct the board's active business. ⁶Furthermore, the board may revocably transfer certain tasks to the head of the board, insofar as this is not expressly barred; not, however, decisions on appeals. ⁷The examination board may receive the support of an examinations office to carry out its active business. ⁸Decisions by the examination board are passed with a majority of the board members' votes; in the event of a tie, the head of the board casts the deciding vote. ⁹There are no restrictions on reappointment. ¹⁰If a member withdraws before the end of his/her term of office, a new member is appointed for the remainder of the term of office. ¹¹Members of the board remain in office after their term of office expires until new members are appointed.

(2) The board members' term of office is three years; that of the student on the board is one year.

(3) ¹The board is to report regularly to the Faculty on the development of examinations and durations of study including the time to complete Master's theses, as well as reporting on the distribution of subject grades and overall grades. ³The examination board must ensure that all coursework and assessment set out in these exam regulations can be carried out/ completed within the prescribed time periods. ⁴To this end, students must be informed in good time - usually at the start of the lecture period - both of the nature and number of pieces of assessment and coursework to be completed, as well as of the deadlines by which these must be completed; similarly, students must be informed in good time of the dates for the issue of

Master's thesis topics and for Master's thesis submission. ⁴The examination board must also ensure that protective legal provisions and the provisions under § 32 paragraph (4)(5) LHG are met.

(4) ¹Board members have the right to be present as observers during examinations in the respective degree program. ²The University President or a representative appointed by him/her also has the right to be present at examinations.

(5) ¹Meetings of the examination board are not open to the public. ²Members of the board, their representatives, and any third parties involved are obliged to maintain professional secrecy. ³If they are not state employees, the head of the board must pledge them to maintain confidentiality.

(6) ¹Decisions by the examination board or its head which negatively affect the candidate must be communicated in writing at the earliest possible opportunity to the candidate, giving a reason for the decision and including instructions on the right to appeal. ²Appeals against such decisions must reach the examination board in writing within one month of notification. ³If the examination board does not remedy the appeal, the appeal must be presented to the University's Vice-President for Academic Affairs for decision.

B. Master's examination process

§ 7 Purpose and structure of the Master's examination

(1) ¹The Master's examination comprises a graduate professional qualification which goes beyond the first degree in the field of mathematics. ²In completing the Master's examination, students demonstrate that they have built a solid foundation of basic knowledge beyond that gained in a first degree as well as a systematic orientation and in-depth proficiency in the field of mathematics, and have developed the ability to process academic questions in their Master's subject independently, using the relevant methods.

(2) ¹The Master's examination consists of the required pieces of module coursework. ²These are pieces of assessed and non-assessed coursework and, in the case of the final module, if required, a final oral examination, an oral examination on the contents of the Master's thesis and/or a final colloquium on the Master's thesis (optional oral assessment in the Master's thesis examination process). ³The candidate has passed the Master's examination when all pieces of required module coursework have been successfully completed. ⁴The program to be completed by students is set out in a module table in the Special Provisions and/or in the module handbook, along with details of which module-specific assessment is relevant for the final grade and, where applicable, in which modules it is to be completed.

(3) The module handbook contains the following information regarding the individual modules:

1. Name of the module,
2. Content and goals,
3. Teaching formats in accordance with § 15,
4. Prerequisites and limitations on admission,
5. Interchangeability of module and recommended semester,
6. The credit points set out in these exam regulations, the requirements for obtaining them, in particular the requirements for each piece of assessment, as well as information on whether a grade is given for it,
7. The frequency with which modules are offered,
8. Workload and duration of modules.

§ 8 Obtaining ECTS credits

(1) ¹The ECTS credits designated to each module are allocated when all required module coursework has been successfully completed. ²ECTS credits are allocated for graded work regardless of the grade given, as long as it is “sufficient” or better.

(2) ¹The Special Provisions and/or in the module handbook set out details of the coursework required and in which modules assessed coursework must be completed. ²If assessed coursework is required in a module, additional non-assessed coursework may also be required for the student to obtain the ECTS credits allocated to the module. ³In those modules in which no assessed coursework is required, the relevant ECTS credits are obtained via the completion of non-assessed coursework.

(3) The type, form, number, and scope of the required pieces of module assessment are to be set in such a way that the time required to complete them is in line with the ECTS credits assigned to the relevant class and/or the relevant module.

§ 9 Coursework and module-specific assessment

(1) ¹Coursework consists of individual written, verbal, and/or practical work conducted by the students, usually in connection with classes. ²The coursework completed must be appraised by the person responsible for the relevant class.

(2) ¹Module-specific assessment for the purpose of these exam regulations is the assessment (including any relevant repeat assessment) in each module. ²Module assessment may be composed of several pieces of module-specific assessed coursework. ³All the provisions set out in these exam regulations regarding module-specific assessment apply accordingly to each individual component of a piece of module assessment, unless otherwise specified. ⁴The Special Provisions of these exam regulations and/or the module handbook set out what type of exam is to be completed in each module: Oral and/or written and/or practical. ⁵The Special Provisions of these exam regulations may also allow for other supervised assessed coursework, to be appraised according to the same standards.

(3) ¹The manner, content, and scope of the coursework or pieces of module-specific assessment, the requirements for assessment, or any further, particular requirements for admission may be set out in the module handbook. ²However, provisions set out in the exam regulations take precedence over those set out in the module handbook.

(4) ¹Students on leave are not entitled to attend classes or to take part in module-specific assessed coursework; differing provisions in cooperation agreements remain unaffected. ²Students on leave under § 61 (3) LHG (maternity leave, parenting leave, carer’s leave) have the right to take part in classes and to carry out coursework and assessed work. ³The regulations governing admission and enrollment at the University of Tübingen, as amended, take precedence over these exam regulations.

§ 10 Module-specific verbal assessment

(1) ¹Oral assessment may be conducted in the form of oral exams, presentations, colloquia, and other forms of verbal presentation. ²Other forms of assessment may be designated in the module handbook.

(2) ¹During verbal assessment (individual or group assessment) the candidate must demonstrate that he/she has met the qualification goals set out in the module description, recognizes the interrelated themes of the field being assessed, and is able to analyze particular issues within these interrelated themes. ²The candidate gives a presentation in which he/she demonstrates that he/she is able to familiarize him/herself with a narrowly-defined issue in the subject, to process it using the subject’s methods, and to present the results in a lecture.

(3) ¹Oral assessment is intended to determine whether the candidate has broad-based basic knowledge. ⁴The duration of an oral examination is usually between 15 and 60 minutes per candidate. ³If the oral examination takes place before one person functioning as the examiner, an observer must also be present. ⁴An official record must be kept of the main subject-matter and the main results of the oral exam; this official record must be signed by the examiner and - if an observer is present - also by the observer. ⁵The result of the oral examination is to be communicated to the candidate at the conclusion of the oral exam.

(4) ¹Oral exams are not open to the public. ²Provided there is no objection from the candidate, other students wishing to carry out the same assessment at a later exam date may be admitted to attend an oral exam as members of an audience, subject to the limitations of the examination venue. ³This admittance does not extend to the discussion of exam results, nor to the notification of these to the candidate.

§ 11 Module-specific written assessment

(1) ¹Possible forms of written assessment are exams, assignments, portfolios, lab reports, and other forms of written assessment. ²Further forms of assessment may be designated in the module handbook.

