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The dean of the Faculty of Mathematics and Physics of Gottfried Wilhelm Leibniz Universität Hannover resolved, as a matter of urgency, on 10.09.2024 the following amended Examination Regulations for the Master's Degree Programme Mathematics of 17.09.2020, as last amended. The Presidential Board approved the examination regulations on 18.09.2024 in accordance with section 37 paragraph 1 subparagraph 5. b) of the Lower Saxony Higher Education Act (NHG). These regulations shall take effect on 01.10.2024 following publication in the official bulletin of Gottfried Wilhelm Leibniz Universität Hannover.

# Amendments to the Examination Regulations for the Master's Degree Programme Mathematics at Gottfried Wilhelm Leibniz Universität Hannover of 17.09.2020, rectified on 16.11.2020, as amended on 10.08.2021 and 02.09.2022 (rectified on 29.09.2023)

The Faculty of Mathematics and Physics of Gottfried Wilhelm Leibniz Universität Hannover has issued the following amended examination regulations as per section 7 paragraph 3 and section 44 paragraph 1 of the Lower Saxony Higher Education Act (NHG):

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# Part One: General Information

# Section 1 Examination Purpose and Academic Degree

- (1) <sup>1</sup>The master's degree constitutes further academic qualification in a professional field. <sup>2</sup>The master's examination aims to establish whether the examination candidate is capable of working independently at an advanced level according to scientific or scientific-artistic principles and is capable of applying academic knowledge. Furthermore it serves to determine whether the examination candidate has gained a subject-related overview of the academic field and has acquired the knowledge and competence necessary for the transition to professional practice.
- (2) Upon successful completion of the master's examination, Gottfried Wilhelm Leibniz Universität Hannover shall confer the academic degree "Master of Science (M. Sc.)".

### Section 2 Duration and Structure of the Degree Programme

<sup>1</sup>The standard period of study is two years. <sup>2</sup>The time required for class attendance and independent study is 120 ECTS (credit points) at 30 hours each. <sup>3</sup>The degree programme is organised into four semesters.

### Section 3 Responsibility (Dean of Studies, Examination Board)

- (1) The examination board authorised to perform such duties by the faculty council in agreement with the dean of studies is responsible for implementation of the obligations set out in these examination regulations.
- (2) <sup>1</sup>The examination board comprises five members, three of whom are from the group of professors and junior professors, one is from the group of academic staff and one from the group of students. <sup>2</sup>The members of the examination board and their deputies are appointed by the respective group representatives. <sup>3</sup>The chairperson and deputy chairperson are appointed by the examination board and must be members of the group of professors and junior professors or members who have completed their habilitation. <sup>4</sup>The student member may only adopt an advisory role with regard to grading or decisions concerning recognition of assessments. <sup>5</sup>If not appointed as a member of the examination board, the dean of studies may participate in meetings of the examination board in an advisory role.
- (3) <sup>1</sup>The members of the examination board and their deputies are subject to official secrecy. <sup>2</sup>If they are not employed in public service, they must be sworn to secrecy by the chairperson.
- (4) <sup>1</sup>The examination board has a quorum provided that the majority of the members eligible to vote are present. <sup>2</sup>Resolutions shall be passed by a majority of the valid votes cast; abstention from voting shall not be considered as a vote cast.
- (5) <sup>1</sup>The meetings of the examination board are not open to the public. <sup>2</sup>Minutes shall be taken of the meetings of the examination board. <sup>3</sup>The minutes shall document significant matters discussed and the decisions made.
- (6) Members of the examination board are entitled to observe examinations.
- (7) <sup>1</sup>The examination board may delegate authority to the chairperson and deputy chairperson, subject to revocation. <sup>2</sup>The examination board may appoint a body to perform its duties. <sup>3</sup>The chairperson shall prepare and implement the resolutions of the examination board and report to the examination board on a regular basis regarding these activities. <sup>4</sup>Delegation of authority to the chairperson or deputy chairperson shall not be permissible for the cases specified in section 18 paragraph 1.
- (8) The examination board may establish its own procedural rules.

# Part Two: Master's Examination

# Section 4 Structure and Content of the Examination

- (1) <sup>1</sup>The master's examination is conducted during the course of the degree programme. <sup>2</sup>It comprises assessments and, as appropriate, coursework in compulsory modules; and, as appropriate, compulsory elective modules, elective modules and the compulsory module "master's thesis" in accordance with appendix 1.
- (2) The courses corresponding to the modules can be found in the module handbook or the course catalogue.

- (3) not applicable
- (4) <sup>1</sup>As a rule, courses and examinations are conducted in German. <sup>2</sup>Courses and examinations may also be conducted in English, provided that this is indicated accordingly in the module handbook. <sup>3</sup>Examinations may be conducted in English if agreed with or determined by the examiner.

### Section 5 Examiners and Observers

<sup>1</sup>The responsible body specified in section 3 shall appoint members of the group of professors and junior professors from the Faculty of Mathematics and Physics of Gottfried Wilhelm Leibniz Universität Hannover as authorised examiners for the modules of the degree programme as well as the observers. <sup>2</sup>The responsible body specified in section 3 may appoint further examiners, provided that they hold at least the qualification that is to be ascertained through the said examiners may also be appointed who are not members or affiliates of Gottfried Wilhelm Leibniz Universität Hannover. <sup>4</sup>Observers must hold at least the qualification that is to be ascertained through the said examination or an equivalent qualification in order to be appointed. <sup>5</sup>The responsible body as specified in section 3 may also delegate the appointment of observers to the examiners.

### Section 6 Coursework and Assessments

- (1) <sup>1</sup>Coursework comprises ungraded pieces of work that may be required in a module/a course in order to practice skills. <sup>2</sup>The required coursework is explained in more detail in appendix 1 and/or the respective module handbook; coursework is determined by the teaching staff at the latest by the beginning of the course. <sup>3</sup>As a rule, coursework is to be completed within the scope of the relevant course.
- (2) <sup>1</sup>Assessments include the master's thesis (MA), term papers (HA), written examinations (K), multiplechoice examinations (KA), oral examinations (MP), placement reports (PB), project-related examinations (PJ), practical sports presentations (SP), independent assignments (ST) and course-accompanying examinations (VbP). <sup>2</sup>Further details on assessment types are specified in appendix 2.1.
- (3) <sup>1</sup>If alternative assessment types are specified for a module in appendix 1 or if one assessment type can be replaced by another, notification of the assessment type must occur before 15.10. for the winter semester and before 15.04. for the summer semester. <sup>2</sup>The same applies to the weighting of individual components if a course-accompanying examination (VbP) is specified in appendix 1.
- (4) Coursework and assessments may be conducted as group work, provided that individual contributions can be clearly defined and evaluated separately according to objective criteria.
- (5) When submitting written term papers (coursework and assessments), students must declare in writing that
  - a) the work was completed independently,
  - b) no sources or resources other than those indicated were used,
  - c) all passages of the work that make reference to other sources, whether through direct quotation or paraphrasing, have been indicated accordingly and
  - d) the paper has not previously been submitted to an examining authority in the same or a similar form.
- (6) <sup>1</sup>During the semester, in addition to the respective compulsory assessments, up to five minor assessments may be offered in the form of presentations (PR) or in-class tests (KU). <sup>2</sup>Student participation is voluntary. <sup>3</sup>If a student has successfully completed one or more minor assessments during the semester, the achieved result shall be taken into account as a bonus when evaluating the compulsory assessment. <sup>4</sup>Minor assessments may not account for more than 20 per cent of the exam mark. <sup>5</sup>The number and evaluation of minor assessments must be indicated by the examiner at the beginning of the semester. <sup>6</sup>The best mark for a compulsory assessment may likewise be achieved without participating in minor assessments. <sup>7</sup>If a student does not participate in individual minor assessments or does not pass, this shall not result in poorer overall evaluation of a compulsory assessment. <sup>8</sup>The additional assessments shall be organised to ensure that the times allocated for class attendance and independent study (credit points) within the respective modules specified in the appendices are observed.