(2) ¹In exams and in other written work the candidate demonstrates that he/she is able to recognize a problem and, in a limited time using limited aids, is able to apply methods appropriate to the subject to find ways of solving it. ²The candidate may be given several tasks from which he/she chooses one or more to complete. ³The duration of a written exam should usually be at least 60 minutes and not more than 240 minutes.

(3) ¹An official record must be kept of the proceedings of an exam, recording particular events, especially attempts by a candidate to influence the result by cheating or using unauthorized aids. ²The official record must be signed by the invigilator.

§ 12 Coursework and module-specific assessment using new media

(1) ¹Coursework and module-specific assessment may be completed using modern information and communication technologies (new media), provided the technical, personnel and spatial requirements are met. ²Module-specific assessment may be conducted on-site or as off-site examinations at other institutions, particularly at other institutions of higher education (e.g. as online exams or via video conferencing).

(2) ¹The examination board regulates all further details on the performance and completion of coursework and assessment in accordance with (1) above; §§ 9 to 11 and 17 apply accordingly to the performance and completion of coursework and assessment using new media. ²The examination board ensures that the principles of a fair examination procedure are observed. ³In particular, the identity of the students must be checked and there must be compliance with the University of Tübingen's usual exam standards; this includes suitable supervision of the students to be examined and the exclusion of unauthorized resources. ⁴Examinations at the University of Tübingen and off-site examinations are to take place at the same time.

(3) ¹If coursework and assessment are to be carried out using new media, students are generally given sufficient opportunity to familiarize themselves with the electronic examination system within the framework of the relevant class. ²Data protection provisions must be observed.

§ 13 Languages of instruction and examination

The Special Provisions may determine that

1. Classes may be held in languages other than German,

2. Coursework and assessment must or may be conducted in languages other than German.

§ 14 Examiners and observers

(1) ¹The examination board appoints examiners and observers - insofar as required by these exam regulations - for each piece of module-specific assessment. ²The board may allow the head of the board to make the appointments. ³Module-specific exams are conducted by one examiner, unless some other arrangement is set out in the Special Provisions of these exam regulations or in the module handbook. ⁴Suggestions by the candidate for potential examiners may be taken into account; however the candidate does not have the right to have his/her suggestion taken into account. ⁵The observer - if one is required to be present - is to take minutes of the proceedings. ⁶Only persons with a degree in the relevant degree program or its equivalent may be appointed as observers.

(2) ¹Only professors, academics with habilitation, and other academic staff who have been appointed by the board of examiners in accordance with the respective legal requirements are authorized to conduct examinations. ²Other members of the academic staff, such as assistant lecturers, may under exceptional circumstances act as examiners only if there are not enough examiners available under sentence 1 above and if they have a qualification in the examined subject which is at least the equivalent of the degree for which the examination is taking place. ³Only persons who are members or employees of the University of Tübingen acting in one of the functions set out in this paragraph are authorized to conduct assessment.

(3) ¹If assessment is undertaken in connection with individual classes, the member of teaching staff responsible for the class is the examiner, subject to another appointment under para. (1). ²Paragraph (2) remains unaffected. ³If an examiner is absent, the examination board appoints another person qualified under (2). ⁴If a repeat exam is conducted on module-specific assessment within the framework of the regular exam timetable, then the examiner is the member of teaching staff scheduled for this regular exam date. If the repeat exam is not conducted within the framework of regular exam dates, an examiner will be appointed.

§ 6 (5) sentences 2 and 3 apply for examiners and observers accordingly.

§ 15 Types of classes within the modules

Classes of the following types in particular may be scheduled:

1. Lectures
2. Seminars and colloquia,
3. Exercises,
4. Practical experience/ lab work,
5. Excursions,
6. Tutorials

§ 16 Participation in classes, access to phases of the study program

¹The Faculty of Science may restrict the right to participate in classes or it may make admission to part of the course dependent on the completion of certain coursework, if training could not otherwise be guaranteed in accordance with the regulations or a limitation is necessary for other reasons of research, teaching or patient care. ²The Special Provisions may set out requirements for participation in classes and/or admission to part of the program and/or admission to assessment.

C. Module examinations in the Master's degree program

I. General Provisions for module examinations

§ 17 Registration and admission to module-specific assessment

(1) ¹Students must register for each piece of module-specific assessment by a date set by the examination board in accordance with the provisions set out by the board. ²The dates for registration should usually be indicated in the Campus Management System/ ALMA.

(2) ¹A student can only be admitted to module-specific assessment if he/she:

1. is enrolled at the University of Tübingen in the relevant Master's degree program, and
2. has not lost the right to be examined (§ 32 (5) LHG) in the relevant Master's degree program or in a related degree program covering largely the same material at an institution of higher education, and
3. has not failed, with no option to repeat, a Master's or final examination in the relevant degree program or in a related degree program covering largely the same material at an institution of higher education, and
4. meets any further necessary prerequisites set out in the Special Provisions.

²Related degree programs covering largely the same material may be listed in the respective degree program's Special Provisions; the examination board will decide on other programs covering largely the same material.

(3) ¹The examination board will decide on admission to a piece of module-specific assessment.

²Admission will be denied if:

1. the requirements set out in (2) are not met, or
2. the application is incomplete and the missing documents were not submitted on time.

³Admission may also be denied if the student is involved in a current examination process in the respective program or in a comparable degree course under para. (2). ⁴No other reasons for denial are permitted. ⁵If admission is denied, the student will receive written notification of this within four weeks; this notification must include reasons for the denial and instructions on the right to appeal. ⁶Admission is to be revoked if, at the time of submission of a piece of module-specific assessment, the student is no longer enrolled at the University of Tübingen in the subject in which the assessment is to be made or is not entitled to participate in, or complete, the assessment due to a leave of absence. ⁷Admission to the Master's thesis process may be revoked retroactively if subsequently facts become known, which, had they been known, would have necessarily led to a denial of admission; the University may refrain from revoking the admission if the reasons for which admission would have had to be denied no longer exist.

§ 18 Disadvantage compensation

(1) ¹If a candidate can show credibly, by presenting a doctor's certificate, that he/she is unable to complete assessed coursework in whole or in part in the form required, due to a lingering or constant medical condition, impairment or disability, the head of the examination board will, upon application by the candidate, grant him/her an extension in which to complete the assessment in a different form using special resources and under special assessment conditions (disadvantage compensation). ²Different forms of disadvantage compensation may be aggregated. ³The same applies to coursework and any other relevant work. ⁴This also applies in the case of illness of a child in the personal care of the student.

(2) ¹Disadvantage compensation within the meaning of paragraph (1) may only take place if the medical condition, the impairment or the disability of the candidate has no impact on the abilities to be examined; only if it makes it difficult to prove existing abilities. ²Disadvantage compensation will not take place if the candidate is meant to also prove that he/she can overcome particular difficulties and therefore has the skills which were to be proved by the assessment.