#### Section 6a Digital Examination Formats

(1) <sup>1</sup>At the discretion of the examiners and in agreement with the responsible body specified in section 3, examinations which by their nature are suitable for a digital format may be conducted in such a format and without the requirement that examination candidates are personally present in a particular examination room. <sup>2</sup>This includes written, oral, practical and other examinations and assessment types

which are in whole or in part made available, submitted or conducted in digital form, namely using computers or other electronic devices. <sup>3</sup>If an examination is to be conducted in the form of a digital examination, the students must be informed of this. <sup>4</sup>Section 6 paragraph 3 sentence 1 shall apply accordingly.

- (2) <sup>1</sup>Students must be informed at the latest four weeks before the beginning of the examination
  - a) about processing their personal data in accordance with paragraph 3 as per the form on data protection information
  - about the technical requirements relating to the communications equipment to be used that must be fulfilled for the examination to be duly conducted, especially the existence of suitable video and audio for online proctoring as per paragraph 6 or for video conferencing as per paragraph 3 as well as a qualitatively sufficient internet connection and
  - c) about the organisational conditions for the examination to be duly conducted.
  - <sup>2</sup>Students should have the opportunity to test the examination situation regarding the technology, the equipment and the spatial surroundings in advance of the examination.
- (3) <sup>1</sup>Personal data may be processed within the context of digital examinations provided this is necessary for the examination to be conducted duly. <sup>2</sup>This applies in particular to authentication processes as per paragraph 5 and proctoring as per paragraph 6. <sup>3</sup>The university shall ensure that the personal data collected when conducting a digital examination shall be processed in conformity with the legal requirements for data protection, in particular with Regulation (EU) 2016/679 (General Data Protection Regulation – GDPR). <sup>4</sup>The examination candidates shall be informed in a precise, transparent, comprehensible and easily accessible form in particular about the purpose for which personal data will be processed and when the personal data will be deleted. <sup>5</sup>Express reference must be made to the rights of data subjects as per articles 12 to 21 GDPR.
- (4) Learning management systems, examination platforms, video conferencing systems and other technical equipment are to be used for digital examinations in such a way that necessary installations on the students' electronic communications equipment occur only under the following conditions:
  - a) the functionality of the electronic communications equipment is not compromised outside the examination and is compromised during the examination only to the extent necessary to secure authentication and to prevent acts of deceit,
  - b) the information security of the electronic communications equipment is not compromised at any time,
  - c) the confidentiality of the information on the electronic communications equipment is not compromised at any time and
  - d) complete uninstallation is possible after the electronic examination.
- (5) <sup>1</sup>Authentication shall occur prior to the beginning of a digital examination by means of a valid identity document that is to be presented upon request or by means of another suitable authentication or authentication procedure. <sup>2</sup>Storage of the data processed in connection with the authentication, beyond technically necessary intermediate storage, is not permitted. <sup>3</sup>Personal data from intermediate storage must be deleted promptly. <sup>4</sup>The students are to be informed that information on the identity document that is not required for the authentication may be masked. <sup>5</sup>The authentication of the other examination candidates in the virtual examination room must occur individually and thus under exclusion of the other examination candidates.
- (6) <sup>1</sup>To prevent acts of deceit during a digital examination, the students must be required to activate the camera and microphone on the communications equipment used during the examination (online proctoring). <sup>2</sup>Online proctoring is to be planned and designed so that the examination candidates' camera images can be seen exclusively by the persons conducting online proctoring. <sup>3</sup>Virtual backgrounds may be prohibited. <sup>4</sup>Otherwise, online proctoring is to be organised in such a way that the protection of personality rights and the privacy of those affected are not compromised more than required for the justifiable monitoring purposes (Übersichtskontrolle). 5 Monitoring the room in the absence of suspicion is not permitted. <sup>6</sup>In the event of a concrete suspicion of deceit, individual monitoring may be conducted, whereby the persons affected must be informed of this promptly. <sup>7</sup>Individual monitoring must be conducted in breakout rooms, excluding the other examination candidates. <sup>8</sup>Online proctoring is carried out by the university's supervisory staff. 9Automated data analysis of video or audio data from online proctoring is not permitted. <sup>10</sup>Recording the examination or other storage of video or audio data is not permitted. <sup>11</sup>Paragraph 3 sentence 5 shall apply accordingly. <sup>12</sup>Only those video conferencing systems centrally authorised at LUH may be used for online proctoring. <sup>13</sup>In the case of digital examinations, students may be required to provide an affidavit confirming that they completed the assessment independently and without impermissible help from others. <sup>14</sup>If such an affidavit is required but not submitted, the examination shall be assessed as failed.

<sup>15</sup>An examiner or observer shall take minutes of the process and the essential aspects of the examination conducted remotely via electronic devices.

(7) <sup>1</sup>If, in the case of a written examination, it is technically impossible to transmit the examination questions, to complete the examination questions, to transmit the piece of assessed work or to conduct online proctoring at the time of the examination, the examination shall be terminated prematurely; in the case of premature termination, the examination shall not be assessed, and the attempt to take the examination shall be deemed not taken. <sup>2</sup>This shall not apply in the event of a minor malfunction. <sup>3</sup>If it can be proven that students are responsible for the malfunction, the examination board can deem the attempt to take the examination, the examination shall be continued after the malfunction has been remedied. <sup>5</sup>If the technical malfunction persists so that the oral or practical examination cannot be duly continued, the examination shall be conducted once again at a later point in time. <sup>6</sup>Sentences 1-4 shall apply accordingly.