§ 19 Grading of module-specific assessment

(1) ¹The grade for each piece of module-specific assessment is determined by the relevant examiner(s). ²The following grades are to be used for grading module-specific assessment:

| | |
|------------------|--|
| 1 = very good | = an outstanding performance; |
| 2 = good | = a performance well above the average requirements; |
| 3 = satisfactory | = a performance in line with the average requirements; |
| 4 = sufficient | = a performance which, despite its failings, nevertheless meets the requirements; |
| 5 = insufficient | = a performance which does not meet the requirements due to considerable failings. |

³For precise grading of assessed work, whole grades may be raised or lowered by a value of 0.3. ⁴The grades 0.7, 4.3, 4.7 and 5.3 are not given. ⁵Module assessment which is not graded is given a “pass” or a “fail”.

(2) The grades in the modules are as follows:

| | |
|-------------------------------|-----------------|
| average of 1.50 or less | = very good; |
| average grade of 1.51 to 2.50 | = good; |
| average grade of 2.51 to 3.50 | = satisfactory; |
| average grade of 3.51 to 4.00 | = sufficient; |
| average of 4.01 or more | = insufficient |

(3) ¹If a module’s assessment consists of several graded, module-specific components, the overall module grade is calculated from the average grades of the individual pieces of subject-specific assessment, weighted by credit points, unless otherwise set out in the Special Provisions of these exam regulations. ²This average takes into account whole numbers and the first two decimal places only; all further decimal places are deleted with no rounding.

(4) ¹If coursework is assessed by several examiners, the grade will be calculated from the arithmetic mean of the individual assessments. ²Paragraphs (2) and (3) sentence 2 apply accordingly.

(5) The calculation of the overall Master’s grade is set out in § 35.

§ 20 Multiple-choice procedures

A multiple-choice procedure may be provided for in the Special Provisions.

§ 21 Passing/ Failing module assessment

(1) ¹A piece of module-specific assessment passes if it is given the grade of 4 (sufficient) or better, or if it is evaluated as a “pass.” ²A module’s assessment consisting of several graded,

module-specific components results in an overall pass if each of these pieces of assessment was a pass, unless otherwise set out in the Special Provisions of these exam regulations. ³For the optional oral exam in the Master's thesis process under § 28 (1), sentence 2 applies.

(2) ¹If the candidate fails a piece of assessed coursework or the Master's thesis, the head of the examination board gives him/her notification of this, including information on the right to appeal; the notification may include information on whether and to what extent the assessment may be repeated. ²Except for failure in the Master's examination, notification of assessment results may be announced in other ways. ³For the optional oral exam at the end of the Master's thesis process, the provisions for the Master's thesis set out in sentences 1 and 2 apply accordingly.

(3) ¹If a candidate fails a piece of module-specific assessment required under the exam regulations with no option to repeat, the candidate's right to be examined in the Master's program expires. ²The offices listed in § 27 are responsible for issuing certification on the loss of the right to be examined.

§ 22 Absence, withdrawal

(1) ¹A piece of assessed work counts as graded "insufficient" (5.0) if the candidate fails to attend an exam without good reason and without having deregistered him/herself from the exam in the form set out by the examination board and within the period prescribed, or if he/she for no good reason withdraws from the exam after it begins. ²The same applies if a written or practical piece of assessment is not submitted within the allotted time period.

(2) ¹Deregistration from a written or practical piece of assessment or from the Master's thesis without providing reasons is possible on a working day - Monday to Friday - up until the working day prior to the first day of the examination. ²In the case of oral exams, deregistration must take place at the latest on the sixth working day (not counting Saturdays) prior to the day of the relevant examination, unless otherwise specified in the Special Provisions. ²The deadlines for deregistration should usually be indicated in the Campus Management System/ ALMA.

(3) ¹The reasons given for withdrawing or failing to attend must be communicated in writing and at the earliest possible opportunity to the examination board; they must be credible. ²In the case of illness of the candidate or of a child in his/her care, presentation of a doctor's certificate may be required. ³If the reasons are recognized, a new date for the exam will be set. ⁴In such a case, the existing exam results must be accredited.

(4) The examination board decides on the recognition of reasons for absence or withdrawal.

§ 23 Deception, breach of regulations

(1) ¹If the candidate attempts to influence the result of his/her assessment using deception or resources which are not permitted, the relevant module-specific assessment will be given a grade of "insufficient" (5.0). ²A candidate who disrupts the orderly proceedings of an exam may be excluded from continuing the module-specific assessment by the examiner or by an invigilator; in this case the candidate's module-specific assessment will be given a grade of "insufficient" (5.0).

(2) In severe cases of (1) above, the examination board may exclude the candidate from carrying out further module-specific assessment in the respective degree program.

(3) If a candidate attempts to influence the outcome of his/her assessed work using deception or resources which are not permitted, the relevant work will be given an evaluation of "not completed."

(4) Within a time limit of one month, the candidate may request that decisions under paragraphs (1-3) be reviewed by the examination board.

§ 24 Invalidity of an exam or piece of module-specific assessment

(1) ¹If the candidate has attempted to use deception in a piece of assessed work (§ 23 (1) and (2)), the grade for that assessed work may be corrected even if the deception becomes known after the certificate has been issued. ²If required to do so upon that basis, the examination board may in such cases also correspondingly correct other grades, examinations, and pieces of module-specific assessment upon which the grade was calculated, and to declare them “insufficient” (5.0) and to declare the Master’s examination process a fail.

(2) ¹If the requirements for admission to a piece of assessed coursework were not met, and the candidate did not intend to deceive, and if the fact becomes known only after the certificate has been issued, this fault is remedied by the candidate having passed the piece of assessed coursework. ²If the candidate deliberately obtained admission wrongfully, the pieces of assessment to which the deception applies may be declared “insufficient” by the examination board and the grades for them corrected accordingly. ³If required to do so upon that basis, the examination board may in such cases also correspondingly correct other grades, examinations, and pieces of module-specific assessment upon which the grade was calculated, and to declare them “insufficient” (5.0) and to declare the Master’s examination process a fail.

(3) ¹The candidate must be given a chance to speak on the matter prior to the decision. ²The option of withdrawing the Master’s degree under statutory provisions remains unaffected by (1) and (2).

(4) ¹The incorrect certificate as well as any incorrect transcript of records and other incorrect certification must be confiscated and reissued, where applicable. ²Along with the incorrect certificate, the Master’s degree is to be confiscated if the exam or piece of assessment has been declared a fail due to deception under (1) or (2) sentence 2. ³There can be no decision under (1) and (2) sentences 2-3 after a period of five years starting on the date of the certificate.

(5) Paragraphs (1) - (4) apply accordingly to non-assessed coursework.

§ 25 Inspection of examination files

(1) For one year following the conclusion of the Master’s examination process, graduates are guaranteed the right to inspect their Master’s thesis and the examiner’s reports relating to it as well as the minutes of any optional oral exam required as part of the thesis process.

(2) ¹For the inspection of module-specific written assessed work and/or of the minutes of module-specific oral exams there is usually a time limit of four weeks after notification of the exam results. ²Additionally, general times for inspecting certain pieces of assessed work may be offered.

(3) ¹The relevant applications must be made in writing to the head of the examination board. ²The examination board determines the time and date of the inspection.

§ 26 Repetition of module-specific assessment

(1) ¹Module-specific assessment which results in a fail or which is considered a fail may be repeated twice. ²Registration under § 17 (1) is considered to be conditional registration for the corresponding repeat exam, unless the examination board determines that re-registration is required for the repeat exam. ³In a repeat exam, only module-specific assessment given a grade poorer than “sufficient” (4.0) in the previous exam may be repeated; the grades given for the other pieces of module-specific assessment in the previous exam are taken into account in the calculation of the grade.

(2) ¹Unless otherwise specified in the Special Provisions - and in accordance with any deadline for the completion of coursework and/or assessment therein -

- the first repeat assessment must be completed, at the latest, in the second semester after the initial failed assessment
- and any further repeats which may be permitted must be completed, at the latest, in the second semester after the last semester in which the previous repeat was permissible.

²Unless otherwise specified in the Special Provisions or in the module handbook, repeats usually take place within the time and content framework of the scheduled regular module-specific assessment. ³Failure to complete the respective repeat assessment will result in a grade of “insufficient” (5.0) unless the failure to repeat was beyond the control of the student. ⁴The deadlines for repeat assessment set out in sentence 1 may be extended under § 39 (Protection provisions) by the examination board, upon application by the student. ⁵The deadlines for repetition should usually be indicated in the Campus Management System/ALMA.

(3) If the failed piece of assessment was conducted at least six weeks before the start of lectures in the following semester and if passing a repeat exam is required for admission to a piece of assessment in the following semester or for attendance at a class in the following semester, the student must be given the opportunity - upon application to the examination board - to repeat the failed exam in good time so as to be able to be admitted to the assessment or attend the class.

(4) There must usually be a period of at least two weeks between notification of results in the first exam and the repeat exam.

(5) ¹In the case of a repeat exam which is not conducted within the framework of regular exams in the following semester, the type of assessment to be completed may diverge from the type of assessment set out in the subject-specific provisions, particularly those in the module handbook, insofar as subject-specific circumstances require it. ²The student must be notified of the type and scope of assessment to be completed in the repeat exam; this information must be provided, at the latest, at the time of notification of the repeat exam date.

(6) Assessment resulting in a pass cannot be repeated.

II. Special provisions for the final module

§ 28 Final module

(1) To make up the required number of credit points for the final module, the Special Provisions of these exam regulations or the module handbook may require, in addition to the Master's thesis, an oral final examination at the end of the Master's program, an oral examination on the contents of the Master's thesis and/or a final colloquium on the Master's thesis (optional oral exam on the Master's thesis); two or more of these forms of oral examination, completed cumulatively, may be required.

(2) ¹The Master's thesis work is worth 30 ECTS credit points. ²The Master's thesis is meant to demonstrate that the author is able to process a topic in the subject independently and by applying academic methods within a set time, and to present the results thus obtained appropriately and in written form. ³The topic should usually be set by an examiner under § 14 in the second year. ⁴If the student does not find a topic for his/her Master's thesis, the head of the examination board ensures, upon written application, that the student is allocated a topic for his/her Master's thesis in good time. ⁵The topic is issued via the examination board; the time of issue and the topic must be recorded. ⁶The student is to be given the opportunity to make suggestions for a Master's thesis topic; however the examination board is under no obligation to consider such suggestions.

(3) ¹The time limit for writing a Master's thesis - from the issuing of the topic to submission of the thesis - is six months unless otherwise specified in the Special Provisions. ²The topic must

be set out and the task must be formulated by the thesis supervisor in such a way that the Master's thesis may be completed within this time limit. ³The deadline for submission may be extended upon application by the examination board if there is good reason.

(4) The credit points awarded for the optional Master's thesis oral exam are set out in the Special Provisions.

(5) ¹The student may choose to write the thesis in German or English unless otherwise set out in the Special Provisions of these exam regulations; the examination board will decide on applications to write the thesis in any other language. ²The finished Master's thesis must be submitted to the examination board within the allotted time as two bound copies and in a file format determined by the examination board. ³The time of submission must be recorded. ⁴Along with the printed text, the Master's thesis may contain multimedia elements on electronic data storage media, if the topic requires it. ⁵The process of evaluation must be completed four weeks at the latest after submission of the thesis; it is the examination board's task to supervise this deadline. ⁶If examiners are prevented from keeping the deadline due to illness or some other circumstance, the examination board may appoint other examiners.

(6) ¹The candidate must include a declaration signed by him/her, in which he or she pledges:

1. that he/she authored the work or, in the case of a group thesis, the clearly indicated portion of the work, independently,
2. that he/she did not use any sources or resources other than those indicated,
3. that he/she has clearly identified all matter from other works, whether cited verbatim or paraphrased, as such,
4. that he/she has not already published the thesis as a whole or in any significant part, and
5. that the contents of the electronic file submitted is identical to that of the bound copies submitted.

²In the declaration under sentence 1, the signing party must also provide information as to whether the thesis as a whole or in part has already been the subject of another examination process.

(7) ¹The Master's thesis is assessed by two people as examiners in accordance with § 14; one of them is usually the thesis supervisor; § 19 (1) applies accordingly. ²If one of the two examiners gives the thesis a grade of "insufficient" (5.0) and the other a grade of "sufficient" (4.0), or if the two evaluations diverge by more than a whole grade as defined in § 19 (1) sentence 2, the head of the examination board shall obtain another evaluation from a further examiner. ³In the case of sentence 3 above, the Master's thesis grade is calculated as a median of the three individual evaluations. ⁴In all other cases, the Master's thesis grade is calculated as the arithmetic mean of the two individual evaluations; § 19 paragraphs (1) and (4) apply accordingly. ⁵A member of the University of Tübingen shall be chosen to be the supervisor of the Master's thesis. ⁶With the permission of the examination board, the Master's thesis may be completed additionally at an institution or office outside the University of Tübingen with the inclusion of a person at that institution or office as a co-supervisor.

(8) ¹For the optional oral exam under para. (1) the rules for oral exams apply, unless otherwise specified in the Special Provisions of these exam regulations or in the module handbook. ²They are assessed by one examiner and take place in the additional presence of an observer unless otherwise specified in these exam regulations, in their Special Provisions or in the module handbook; for grading, § 19 applies.

(9) The Master's thesis may also be admitted in the form of a group project, if the individual candidate's contribution can be clearly identified and assessed by means of sections, page numbers or other objective criteria which make a clear distinction possible, and if the contribution meets all other requirements.

§ 29 Prerequisites for admission to the Master's thesis process and oral examinations to be completed in the final phase of the program

Candidates may only be admitted to the Master's thesis process and optional oral exam under § 28 (1), if:

1. they meet the admission requirements according to § 17 (2), and
2. they meet any further subject-related admission requirements set out in the Special Provisions of these exam regulations.

§ 30 Admission procedure

(1) ¹The application for admittance to the Master's thesis process and optional oral exam under § 28 (1) must be submitted in writing to the examination board. ²This application must include details of the relevant study program and, where applicable, the candidate's proposed examiner, and/or suggestions for the Master's thesis topic. ³The application must be accompanied by:

1. the student's Studienbuch or equivalent academic records,
2. documentation that the requirements set out in § 29 nos. 1-2 have been met,
3. a declaration stating

(a) that the candidate has not lost the right to be examined (§ 32 (5) LHG) in the relevant degree program or in a related degree program as set out in § 17 (2) covering largely the same material at an institution of higher education or

-

- he/she has not failed a Master's or final examination with no option to repeat,

and

(b) whether he/she is participating in a current examination process in another Master's degree program or in a related degree program as set out in § 17 (2) covering largely the same material at an institution of higher education.