# Section 7 Master's Thesis

- (1) <sup>1</sup>The master's thesis module comprises the master's thesis and, if applicable, an oral assessment and/or a piece of coursework as defined in appendix 1. <sup>2</sup>The master's thesis aims to illustrate that the examination candidate is able to independently apply academic methods to address an issue in the field within a predetermined deadline. <sup>3</sup>30 credit points shall be awarded for the successfully completed master's thesis module.
- (2) <sup>1</sup>The topic of the master's thesis must be appropriate in view of the purpose of the examination (section 1 paragraph 1 sentence 2) and the period of time provided for its completion as set out in paragraph 4. <sup>2</sup>The topic of the thesis may not be assigned until successful admission of the student to the master's thesis as per section 12 paragraph 3.
- (3) <sup>1</sup>The student may return the topic once within the first third of the completion period. <sup>2</sup>Renewed registration for the master's thesis module must occur within six months of returning the topic. <sup>3</sup>If registration does not occur within this period, a topic determined by the first examiner shall be assigned, with a deadline specified in accordance with paragraph 4 sentence 1. <sup>4</sup>Section 15 paragraphs 4 and 5 shall apply accordingly.
- (4) <sup>1</sup>The master's thesis must be submitted both in printed and electronic form within six months from the date of assignment. <sup>2</sup>The master's thesis should be marked by both examiners within six weeks – within ten weeks at the latest.
- (5) When submitting the master's thesis, students must declare in writing that
  - a) the work was completed independently,
  - b) no sources or resources other than those indicated were used,
  - c) all passages of the work that make reference to other sources, whether through direct quotation or paraphrasing, have been indicated accordingly and
  - d) the paper has not previously been submitted to an examining authority in the same or a similar form.
- (6) <sup>1</sup>The assessment process for the master's thesis module can been found in the module description in the module handbook. <sup>2</sup>If the master's thesis module comprises more than one assessment, the mark shall be composed in accordance with appendix 1.
- (7) <sup>1</sup>The master's thesis must be written in German; in accordance with appendix 1 and in agreement with the examiners it may be written in English. <sup>2</sup>In justified individual cases, students may also be permitted to write the thesis in a different language. <sup>3</sup>The responsible body specified in section 3 shall decide upon applications as per sentence 2, at the latest when deciding on admission (section 12).
- (8) <sup>1</sup>The master's thesis shall be prepared at an institute involved in the master's degree programme at Gottfried Wilhelm Leibniz Universität Hannover. <sup>2</sup>In agreement with the responsible body specified in section 3, it may also be prepared at a different institute or a different university or facility outside the university. <sup>3</sup>If the external supervisor is appointed as an examiner in accordance with section 5, the thesis must be supervised by an authorised examiner from Gottfried Wilhelm Leibniz Universität Hannover. <sup>4</sup>If the external supervisor is not appointed as an examiner, the master's thesis shall be evaluated by an authorised examiner from Gottfried Wilhelm Leibniz Universität Hannover.

# Section 8 Passing and Failing the Master's Examination

(1) The master's examination has been passed if the modules specified in section 4 in conjunction with appendix 1 have been passed and a minimum of 120 ECTS credit points have been attained.

(2) <sup>1</sup>Failure of the master's examination shall be considered final if repetition of a failed assessment that is required in accordance with section 4 is no longer possible in accordance with section 14. <sup>2</sup>Written notification shall be issued in the case of irrevocable failure of the master's examination.

# Section 9 Additional Modules and Examinations

- (1) <sup>1</sup>Students may take further examinations in addition to those specified in appendix 1 as necessary for attaining the minimum required credit points for this degree programme (additional examinations). <sup>2</sup>The same applies regarding completion of additional modules of this degree programme (additional modules). <sup>3</sup>Upon application to the responsible body specified in section 3, examinations and modules outside of the degree programme may also be taken provided that this is approved by the examiner.
- (2) Upon application to the responsible body specified in section 3, results from additional examinations and modules shall be recorded in the final degree documents and any further documents as set out in section 21; however, results from additional examinations and modules shall not contribute to the overall mark.

#### Section 10 Recognition of Previous Coursework and Assessments

- (1) <sup>1</sup>Previous coursework and assessments can be recognised under the conditions below. <sup>2</sup>Applications for recognition should be submitted at the beginning of the degree programme. <sup>3</sup>Applications are to be submitted to the responsible body specified in section 3. <sup>4</sup>As a rule, a decision shall be taken on the application within six weeks. <sup>5</sup>The deadline for the decision shall apply from the date on which all documents required for the decision have been received. <sup>6</sup>Coursework and assessments previously completed within the scope of a degree programme at Gottfried Wilhelm Leibniz Universität shall be recognised automatically.
- (2) <sup>1</sup>Coursework and assessments that were completed at a university in Germany or abroad shall be recognised in accordance with the Convention on the Recognition of Qualifications concerning Higher Education in the European Region dated 11 April 1997 (Lisbon Recognition Convention), provided that there are no substantial differences to the coursework and assessments required under these examination regulations. <sup>2</sup>In case of doubt, statements must be obtained from the examiner a member of Gottfried Wilhelm Leibniz Universität Hannover authorised (in accordance with section 5) to examine the module for which recognition has been requested or from the Central Office for Foreign Education (*Zentralstelle für ausländisches Bildungswesen ZAB*). <sup>3</sup>In the event of lack of equivalence or substantial differences, the burden of proof lies with Gottfried Wilhelm Leibniz Universität Hannover. <sup>4</sup>The process shall be governed by the Orientation framework of Gottfried Wilhelm Leibniz Universität Hannover for the recognition of previously completed coursework and assessments (*Orientierungsrahmen zur Anerkennung von Studien- und Prüfungsleistungen der Gottfried Wilhelm Leibniz Universität*).
- (3) <sup>1</sup>Professional qualifications acquired outside of the degree programme shall be recognised to an extent of up to 50 percent of the required credit points as per section 2, provided that they are equivalent. <sup>2</sup>In the event of lack of equivalence or substantial differences, the burden of proof lies with Gottfried Wilhelm Leibniz Universität Hannover. <sup>3</sup>The process is governed by the orientation framework of Gottfried Wilhelm Leibniz Universität Hannover for the recognition of acquired professional competence (*Orientierungsrahmen für die Anerkennung beruflich erworbener Kompetenzen der Gottfried Wilhelm Leibniz Universität*).
- (4)<sup>1</sup>When previously completed assessments are recognised, the marks are recognised as well or if the marking scale differs converted; the corresponding periods of study are recognised and credit points are awarded as per appendix 1. <sup>2</sup>Assessments completed abroad shall remain ungraded upon request; in particular this shall apply to the case specified in paragraph 3 sentence 1. <sup>3</sup>Recognised performance shall be indicated in the final degree documents.
- (5) The applicant shall be informed in writing regarding the decision whether recognition is granted or not; section 23 paragraph 1 must be observed.

#### Section 10a Placement Examinations for Refugees

Persons who have substantiated that, due to being refugees, they cannot provide evidence of previously completed academic study and assessments can take a special placement examination to prove that they have the knowledge and skills necessary to complete the degree programme in accordance with the examination regulations; their knowledge and skills shall be credited towards modules.

# Section 11 Distance Learning

Selected modules may also be offered as distance learning modules by resolution of the responsible body specified in section 3.

### Part Three: Examination Procedure

### Section 12 Admission to Assessments

- (1) <sup>1</sup>Those enrolled in a master's degree programme at Gottfried Wilhelm Leibniz Universität Hannover are eligible to take examinations in the relevant degree programme – taking into account paragraph 2. <sup>2</sup>Further requirements for admission to individual assessments can be found in appendix 1.
- (2) <sup>1</sup>Admission to examinations in master's degree programmes shall be denied if an assessment in a module that is equivalent to a compulsory module in this degree programme has been irrevocably failed in a previous degree programme. <sup>2</sup>Irrevocably failed assessments in a module equivalent to a compulsory elective module in the degree programme for which admission is sought cannot be repeated in this degree programme.
- (3) <sup>1</sup>Students must apply for admission to the master's thesis. <sup>2</sup>Admission to the master's thesis requires that the student has fulfilled the requirements specified in appendix 1. <sup>3</sup>Should there be valid reason, the responsible body specified in section 3 shall decide upon exceptions.
- (4) <sup>1</sup>Admission in accordance with paragraph 3 shall be denied if the admission requirements have not been met. <sup>2</sup>The examination candidate shall be notified if admission is denied.

# Section 13 Registration

<sup>1</sup>Registration is necessary for each individual assessment and resit, within the period set out in appendix 3.1. <sup>2</sup>In exceptional circumstances, registration may be permitted outside of the stipulated period; such applications must be made to the responsible body specified in section 3. <sup>3</sup>Registration/admission to the master's thesis implies registration for all assessments required in this module in accordance with appendix 1.

# Section 14 Resit

- (1) <sup>1</sup>Students cannot resit assessments they have passed. <sup>2</sup>Students may resit a failed assessment twice. <sup>3</sup>The master's thesis as well as independent assignments (ST) may however only be repeated once. <sup>4</sup>Students must resit assessments from compulsory modules and compulsory elective modules that have already been started until they pass or until it is no longer possible to resit them, in accordance with sentence 2 or sentence 3; section 19 paragraph 2 sentence 3 and section 19 paragraph 3 sentence 3 shall remain unaffected. <sup>5</sup>The first time an examination is taken or the time of assignment of the topic shall be deemed to be the beginning of the assessment. <sup>6</sup>Students are not required to resit failed assessments of elective modules; they may replace them with other elective modules. <sup>7</sup>In the case of failed course-accompanying examinations (VbP), all assessment components must be repeated.
- (2) <sup>1</sup>Assessments may be repeated as a different assessment type selected from those specified in section 6 paragraph 2 – at the discretion of the examiner. <sup>2</sup>The assessment type must be announced by the start of the registration period (section 13 sentence 1).
- (3) <sup>1</sup>For the final attempt to repeat an assessment, the mark "insufficient" (*nicht ausreichend*) for an written examination actually taken or "failed" (*nicht bestanden*) in the case of ungraded written examinations may only be awarded after a supplementary assessment has been taken. <sup>2</sup>As a rule, the supplementary assessment, which must be based on the content of the previous written examination, shall be conducted within six weeks after results have been announced. <sup>3</sup>If the supplementary assessment is conducted as an oral examination, an observer must be present at the examination in addition to the examiner. <sup>4</sup>As a rule, an oral supplementary assessment should not exceed a maximum duration of 20 minutes. <sup>5</sup>The supplementary assessment may be taken as another assessment type, selected from those specified in section 6 paragraph 2, but not as a written examination. <sup>6</sup>If the student has passed the assessment following the supplementary assessment, only the mark "sufficient" (*ausreichend* 4.0) or "passed" (*bestanden*) in the case of ungraded assessments may be awarded. <sup>7</sup>A supplementary assessment shall not be permissible if section 18 applies with regard to evaluation of the written assessment. <sup>8</sup>Once results for the final resit have been announced, the Examination Office shall invite students at least three

weeks in advance to take the supplementary assessment. <sup>9</sup>Section 15 paragraphs 4 and 5 shall apply accordingly.

# Section 15 Late Submission, Withdrawal, Deadline Extension

- (1) <sup>1</sup>Students can deregister from a written examination (whether or not it is a multiple-choice examination, graded or ungraded) up until seven calendar days before the start of the examination. <sup>2</sup>Students can deregister from an oral examination or practical sports presentation up until one calendar day before the start of the examination. <sup>3</sup>Students can deregister from all other assessment types specified in appendix 2 up until the start of the assessment. <sup>4</sup>This does not apply to returning a topic if this occurs within the deadline specified in section 7 paragraph 3 or appendix 2 in the case of an independent assignment (ST).
- (2) <sup>1</sup>For assessments with a submission deadline, assignment of the topic shall be determined as the start of the examination. <sup>2</sup>For VbP, starting the first assessment component shall be deemed as the start of the examination, as per section 14 paragraph 1 sentence 5. <sup>3</sup>Should the student deregister from the first assessment component of a VbP, this deregistration shall apply for the entire VbP. <sup>4</sup>Students may deregister in accordance with paragraph 1 sentences 1 to 3 without giving a reason.
- (3) <sup>1</sup>Deregistration from written examinations in accordance with paragraph 1 sentence 1 must occur online via the examination system. <sup>2</sup>For oral examinations and practical sports presentations, deregistration in accordance with paragraph 1 sentence 2 must occur in writing, via email or in a form determined by the examiner. <sup>3</sup>The method used to deregister in accordance with sentence 2 shall also apply for assessments specified in appendix 2 that involve assignment of a topic.
- (4) <sup>1</sup>If an examination candidate fails to meet a fixed submission deadline, does not withdraw until after the start of the assessment, does not attend a scheduled written examination, oral examination or practical sports presentation, or does not withdraw until after the deadline defined in paragraph 1 sentences 1 and 2, the assessment concerned shall be deemed "failed" (*nicht bestanden*).
- (5) <sup>1</sup>However, in deviation to paragraph 4, if valid reason for failure to meet a submission deadline, absence from an examination or withdrawal is promptly provided and substantiated in writing to the responsible body specified in section 3, the assessment shall be deemed as not taken. <sup>3</sup>In the event of illness, the student must provide a doctor's certificate and at the request of the responsible body specified in section 3 a medical certificate issued by a public medical officer (*Amtsarzt*). <sup>3</sup>The medical certificate must include a description of the health impairment and must state the resulting hindrance to the examination concerned. <sup>4</sup>The form available on the website of Gottfried Wilhelm Leibniz Universität Hannover under Information about Examinations can be used for this purpose. <sup>5</sup>The responsible body specified in section 3 shall decide upon recognition of valid reason within two weeks after the medical certificate has been submitted. <sup>6</sup>Sentences 2 and 5 shall also apply with respect to illness and the resulting necessary care for a close relative. <sup>7</sup>Close relatives are your children, parents, grandparents, as well as your spouse or partner and their children.
- (6) <sup>1</sup>If valid reason for failure to meet a submission deadline is credibly proven, the responsible body specified in section 3 may extend the deadline by a maximum of a third of the original completion period. <sup>2</sup>Further extension of the deadline is only permitted in justified individual cases. <sup>3</sup>If a further extension of the deadline is disproportionate, the responsible body specified in section 3 can decide that a new topic be issued. <sup>4</sup>In this case, the assessment shall be deemed as not taken.

# Section 16 Assessment Procedure in Cases of Hardship

<sup>1</sup>The responsible body specified in section 3 shall enable students who provide evidence – in the form of a doctor's certificate or medical certificate issued by a medical specialist or public medical officer (*Amtsarzt*) – of a serious long-term health issue, to take assessments in an equivalent alternative form, on another date, or within other deadlines. <sup>2</sup>Should other valid reasons be substantiated – particularly maternity leave and parental leave – these shall be dealt with accordingly.