(2) If the candidate cannot provide documentation as required under (1) in the manner stipulated, the examination board may in individual cases allow evidence to be shown in some other way.

(3) The examination board will decide on admission.

(4) ¹The candidate is considered admitted if his/her application is not rejected within four weeks. ²The application is to be rejected if:

1. the admission requirements are not met, or
2. the application is incomplete and the missing documents were not submitted on time.

³Admission may also be denied if the student is involved in a current examination process in the Master's program or in a comparable degree course under § 17 (2). ⁴No other reasons for denial are permitted. ⁵Reasons for rejecting an application must be given in writing.

(5) ¹Admission is to be revoked if, upon delivery of the work to be assessed, the student is no longer enrolled at the University of Tübingen in the subject in which the assessment is to be made or is not entitled to complete a Master's thesis due to a leave of absence. ²Admission to the Master's thesis process may be revoked retroactively if subsequently facts become known, which, had they been known, would have necessarily led to a denial of admission; the University may refrain from revoking the admission if the reasons for which admission would have had to be denied no longer exist.

§ 31 Repetition of the Master's thesis and oral examinations to be completed in the final phase of the program

(1) ¹A Master's thesis which has failed or which counts as failed may be repeated once. ²The application for a repetition must be submitted two months at the latest after the exam result comes into force; if the student fails to apply in time, his/her right to be re-examined expires, unless the failure to apply is beyond the control of the student. ³The topic may be rejected only once and that only within the first two months of the time allotted for the writing of the thesis; in this case, the allotted time period for the writing of the thesis begins again. ⁴In the case of a repeat exam, a student may reject the topic only if he/she did not make use of the option to reject a topic when writing the first thesis.

(2) A Master's thesis examination resulting in a pass cannot be repeated.

(3) For the optional oral exam in the Master's thesis process under § 28 (1), the provisions set out respectively in para. (1) sentences 1 and 2 and in para. (2) apply accordingly.

D. Deadlines for examinations in the Master's degree program

§ 32 Deadlines for completion of module coursework

¹Deadlines for the completion of coursework or module-specific assessment may be set out in the Special Provisions of these exam regulations. ²The right to be examined is lost if a student does not complete coursework or assessment required under the study and exam regulations on time, unless the failure to meet the deadline was beyond the control of the student.

§ 33 Completion of degree

¹The Special Provisions may determine a deadline by which all coursework and assessment required under the exam regulations must be completed; this deadline may end no sooner than three semesters after the regular duration of study. ²If that deadline is not met, § 32 sentence 2 applies accordingly.

§ 34 Academic counseling

The Special Provisions and/or module handbook may provide for academic counseling.

E. Overall Master's grade, certificates, degree certificate

§ 35 Calculation of the Master's overall grade

(1) If the Master's examination results in a pass, an overall grade is calculated; the decimal grades of the relevant modules are to serve as the basis of this calculation.

(2) ¹The Master's overall grade is calculated according to the Special Provisions of these exam regulations. ²For the Master's grade, §19 (2) and §19 (3) sentence 2 apply accordingly, unless otherwise specified in these exam regulations or in the Special Provisions of these exam regulations.

§ 36 Certificate and other documentation

(1) ¹If the candidate has passed the Master's examination, he or she receives a certificate. ²The certificate details the overall grade and the Master's thesis topic. ³The Special Provisions may specify further information to be added to the certificate, such as core areas of study or particular qualifications. ⁴The certificate is signed by the Dean of the Faculty of Science and

by the head of the examination board. ⁵It bears the date of the day on which the last piece of assessment for the Master's examination was completed. ⁶The certificate is issued in German and English.

(2) ¹The University issues a diploma supplement (DS) in accordance with the Diploma Supplement Model of the European Union/ Council of Europe/ UNESCO; it describes the profile of the study program as well as a transcript of records; each of these is issued in German; an English translation will be issued. ²The transcript of records includes the following:

- modules taken during the course of the Master's program as well as their components and ECTS credit points,
- the grades given in the modules,
- the Master's thesis grade and the optional oral exam for the Master's thesis.

³Grades are listed in the form of decimal numbers. ⁴The Special Provisions may specify further information to be added to the transcript of records, such as core areas of study or particular qualifications.

(3) ¹The overall Master's grade is supplemented by a relative grade based on the European Credit Transfer and Accumulation System. ²This may be set out in the transcript of records or diploma supplement in accordance with the ECTS Users' Guide via an ECTS grading table (giving the statistical distribution of grades as percentages of the reference group). ³Details on the relative grade are set out by the examination board with regard to European guidelines.

§ 37 Degree certificate

(1) ¹The candidate receives a Master's degree certificate at the same time as the certificate; it includes the date. ²It certifies the awarding of the academic degree of Master according to § 3. ³An English translation of the degree certificate will be issued.

(2) The Master's degree certificate is signed by the Dean of the Faculty of Science and bears the seal of the University.

(3) The academic title may only be used after the degree certificate has been issued.

F. Closing remarks

§ 38 Crediting of studies, coursework and assessment

(1) ¹ Coursework, assessed work, degrees, and semesters of study completed in study programs at the University of Tübingen, other state-administered or state-recognized institutions of higher education and universities of cooperative education in Germany or in study programs at state-administered or state-recognized institutions abroad will be credited if the competencies thus obtained show no significant difference from the coursework or degrees they replace. ²This accreditation serves the continuation of studies, the completion of exams, the commencement of further studies, or admission to a doctoral program. ³Insofar as equivalency agreements between Germany and other countries favor students from other countries in a way not in accordance with sentences 1 and 2, the equivalency agreements take precedence; in addition accords struck within the framework of university partnerships, collaboration agreements and dual-degree programs must be taken into account. ⁴Intermediate exams completed in the same or in a related study program at the University of Tübingen or another German institution of higher education will be recognized.

(2) Participation in recognized correspondence courses will be treated as the equivalent of on-campus studies and credited accordingly to the duration of study.

(3) ¹Knowledge and skills obtained outside of the higher education system may be credited to studies if:

1. at the time of recognition, the student met the requirements for admission to university,
2. the knowledge and skills to be credited to studies are equivalent in content and standard to the coursework and assessment they are to replace, and
3. the criteria for recognition within the framework of accreditation have been assessed.

²Knowledge and skills obtained outside of the higher education system may be credited to studies to a maximum of 50 percent of a university study program. ³There must be a careful check to ensure that knowledge and skills obtained outside the higher education system are, in the nature and volume of coursework they replace, equivalent regarding the competencies obtained. ⁴When the decision is made, the form in which the competencies were learned must be taken into consideration.

(4) ¹If coursework and assessment are recognized, the grades are to be transferred - insofar as the grading schemes are comparable - and taken into account in the overall grade according to the key to grading set out in § 19. ²If the grading schemes are not comparable, a note is made of a "pass," and in this case the result will not be included in the calculation of module grades or the overall grade and the rules regarding its calculation are applied in consideration of this. ³Accredited grades may be identified as such in the Transcript of Records. ⁴In addition, the examination board may establish regulations for the conversion of grades given at another institution of higher education, particularly those of a partner university.

(5) ¹It is up to the applicant to provide the necessary information about the work to be accredited. ²The onus is on the office carrying out the accreditation process to show that an application for accreditation does not meet the requirements. ³Decisions on academic certificates from outside Germany are to be made with reference to the assessment criteria set out by the Zentralstelle für ausländisches Bildungswesen at the secretariat of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder of the Federal Republic of Germany (ZAB).