# Section 17 Evaluation of Assessments

(1) <sup>1</sup>As a rule, assessments shall be evaluated by the examiners within one month; further details are specified in appendix 3.2. <sup>2</sup>As a rule, assessments are graded. <sup>3</sup>Coursework and ungraded assessments are evaluated as "passed" (*bestanden*) or "failed" (*nicht bestanden*).

<sup>4</sup>The following classifications are to be used for evaluating assessments:

- 1.0; 1.3 = "very good" (sehr gut) = a particularly outstanding performance,
- 1.7; 2.0; 2.3 = "good" (*gut*) = a performance well above average,

2.7; 3.0; 3.3 = "satisfactory" (befriedigend) = an average performance in every respect,

3.7; 4.0 = "sufficient" (*ausreichend*) = a performance that fulfils the basic requirements despite shortcomings,

5.0 = "insufficient" (*nicht ausreichend*) = a performance that does not fulfil the requirements due to serious shortcomings.

<sup>5</sup>An assessment evaluated as "insufficient" (*nicht ausreichend*) has been failed.

- (2) <sup>1</sup>If an assessment is evaluated by two examiners, it is only deemed as passed if both examiners evaluate it as "passed" (*bestanden*), "sufficient" (*ausreichend*) or better. <sup>2</sup>In this case, the mark is calculated as the average of the individual marks awarded by the examiners. <sup>3</sup>Section 20 paragraph 3 sentence 4 shall apply accordingly.
- (3) <sup>1</sup>For a course-accompanying examination (VbP) as per section 6 paragraph 3 sentence 2, the individual assessment components shall be evaluated in accordance with the classifications set out in section 17 paragraph 1. <sup>2</sup>Using the weighting predetermined for the individual marks, the overall mark for the course-accompanying examination (VbP) shall be calculated as set out in section 20 paragraph 3 sentences 1, 2 and 4. <sup>3</sup>A course-accompanying examination (VbP) is deemed passed if the overall grade is 4.0 or better. It is irrelevant here whether individual assessment components have not been passed.
- (4) <sup>1</sup>An examination conducted in choice format (e.g. single choice or multiple choice) is deemed passed if the exam candidate has attained at least 50 per cent of the maximum points available (absolute pass mark). <sup>2</sup>In cases however where the average of all examinations minus 18 per cent is worse than the absolute pass mark, the resulting value shall be deemed the relative pass mark. <sup>3</sup>To calculate each examinee's results, the difference between the relative and absolute pass mark shall be added to their points. <sup>4</sup>In the case of repeated assessments, the average performance of the examinees from the first possible examination date shall apply.
- (5) <sup>1</sup>If the examinee has achieved the minimum points required for passing an examination conducted in choice format as specified in paragraph 4, the following marks shall be awarded:
  - 1.0 = "very good" ("sehr gut"), if at least 95 per cent,
  - 1.3 = "very good" ("sehr gut"), if at least 90 per cent,
  - 1.7 = "good" ("gut"), if at least 85 per cent,
  - 2.0 = "good" ("gut"), if at least 80 per cent,
  - 2.3 = "good" ("gut"), if at least 75 per cent,
  - 2.7 = "satisfactory" ("befriedigend"), if at least 70 per cent,
  - 3.0 = "satisfactory" ("befriedigend"), if at least 65 per cent,
  - 3.3 = "satisfactory" ("befriedigend"), if at least 60 per cent,
  - 3.7 = "sufficient" ("ausreichend"), if at least 55 per cent and
  - 4.0 = "sufficient" ("ausreichend"), if the minimum

available points have been attained. <sup>2</sup>Should the examinee fail to achieve the minimum points required for passing, the examination shall be deemed "failed" ("nicht bestanden").

#### Section 18 Deceit, Breach of Regulations

- (1) <sup>1</sup>Attempts to influence the outcome of an assessment or coursework through deceit shall result in evaluation of the assessment concerned as "failed" (*nicht bestanden*). <sup>2</sup>Carrying unauthorised resources after the assessment has started shall always be considered attempted deceit. <sup>3</sup>Electronic communication devices are also considered unauthorised resources. <sup>4</sup>In particularly serious cases – particularly repeated breach of regulations as per sentence 2 or plagiarism – the responsible body specified in section 3 may exclude the examination candidate from completing further assessments and coursework, or deem irrevocable failure of the entire examination. <sup>5</sup>Sentence 4 shall also apply in the event of breach of regulations in other degree programmes at Gottfried Wilhelm Leibniz Universität Hannover.
- (2) <sup>1</sup>Those who breach regulations may be excluded from continuing the assessment concerned; in this case, the assessment concerned shall be evaluated as "failed" (*nicht bestanden*). <sup>2</sup>Section 14 shall remain unaffected, except in the cases specified in section 18 paragraph 1 sentence 4.

# Section 19 Credit Points for Modules

- (1) <sup>1</sup>The credit points listed in appendix 1 are awarded for a module if the corresponding coursework has been completed and the required assessments have been passed or evaluated as "sufficient" (*ausreichend*) or better. <sup>2</sup>For modules assessed in the form of examinations covering multiple modules (module group) as per appendix 1, credit points are not awarded until the examination covering multiple modules has been passed.
- (2) <sup>1</sup>A module has been passed once all of the credit points stipulated in appendix 1 have been attained. <sup>2</sup>A module group is considered passed if all modules relating to the examination and the examination covering multiple modules have been passed.
- (3) <sup>1</sup>In areas other than the compulsory modules specified in appendix 1, more modules can be selected and completed than is necessary to achieve the required credit points. <sup>2</sup>Calculation of the overall mark is regulated by section 20 paragraphs 1 to 3. <sup>3</sup>Students who have attained the credit points required for the overall progress review and have passed the prescribed number of compulsory elective modules or elective modules may apply to discontinue the examination process for the remaining compulsory elective modules or elective modules that they have started but not yet passed.

# Section 20 Calculation of the Overall Mark

- (1) <sup>1</sup>The best marks from passed compulsory modules, compulsory elective modules and elective modules shall be used to calculate the overall mark as set out in paragraph 3, unless otherwise requested by the student. <sup>2</sup>The other passed compulsory elective modules and elective modules shall be treated as additional modules as defined in section 9.
- (2) <sup>1</sup>To calculate the overall mark as per paragraph 3, only the marks from modules necessary to achieve the credit points specified in section 4 may be taken into account. <sup>2</sup>If selection of the final module necessary to achieve the credit points specified in section 4 results in slightly exceeding this number of credit points, the modules shall be taken into account to calculate the overall mark as per paragraph 3.
- (3) <sup>1</sup>The overall mark for the master's examination is the arithmetic mean of the marks of all graded modules as per section 17 paragraphs 1 and 2. <sup>2</sup>The credit points listed there shall be used for weighting unless particular weightings are specified in appendix 1. <sup>3</sup>The overall mark shall be:
  - for an average of up to 1.5: "very good" (sehr gut),
  - for an average of more than 1.5 up to 2.5: "good" (gut),
  - for an average of more than 2.5 up to 3.5: "satisfactory" (befriedigend),
  - for an average of more than 3.5 up to 4.0: "sufficient" (*ausreichend*),
  - for an average of more than 4.0: "failed" (nicht bestanden).

<sup>4</sup>To calculate the overall mark as per sentence 3, only the first decimal place shall be taken into account; all further decimal places shall be omitted without rounding up or down.

- (4) If the overall mark of the master's examination is at least 1.1 or better and the master's thesis achieves a mark of 1.0, the classification "with distinction" shall be awarded and indicated on the degree documents as per section 21.
- (5) <sup>1</sup>Unless stipulated otherwise in appendix 1, the arithmetic mean of all graded assessments assigned to the module shall form the mark for the module. <sup>2</sup>The particular weightings or proportionate credit points specified in the appendices shall be used for weighting. <sup>3</sup>If no particular weighting is specified for modules with multiple graded assessments or if credit points are not allocated proportionately to assessments, the assessments shall hold equal weighting to form the module mark. <sup>4</sup>In accordance with paragraph 3 sentence 4, only the first decimal place will be taken into account to form the mark for the module. <sup>5</sup>All further decimal places will be omitted without rounding up or down.

# Section 21 Certificates of Results and Other Documents

- (1) <sup>1</sup>A degree certificate (*Urkunde*) featuring the awarded academic degree and final degree documents shall be issued for the successfully completed master's degree. <sup>2</sup>The final degree documents comprise a certificate of results (*Zeugnis*) and a record of passed modules (*Verzeichnis der bestandenen Module*). <sup>3</sup>Furthermore, students will receive a diploma supplement and a grading table confirming the relative ECTS grade distribution (*Einstufungstabelle*); upon request, confirmation of the overall degree mark in the form of a grade point average (GPA) is also available from the examination office.
- (2) <sup>1</sup>Provided that no additional subsections are specified in appendix 1 in conjunction with section 20 paragraph 6, the certificate of results (*Zeugnis*) shows the modules and their marks, the title of the master's thesis and its mark, the attained credit points as well as the overall mark awarded for the

academic degree and – if applicable – the rating "with distinction" (*mit Auszeichnung*; section 20 paragraph 4). <sup>2</sup>The record of passed modules (*Verzeichnis der bestandenen Module*) – including the master's thesis module – indicates the respective courses and credit points as well as marks or evaluations of assessments. <sup>3</sup>All marks shall be shown as decimal numbers. <sup>4</sup>The date on which the final module relevant for calculation of the overall mark as per section 20 paragraph 1 is passed shall be the date of completion of the master's degree indicated on all documents. <sup>5</sup>The issue date of all final degree documents shall be the date of printing.

- (3) <sup>1</sup>The diploma supplement includes a description of the qualifications achieved through the degree programme as well as the overall mark attained as per section 20 paragraph 3. <sup>2</sup>Paragraph 2 sentences 3 to 5 shall apply accordingly.
- (4) <sup>1</sup>Confirmation of the relative ECTS grade distribution is issued in the form of a grading table. <sup>2</sup>The calculation is based on the ECTS Users' Guide of the European Commission, as amended. <sup>3</sup>The responsible body specified in section 3 shall determine the parameters for cohort formation within the framework specifications of the Presidential Board and shall make them available to the examination office.
- (5) <sup>1</sup>The document confirming the overall mark for the degree as a grade point average (GPA) additionally shows the assessments indicated in the certificate of results (*Zeugnis*) as per paragraph 2 as the following GPA equivalent grades:

Mark	Equivale	ent Grade
1.0		4.0
	-	
1.3	=	3.7
1.7	=	3.3
2.0	=	3.0
2.3	=	2.7
2.7	=	2.3
3.0	=	2.0
3.3	=	1.7
3.7	=	1.3
4.0	=	1.0

<sup>2</sup>The equivalent grades of these assessments are used – as specified in section 20 paragraph 6 – to calculate the equivalent grades for the module marks. <sup>3</sup>In deviation to section 20 paragraph 3, the marks shall be rounded up to the first decimal place. <sup>4</sup>Using the equivalent grades of these modules, the GPA shall be calculated as the average of the equivalent grades in accordance with section 20 paragraphs 1 and 2. <sup>5</sup>When calculating the overall mark as per sentence 4, it shall be rounded up to the first decimal place.

- (6) <sup>1</sup>In the case of section 8 paragraph 2 and when a student otherwise discontinues the degree programme concerned at Gottfried Wilhelm Leibniz Universität Hannover, written confirmation shall be issued upon request specifying passed assessments and modules, their marks and the credit points awarded. <sup>2</sup>All marks shall be shown as decimal numbers. <sup>3</sup>If applicable, written confirmation shall also indicate irrevocable failure of the degree programme.
- (7) <sup>1</sup>All documents stated in paragraph 1 shall be issued in German. <sup>2</sup>Additionally, English versions of the documents shall be provided by the examination office.

# Section 22 Access to Examination Records

<sup>1</sup>After completing a module examination, students can submit an application to the examination office to be granted access to their complete examination records. <sup>2</sup>The application must be submitted at the latest within one year of announcement of results or issuance of the certificate of results (*Zeugnis*).

# Section 23 Procedural Provisions

- (1) Reasons for non-beneficial administrative acts must be given in writing; such acts must be accompanied by information on legal remedies and delivered to the person concerned.
- (2) <sup>1</sup>The person concerned may submit a written objection to a decision based on the evaluation of an assessment; this must be submitted to the responsible body specified in section 3 within one month of receipt of the notification. <sup>2</sup>The responsible body specified in section 3 shall make a decision regarding the objection.

- (3) <sup>1</sup>Should the examination candidate raise concrete and substantiated objections against an evaluation by one of the examiners, the responsible body specified in section 3 shall forward the objection to the examiner concerned or – in the case of a first and second examiner – both examiners so that they may respond. <sup>2</sup>If the evaluation is changed by the examiner(s) in accordance with the request, the examination board shall remedy the objection. <sup>3</sup>Otherwise, the examination board shall review the evaluation on the basis of the response(s), paying particular attention to whether
  - 1. the examination process was duly carried out,
  - 2. the evaluation was based on incorrect facts,
  - 3. generally applicable evaluation principles were not observed,
  - 4. a reasonable and logically justified solution was evaluated as incorrect, or whether
  - 5. the examiner was guided by irrelevant considerations.
- (4) A decision regarding the objection must be made within three months.

(5) The proceedings shall not result in a worse examination mark for the examination candidate.

### Part Four: Final Provisions

### Section 24 Entry into Force and Interim Provisions

- (1) These amended examination regulations shall enter into force as of 1 October 2024 after approval by the Presidential Board and publication in the official bulletin of Gottfried Wilhelm Leibniz Universität Hannover.
- (2) <sup>1</sup>Students who have enrolled in the master's degree programme Mathematics at Gottfried Wilhelm Leibniz Universität shall be subject to these examination regulations from their entry into force. <sup>2</sup>The responsible body specified in section 3 shall decide upon exceptions referring to appendix 1 upon substantiated request, which must be submitted within three months of entry into force of these examination regulations. <sup>3</sup>Any general transition rules that may be necessary shall be resolved by the responsible body specified in section 3 in supplement to these examination regulations.