(6) ¹For credit points from senior studies (Kontaktstudien) to be credited to a university study program, paragraphs (1), (2)(4) sentences 1-3, and (5) apply accordingly, if the prerequisites for admission to university were met at the time of crediting.

§ 39 Protection provisions

(1) ¹The opportunity to claim statutory protection under the Maternity Protection Act as well as time off for parenting leave in accordance with the relevant law on parental benefits and on parenting leave (Bundeselterngeld- und Elternzeitgesetz – BEEG) is guaranteed. ²The examination board decides on whether to extend such time-off periods, and for how long, upon application. ³The opportunity to meet family obligations under § 32 (1)(2) LHG is guaranteed (according to the respective legal Voraussetzungen for students with children or family members in need of care as defined by § 7 Pflegezeitgesetz); the examination board decides on whether to extend such time-off periods, and for how long, upon application.

(2) ¹Students who are unable to attend classes regularly or are unable to carry out expected coursework and/or module-specific assessment due to lingering illness or due to lingering or permanent disability - without being unable to study - may apply to the examination board for an appropriate extension to the deadline foreseen in the exam regulations in which to complete the required coursework and/or module-specific assessment. ²This applies insofar as the study and exam regulations set out a deadline for the completion of studies. ³The student must stipulate the length of time by which he/she seeks to extend the deadline; the examination board decides on the length of the extension. ⁴The application must be accompanied by relevant documentation, medical certificates in particular. ⁵The student is obliged to make notification of changes in the prerequisites for extension at the earliest possible opportunity. ⁶The examination board must check to see whether the changes in the prerequisites for extension mentioned above exist in fact and, if they do, the board must notify the student at the earliest possible opportunity of the new time limits.

(3) Activities as an elected member of statutory bodies or organs of the University, the student union, or of student services (Studentenwerk) in at least one year does not have to be taken into account in the calculation of exam time limits; the decision rests with the University President.

§ 40 Cooperation with other institutions of higher education

The Special Provisions may foresee regulations for cooperations with other institutions of higher education and where applicable necessary alternate regulations in this context and within the framework of the respective institutions' legal provisions.

§ 41 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. ²Transitional arrangements may be provided for in the Special Provisions.

Tübingen, 20.12.2018

Professor Dr. Bernd Engler
President and Vice-Chancellor

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

In accordance with §§ 19 (1) sentence 2 nos. 9, and 32, para. (3) LHG of 04.01.2014 (GBl. p. 99), most recently amended by article 1 of the law dated 13 March 2018 (GBl. p. 85), the University of Tübingen Senate on 13.12.2018 passed the Special Provisions of these exam regulations for the study program in Mathematical Physics at the University of Tübingen culminating in an examination for a Master of Science (M.Sc.).

Approved by the President and Vice-Chancellor on 20.12.2018.

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§ 1 Validity of General Provisions

The University of Tübingen exam regulations for the Mathematics and Mathematical Physics degree programs culminating in the academic degree of Master of Science (M.Sc.) – General Provisions – as amended are part of these exam regulations, insofar as no other special provisions have been made.

I. Goals, contents and structure of the program

§ 2 Contents and goals, regular duration of study, scope of program, related programs

(1) ¹The Mathematical Physics Master's program culminating in an examination for a Master of Science (M.Sc.) degree (hereinafter: the Master's program) is a research-oriented academic program following on from the six-semester Bachelor's degree in Mathematics at the University of Tübingen. ²The Master's program allows students to obtain long-term academic qualifications aimed at obtaining and increasing knowledge in a systematic and critical way, and justifying a general scientifically-based occupational qualification for students in the field of Mathematical Physics, building upon a first degree in the field. ³The Mathematical Physics program builds upon the basics and the methodological knowledge

obtained during the relevant Bachelor's degree, teaching advanced skills in the areas of mathematical structure of physical theories and mathematical modelling and mathematical analysis of physical problems. ⁴Students in the Master's program are required to learn how to adequately model, structure, and analyze physical problems mathematically. ⁵The qualification goals to be met are set out in the module handbook.

(2) ¹A prerequisite for enrollment in this Master's program is a Bachelor's degree in the subjects of Mathematics or Physics with a regular duration of study of six semesters and courses worth 180 credit points, with proportions of mathematics and physics in the required scope, or an equivalent degree with a grade of 2.5 or better. ²The examination board will decide on the equivalency of a degree and on whether the prerequisite in sentence 1 above has been met. ³The examination board may transfer the making of this decision revocably to the head of the board. ⁴If there is a set number for admission, the articles may specify that the selection committee formed for the relevant selection process decides instead. ⁵In the case of a degree under sentence 1 with a grade poorer than 2.5 but of 3.0 or better, the applicant's suitability for the Master's program may be gauged via an oral examination of the applicant's level of knowledge lasting 30-45 minutes by two examiners according to § 14 of the General Provisions of these exam regulations, upon application to the examination board. ⁶In that examination, the applicant must prove that he/she has knowledge indicating that he/she would be capable of successfully completing the Master's program. ⁷The examination board decides on admission to the Master's program on the basis of the examiners' recommendation; sentence 3 and sentence 4 apply accordingly. ⁸There can be no repeat examination of an applicant's level of knowledge.

(3) ¹The regular duration of study in the Master's program is set out in § 2 (3) of the General Provisions of these exam regulations. ²A total of 120 credit points must be obtained to successfully complete this Master's degree program. ³If the Bachelor's degree which forms the basis of admission to the Master's program was completed in a program with a regular duration of more than six semesters and which was worth more than 180 ECTS credits, work completed over and above the 180 ECTS credits may, upon application to the examination board, be accredited to the Master's program studies, if there is no significant difference in the skills to be learned.

(4) ¹To 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). ²For the requirement in sentence 1 above, paragraph (2) sentences 2-4 apply accordingly.

(5) Related degree programs as defined in § 17 (2) sentence 2 of the General Provisions of these exam regulations are (including the corresponding teaching degree programs in their tiered structure) Bachelor of Mathematics, Master of Mathematics, Bachelor of Physics, Master of Physics, teaching-degree programs in Mathematics, teaching-degree programs in Physics, diplomas of Mathematics, diplomas of Physics; the examination board will decide on the relatedness of other degree programs.

§ 3 Structure

(1) ¹The Master's program is structured over two years. ²It concludes with the Master's examination.

(2) ¹Work for the Master's program is carried out in the form of modules. ²These are the final module, along with the following types of module:

1. Compulsory modules: All students must take these modules, without any options regarding the classes taken within the modules; the coursework must be completed and students must pass the respective assessment.
2. Compulsory modules plus option: Students may choose from a list of classes within the module to an extent set out in the module handbook; the students must complete

the respective coursework and pass the corresponding assessment; if a student fails a piece of assessment, the selected class may be replaced by another class belonging to the module, as set out in the module handbook; this counts towards the number of fails which are permissible in the program and is subject to approval by the examination board; and in this case, the respective coursework must be completed again; subject to approval by the examination board, classes other than those set out in the module handbook may be included in the module.

3. Compulsory elective modules: Students may choose freely – usually within a defined module or class catalogue – and may exchange a failed module for another without having the fail count towards the permissible number of fails; switching back is not permitted.

3) ¹Students complete a program of 120 credit points; the program consists of the following modules:

| Recommended semester | Module no. | Module description | Class type | Module type | Course-work | Module completion (type of assessment) | Credit points |
|--|------------|--|------------|-------------|-----------------------------------|--|---------------|
| Section 1: Basics of Mathematical Physics | | | | | | | |
| 1 | MAT-65-11 | Geometry in Physics | V+Ü | PM | ÜN | K or mP | 9 |
| 1 | MAT-65-12 | Mathematical Quantum Theory | V+Ü | PM | ÜN | K or mP | 9 |
| 2 | MAT-65-13 | Mathematical Relativity | V+Ü | PM | ÜN | K or mP | 9 |
| Section 2: Further Knowledge | | | | | | | |
| 1-3 | MAT-40-31 | Advanced Topics in Mathematics | V+Ü | PMW | ÜN | K or mP | 9 |
| 1-3 | MAT-40-32 | Advanced Topics in Theoretical Physics | V+Ü | PMW | ÜN | K or mP | 9 |
| 2-3 | MAT-40-33 | Seminar Knowledge Extension | S | PMW | s.M. | R | 3 |
| Section 3: Required elective modules | | | | | | | |
| 2-3 | | Modules totaling 30 ECTS credits in line with the module handbook. | | WPM | depending on module chosen, s. M. | depending on module chosen, s. M. | 30 |
| Section 4: Academic writing | | | | | | | |
| 3 | MAT-40-41 | Scientific Project | Pr | PM | s. M. | - | 9 |

| | | | | | | | |
|--------------|-----------|---|---|----|-------|----|-----|
| 3-4 | MAT-40-42 | Mathematical Physics Colloquium | C | PM | s. M. | - | 3 |
| 4 | MAT-40-43 | Final module M.Sc. Mathematical Physics | | PM | | MA | 30 |
| Total | | | | | | | 120 |

Glossary:

V=lecture, S=seminar, Ü=exercise, C=colloquium, Pr=Project work, s. M.=see module handbook, PM=compulsory module, PMW=compulsory module with elective option, WPM=compulsory elective module, ÜN=exercise participation certificate, MA=Master's project, mP=oral exam, K=written exam, R=presentation

(4) ¹Prior to registration for their first piece of assessment, students make an individual study and assessment plan which sets out all the modules to be completed as part of the Master's thesis process in accordance with paragraph (3). ²The study and assessment plan must be presented to the head of the examination board or his/her representative for approval.

³Approval of the study and assessment plan is dependent upon the competence goals of the respective study program being achievable on the basis of the modules set out in the study and assessment plan; this evaluation is to be made not schematically but of the plan overall.

⁴Approved study and assessment plans may be amended in justified cases upon application by the student and approval by the head of the examination board or his/her representative.

(5) If elective options exist, and unless otherwise set out in the study and exam regulations, students must make use of the options so that the exact number of ECTS credits specified for the respective modules and in section 1, Basics of Mathematical Physics, in section 2, Further Knowledge, and in section 3, Free Required Electives, is attained.

(6) ¹In section 3, Free Electives, modules to a total of 30 ECTS credits may be included in line with the module handbook. ²Within the framework of changes to the study and assessment plan in accordance with paragraph (4) sentence 4, coursework carried out in Free Electives may replace passed, failed, or not yet completed work in section 2, Further Knowledge, if the work carried out is equivalent to the work it replaces, particularly in regard to the skills to be obtained.

(7) ¹Failed attempts in a class will be counted even if that class is taken again as part of another module. ²Classes which a student has already successfully completed may not be taken again as part of another module.

(8) ¹It is prohibited for students to take, as part of their Master's studies, any module or class which is the same as, or substantially similar to, one they took in their Bachelor's studies; such modules and/or classes may therefore not be selected as part of Master's program studies under these exam regulations, nor be completed under § 3 (3-6). ²In borderline cases and particularly cases in which the content of the modules/ classes overlaps to a large degree, the examination board is to decide on whether the module/ class may be selected/ completed as part of the program. ³The examination board may in individual cases define another appropriate module or class to replace a module or class which is excluded, if otherwise on the basis of these exam regulations and the module handbook there would not be a module yielding the necessary credits for an individual student to complete the program.

(9) The provisions in the module handbook for modules in section 3, Required Electives, may also be valid for that module when it is also used as part of another degree program;

likewise, the Mathematical Physics degree program's module handbook may refer to the module handbook of another degree program for the provisions governing shared modules.

(10) ¹Obtaining additional ECTS points beyond those required under these regulations in line with § 2 (4) sentence 5 of the General Provisions is only permissible if the examination board has specifically approved this for certain modules in the Master's program; beyond that, no further ECTS credits may be obtained. ²For the modules approved by the examination board under sentence 1 above, § 2 (4) sentences 6-7 of the General Provisions apply. ³However, for the modules approved by the examination board under sentence 1 above, § 26 (2) sentences 1 and 3 of the General Provisions do not apply.

II. Teaching of material

§ 4 Types of classes within the modules

Provisions governing the types of classes are set out in § 15 of the General Provisions of these exam regulations.

§ 5 Languages of instruction and examination

¹German and English are the languages of instruction and examination in this degree program. ²Classes and assessment may take place in German or English; students are required to be sufficiently competent in both languages. ³In classes aimed at teaching a language other than German, the teaching and assessment may be conducted in the relevant other language. ⁴The degree may also be obtained by completing the parts of the program offered in English; it is possible to gain enough credit points in the program's English-language classes to complete the degree, with all compulsory classes held in English and in these mandatory and other classes the coursework may be assessed in English.

§ 6 Types of assessment

¹The assessed work required in each of the modules in sections 1-2 and 4 in § 3 (3) is set out in § 3 (3). ²For the modules in section 3 - Free Electives - students should consult the module handbook for details of the required coursework and assessment; in the case of modules originating with a different degree program, students may be required to consult the module handbook of the respective degree program.

§ 7 Multiple-choice procedure

(1) ¹Written assessment in the form of examinations may, in academically justified cases, be wholly or partly completed using a multiple-choice procedure. ²The exam questions must relate to the qualification goals of the respective module and enable reliable results. ³All exam candidates are to receive the same exam questions on the same exam date. ⁴The answers to be recognized as correct must be determined when the exam is compiled; care must be taken to ensure that faulty exam papers are not issued. ⁵Prior to establishing exam results, the person or persons who function as examiners must re-check the exam questions to ensure that they are not faulty by the requirements set out in sentence 2 above. ⁶If this re-checking shows that any exam questions are apparently faulty, or if this becomes otherwise clear, the respective questions may not be included in the calculation of the exam result. ⁷The number of exam questions is reduced accordingly. ⁸During the assessment of the exam in accordance with sentence 1, grades must be calculated on the basis of the reduced number of exam questions. ⁹The reduction in the number of exam questions is not permitted to disadvantage the exam candidate. ¹⁰An exam question is apparently faulty in particular if its wording is unintelligible, contradictory, or ambivalent, or if the answer indicated as correct

according to the answer key is, in fact, wrong. ¹¹Exam instructions must include the number of correct answers for each question.

(2) The questions are required to be approved by a further examiner or to be formulated by two persons authorized to undertake assessment.