#### 15/2024

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# Appendix 1: Modules of the Master's Degree Programme Mathematics

The master's degree programme in mathematics is organised into:

- compulsory modules (appendix 1.1),
- compulsory elective modules consisting of a seminar (appendix 1.2.a), key skills (appendix 1.2.b), additional language skills, as appropriate, and
- elective modules including a minor subject to be selected (appendix 1.3.a 1.3.i) as well as
- the master's thesis (appendix 1.4).

Unless indicated otherwise in the examination regulations or the module handbook, the duration of examinations shall follow the following guidelines. The duration of written examinations (K) is at least 45 minutes and at most 180 minutes. Within this framework, written examinations (K) should have a duration of 5 to 15 minutes per credit point. The duration of oral examinations (MP) is at least 15 minutes and at most 60 minutes. Within this framework, oral examinations (MP) should have a duration of 1 to 4 minutes per credit point. These guidelines do not apply to elective modules (appendix 1.3) of other faculties.

The semesters indicated in the following tables are recommendations and are not binding for students.

The members of the teaching staff determine which types of assessments and coursework are permissible.

# Appendix 1.1: Compulsory modules

Students must select modules comprising 60 CP.

Lectures are assigned to Pure or Applied Mathematics in the module handbook. If courses are not mentioned in the module handbook, they can be assigned via the course catalogue instead.

Courses for which credit points were already given in the bachelor's degree programme are excluded. Each course may be recognised only for a single module.

Module	Courses	Semes- ter	Prerequisites for admission	Pieces of course- work	Assessments	СР
Module Pure Mathematics 1	One lecture with tutorials (4 + 2 semester hours) in Pure Mathematics			1 SL	K or MP	10
Module Pure Mathematics 2	One lecture with tutorials (4 + 2 semester hours) in Pure Mathematics			1 SL	K or MP	10
Module Pure Mathematics 3	Two lectures with tutorials (2 +1 semester hours) in Pure Mathematics			2 SL	Two examinations MP or K	10
Total				•		20

Module	Courses	Semes- ter	Prerequisites for admission	Pieces of course- work	Assessments	СР
Module Applied Mathematics 1	One lecture with tutorials (4 + 2 semester hours) in Applied Mathematics			1 SL	K or MP	10
Module Applied Mathematics 2	One lecture with tutorials (4 + 2 semester hours) in Applied Mathematics			1 SL	K or MP	10
Module Applied Mathematics 3	Two lectures with tutorials (2 +1 semester hours) in Applied Mathematics			2 SL	Two examinations MP or K	10
Total						20

Module	Courses	Semes- ter	Prerequisites for admission	Pieces of course- work	Assessments	СР
Elective module 1	One lecture with tutorials (4 + 2 semester hours) in Pure or Applied Mathematics			1 SL	K or MP	10
Elective module 2	One lecture with tutorials (4 + 2 semester hours) in Pure or Applied Mathematics			1 SL	K or MP	10
Elective module 3	Two lectures with tutorials (2 +1 semester hours) in Pure or Applied Mathematics			2 SL	Two examinations MP or K	10
Total		<u>.</u>				20

# Appendix 1.2: Compulsory elective modules

# Appendix 1.2.a: Seminar

As a rule, students should select a seminar in the area in which they prepare their master's thesis (MA).

Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Seminar	Seminar I	2, 3			VbP	5

# Appendix 1.2.b: Key skills and seminar II

Students must complete 5 CP. They may select the following courses:

- a) for the module Seminar II: courses offered in mathematics; or
- b) for the module Key Skills: courses offered by the das Modul Schlüsselkompetenzen aus dem Angebot des Leibniz Language Centre, the Centre for Quality Enhancement in Teaching and Learning or relevant courses offered by the faculties; or computer courses offered by the Faculty of Electrical Engineering and Computer Science and by LUIS or, upon application, computer courses offered by others; or
- c) for the Module Career-oriented Placement a career-oriented placement (placement report (PB) of at least 5 pages).

Students must take courses different from those in their bachelor's degree programme.

If the area offering the course does not offer coursework, students must complete an ungraded assessment instead, as a piece of coursework.

Module	Courses	Semester	Prerequisites for admission	Pieces of coursework	Assess- ments	СР
Seminar II	Seminar II	2, 3			VbP	5
Key skills	Course	2, 3		One piece of coursework per course		5
Career- oriented placement	Career-oriented placement			Placement report (PB) (at least 5 pages)		5
Total			1		1	5

# Appendix 1.2.c: Additional language skills

An individual, binding curriculum may be prepared for students who do not speak German after prior consultation with a representative of the responsible body specified in section 3. This curriculum may include the German Language Proficiency Module, amounting to up to 20 CP; accordingly, fewer credit points must be attained in the selected minor subject (appendix 1.3.a.i).

Module	Courses	Semester	Prerequisites for admission	Pieces of coursework	Assess- ments	СР
German Language Proficiency	Course offered by the Leibniz Language Centre	1 to 4		In accordance with the guidelines of the course coordinator		0 - 20

# Appendix 1.3: Elective modules

Students must select a minor subject in which they complete at least 20 credit points. In deviation to sentence 1, students who do not speak German may take courses with fewer credit points here.

# Appendix 1.3.a: Minor subject electrical engineering

Students must take courses according to the following table unless they already selected the minor subject electrical engineering in their bachelor's degree programme.

Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Principles of Electrical Measurement Technique	Lecture and tutorial Principles of Electrical Measurement Technique	summer semester		1 SL	K or MP	6
Lecture and tutorial Fundamentals of Communications Engineering	Lecture and tutorial Principles of Communications Engineering	summer semester	-		к	6
Microelectronics	Lecture Fundamentals of Semiconductor Devices	summer semester		1 SL		8
	Lecture and tutorial Microelectronic Circuits	summer semester			К	
Total						20

In case electrical engineering was already taken in the bachelor's degree programme as a minor subject, advanced modules from the module handbook Electrical Engineering must be completed according to the following table.

Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ment	СР
Basics of Electrical Engineering: DC and AC Networks / Laboratory of Electrical	Lecture and tutorial	winter semester			к	8
Engineering I	Lab I	summer semester		LÜ		C
Basics of Electrical Engineering: Electrical and Magnetical Fields	Lecture and tutorial	summer semester			к	8
Basics of Electrical Engineering: Special Aspects of Network Theory / Laboratory of Electrical Engineering II	Lecture and tutorial	winter semester			к	6
	Lab II	winter semester	Basic lab I	LÜ		Ŭ
Principles of Electromagnetical Power Conversion	Lecture and tutorial	winter semester			к	5
Introduction to Digital Systems	Lecture and tutorial	winter semester			к	5
Signals and Systems	Lecture and tutorial	winter semester			к	5
Control Engineering I	Control Engineering I + tutorial	winter semester			к	5
	Lab			1 SL		

Control Engineering II	Lecture and tutorial	summer semester		1 SL	к	5
Automation Technology I	Lecture, tutorial and lab	winter/ summer semester		1 SL	K / MP	5
Power Engineering I	Lecture, tutorial and lab	winter/ summer semester		1 SL	K / MP	5
Microelectronics I	Lecture, tutorial and lab	winter/ summer semester		1 SL	K / MP	5
Microelectronics II	Lecture, tutorial and lab	winter/ summer semester		1 SL	K / MP	5
Communications Technology I	Lecture, tutorial and lab	winter/ summer semester		1 SL	K / MP	5
Computer Engineering I	Lecture, tutorial and lab	winter/ summer semester		1 SL	K / MP	5
Computer Engineering II	Lecture, tutorial and lab	winter/ summer semester		1 SL	K / MP	5
Total						