(3) ¹Examinations as defined in paragraph (1) sentence 1 in which the questions have only one correct answer have been passed if the exam candidate answered at least 60 percent of the questions asked correctly (absolute pass mark), or if the proportion of questions answered correctly by the candidate is not more than 20 percent below the average achievement of the exam candidates who took the exam for the first time on the exam date (relative pass mark). ²The relative pass mark may only be considered if there is a statistically relevant number of exam candidates. ³If a repeat exam is carried out using a multiple choice procedure, it must be taken within the framework of the scheduled regular exams in the following semester. ⁴Multiple-choice exams are graded as follows: ⁵If the minimum number of points for passing (relative pass mark, if it is a lower value, or the absolute pass mark) has been reached, the following grade is given:

| | | |
|-----|-----------------|--|
| 1.0 | if additionally | at least 90 percent, |
| 1.3 | if additionally | at least 80 percent, but less than 90 percent, |
| 1.7 | if additionally | at least 70 percent, but less than 80 percent, |
| 2.0 | if additionally | at least 60 percent, but less than 70 percent, |
| 2.3 | if additionally | at least 50 percent, but less than 60 percent, |
| 2.7 | if additionally | at least 40 percent, but less than 50 percent, |
| 3.0 | if additionally | at least 30 percent, but less than 40 percent, |
| 3.3 | if additionally | at least 20 percent, but less than 30 percent, |
| 3.7 | if additionally | at least 10 percent, but less than 20 percent, |
| 4.0 | if additionally | less than 10 percent |

is achieved above the minimum number of points for passing. ⁶A grade calculated to a second decimal place will be rounded in favor of the student. ⁷If a student does not obtain the minimum number of points for passing, the grade 5.0 will be given.

(4) ¹The provisions set out in paragraph (3) apply to exams as defined in paragraph (1) sentence 1 which are composed of multiple-choice questions, except that it is not the relationship between the correctly-answered questions and the total number of exam questions which is relevant, but the relationship between the candidate's raw points score to the highest achievable score. ²A value is assigned to each multiple-choice question, corresponding to the number of correct answers; this value may be multiplied by a weighting factor for individual exam questions. ³For each multiple-choice question the exam candidate receives a base number of points, which corresponds to the value if the candidate's answers fully accord with the recognized answers. ⁴For each agreement between an answer respectively selected or not selected by the exam candidate and an answer recognized respectively as correct or incorrect, one point is awarded to the base number of points. ⁵For each failure to select a recognized correct answer, and for each recognized incorrect answer selected by the candidate, one point is deducted from the base number of points; however, the base number of points cannot be lower than zero. ⁶The raw points score is calculated from the base number of points for each question multiplied by its respective weighting factor. ⁷The maximum possible total is calculated from the sum of the products of all values with the respective weighting factors of all of the multiple-choice questions.

(5) If the questions are not all weighted equally, the weighting of each question must be specified on the exam paper.

(6) For exams which are only partly composed of multiple-choice questions, the provisions in paragraphs (1) to (5) apply to the multiple-choice sections only.

(7) If the number of exam questions to be eliminated under paragraph (1) sentence 6 exceeds 15 percent of the total number of multiple-choice questions, the examination as a whole must be repeated; this applies also to exams consisting only partly of multiple-choice questions if that part is weighted with 15 percent or more of the overall value of the examination.

III. Organization of program

§ 8 Scope of studies

The required volume of study is set out in the General Provisions of these exam regulations, the structure of the program and the modules - particularly in § 3 of the Special Provisions of the exam regulations and in the module handbook.

IV. Master's examination and overall grade

§ 9 Nature and procedure of Master's examination

In addition to the prerequisites set out in the General Provisions of these exam regulations, the prerequisites for admission to the final module under § 28 of the General Provisions are:

- the successful completion of the 3 required modules according to § 3(3), in section 1, Basics of Mathematical Physics, and
- the successful completion of modules worth a total of at least 18 ECTS credits from the study areas Further Knowledge and 3 Required Electives (cf. overview in § 3), and
- the successful completion of the Scientific Project module (cf. overview in § 3).

§ 10 Final module

¹Provisions governing the final module are set out in § 28 of the General Provisions of these exam regulations. ²Alongside the Master's thesis, no further oral assessment is required in the final module.

§ 11 Calculation of the Master's overall grade

The overall grade of the Master's examination is calculated on 33% of the grade for the final module and 67% of the average (as weighted by credit points) of the grades of the other graded modules, taking account of the further provisions in § 35 of the General Provisions of these exam regulations.

§ 12 Deadline for completion of degree

¹All coursework and assessment required under the exam regulations for the Master's degree program must be completed by the end of the student's 10th semester in the subject. ²If this time limit is exceeded, the student's right to be examined in the Master's degree program is lost, unless the failure to meet the deadline is beyond the control of the student.

§ 13 Double-degree programs

(1) ¹If the University of Tübingen has, under §6 paragraph (1) LHG, agreed a Double-Degree program between the M.Sc. in Mathematics program and an institution of higher education outside Germany, students in the degree program have the option of participating in the Double-Degree program. ²The requirements for participation and the contents of the program are set out in the respective agreement between the University of Tübingen and the international institution. ³On the Tübingen side, the examination board decides on participation in the program according to the number of available places and the criteria of the degree of suitability and performance (letter of motivation and selection interview), if no other agreement has been reached. ⁴The examination board may transfer this decision revocably to the head of the board or in this case communicate a set number for admission to the selection committee formed for the selection procedure.

(2) ¹Within the framework of a Double-Degree program, participating students must each complete at least 60 credit points at each of the two participating institutions, unless otherwise set out in the Double-Degree agreement; these may be specified in the module handbook for the Tübingen M.Sc. program. ²Work carried out by students at the international institution will be accredited as work done in modules of the M.Sc. of Mathematics degree program at the University of Tübingen, provided the requirements for the accreditation of studies are met. ³To obtain the degree of M.Sc. in Mathematics, all work required under §3 (3) and in the corresponding module handbook must have been completed, unless otherwise proved for in the Double-Degree program agreement.

(3) ¹Upon successful completion of their studies, students will receive their academic degree from their respective university in line with the respective regulations. ²The University of Tübingen confers the Master's degree as set out in § 3 of the General Provisions of these study and exam regulations; the documentation and the degree certificate in particular, may include a reference to the holder's participation in the double-degree program. ³The conferring of an academic degree to students by the international institution is regulated by the international institution.

(4) ¹Students' work at partner institutions is to be completed according to the regulations of the relevant institution. ²Students must in addition fulfill the international institution's requirements regarding the language of instruction and examination. ³Students must carry out coursework at the University of Tübingen in line with the provisions of these study and exam regulations.

(5) ¹Calculation of the overall grade for the Master's examination under these regulations is, for participating students, in accordance with the provisions for the accreditation of coursework and assessment and with the current provisions for calculation of the Master's overall grade in these exam regulations. ²The examination board may determine rules for the conversion of grades given at an institution of higher education outside Germany, if not otherwise specified in the agreement.

V. 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 2019/2020 and they apply only to students who begin their studies in that semester or subsequently. ³Students who commenced their Master's degree studies in Mathematical Physics at the University of Tübingen prior to the semester specified above complete their Master's examination in that program under the previously valid exam regulations.

Tübingen, 20.12.2018

Professor Dr. Bernd Engler
President and Vice-Chancellor