# Appendix 1.3.b: Minor subject geodesy and geoinformatics

Planning       Regional Planning       Image: Constraint of the constra	Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Geoinformatics and Spatial PlanningCartography I Principles of Urban and Regional Planning12 SLK5Modelling and Acquisition of Topographic DataAerial Photogrammetry GIS I - Modelling and Data Structures4.ÚK5Elective module GeodesyOne of the following courses: 		Processing Selected Chapters of	2.		Ü	K or MP	6
Acquisition of Topographic Data       GIS I - Modelling and Data Structures       Winter or summer semester       Ú       K or MP or VbP       5         Elective module Geodesy       One of the following courses: • Introduction to GIS and Cartography II Practice Project Topography       Winter or summer semester       Ú       K or MP or VbP       5         Project Topography       • Physical Geodesy / Gravimetry       Frinciples of GNSS and Navigation       Introduction to       Introduction to         • Principles of GNSS and Navigation       • Introduction to       • Principles of GNSS and Navigation       Introduction to         • Modelling and Acquisition of Topographic Data       • Estimation and Prediction Methods in Engineering Geodesy and Real Estate Management       • Estimation to GIS and Cartography II       Introduction to GIS and Cartography II	Geoinformatics and Spatial	Cartography I Principles of Urban and	1.	-	2 SL	К	5
Geodesy <ul> <li>Introduction to GIS and Cartography II Practice Project Topography</li> <li>Physical Geodesy / Gravimetry</li> <li>Principles of GNSS and Navigation</li> <li>Introduction to Photogrammetry</li> <li>Modelling and Acquisition of Topographic Data</li> <li>Estimation and Prediction Methods in Engineering Geodesy and Real Estate Management</li> <li>Engineering Geodesy</li> <li>Introduction to GIS and Cartography II</li> </ul>	Modelling and Acquisition of Topographic Data	GIS I - Modelling and Data	4.		Ü	К	5
		<ul> <li>Introduction to GIS and Cartography II Practice Project Topography</li> <li>Physical Geodesy / Gravimetry</li> <li>Principles of GNSS and Navigation</li> <li>Introduction to Photogrammetry</li> <li>Modelling and Acquisition of Topographic Data</li> <li>Estimation and Prediction Methods in Engineering Geodesy and Real Estate Management</li> <li>Engineering Geodesy</li> <li>Introduction to GIS and</li> </ul>	summer		Ü		5
10(a) 20	Total						20

Students must take courses according to the following table unless they already selected the minor subject geodesy and geoinformatics in their bachelor's degree programme.

In case Geodesy and Geoinformatics was already taken in the bachelor's degree programme as a minor subject, advanced modules must be completed according to the following table. Students must select courses different to those in their bachelor's degree programme.

Module	Courses	Semes- ter	Prerequi- sites for admission	Pieces of course- work	Assess- ments	СР
Elective module MA Geodesy	<ul> <li>Four of the following courses:</li> <li>Photogrammetric Computer Vision</li> <li>Operational Remote Sensing</li> <li>Internet GIS</li> <li>Geosensor Networks</li> <li>Recursive State Estimation for Dynamic Systems</li> <li>Signal Processing in Physical Geodesy</li> <li>Orbit Calculation and Relativistic Modeling in Geodesy</li> <li>Special Models for Advanced GNSS Applications</li> <li>Image Analysis I</li> <li>Image Analysis I</li> <li>GIS for Navigation Application</li> <li>Laser Scanning - Modelling and Interpretation</li> <li>Gravimetry and Physical Geodesy II</li> <li>Research Project</li> <li>SLAM and Path Planning</li> <li>Methods and Applications of Physical Geodesy</li> <li>Advanced Concepts for Positioning and Navigation</li> <li>Space Geodetic Techniques and Project Land Survey</li> </ul>	Winter or summer semeste r		4 x Ü	4 x K or MP or VbP	20

# Appendix 1.3.c: Minor subject computer science

Students must complete the module Introduction to Software Engineering as well as one of the modules Programming I or Programming II unless they already completed them in their bachelor's degree programme.

Students may not select modules they already selected for their bachelor's degree programme.

Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Introduction to Software Engineering	Introduction to Software Engineering (2+2 semester hours)	winter semester			К	5
Programmieren I	Programming I (2+2 semester hours)	winter semester		LÜ	K (ungraded)	5
Programmieren II	Programming II <sup>1</sup> (2+2 semester hours)	summer semester		LÜ	K (ungraded) or VbP (ungraded)	5
Logic and Formal Systems	Logic and Formal Systems (2+2 semester hours)	Winter or			К	5
Introduction to Database Systems	Lecture and tutorial Introduction to Database Systems (2+2 semester hours)	Winter or summer semester			к	5
Introduction to Computer Architecture	Lecture and tutorial Introduction to Computer Architecture (2+2 semester hours)				к	5
Introduction to Operating Systems	Lecture and tutorial Introduction to Operating Systems (2+2 semester hours)				к	5
Algorithms and Complexity	Lecture and tutorial Algorithms and Complexity (2+2 semester hours)				К	5
Introduction to Digital Systems	Lecture and tutorial Introduction to Operating Systems (2+2 semester hours)				к	5
Evolutionary Algorithms	Lecture and tutorial Evolutionary Algorithms (2+2 semester hours)				К	5
Grundlagen der Human Computer Interaction	Lecture and tutorial Introduction to Human Computer Interaction (2+2 semester hours)				К	5
Software Engineering	Lecture and tutorial Software Quality (2+2 semester hours)				К	5
Computer Architecture	Lecture and tutorial Computer Architecture (2+2 semester hours)				К	5
Grundlagen der IT Security	Lecture and tutorial Foundations of IT Security (2+2 semester hours)	-			К	5
Logic Design of Digital Systems	Lecture and tutorial Logic Design of Digital Systems (2+2 semester hours)				К	5
Programming Languages and Compilers	Lecture and tutorial Programming Languages and Compilers (2+2 semester hours)				К	5
Rechnernetze	Lecture and tutorial Computer Networks (2+2 semester hours)				К	5
Machine Learning	Lecture and tutorial Machine Learning (2+2 semester hours)				К	5

1 Students should select Programming II only if they have prior knowledge.

Artificial Intelligence I	Lecture and tutorial Artificial Intelligence I (2+2 semester hours)			к	5
Cryptography	Lecture and tutorial Cryptography (2+2 semester hours),			MP	5
Computational Complexity	Lecture. Tutorial and seminar Computational Complexity (2+1+2 semester hours)	winter semester		MP	7
Computability and Logic	Lecture, tutorial and seminar (2+1+2 semester hours)	summer semester		MP	7
Efficient Algorithms	Lecture, tutorial and seminar (2+1+2 semester hours)	winter semester		K/MP	7
Formal Languages	Lecture, tutorial and seminar (2+1+2 semester hours)	summer semester		K/MP	7
Circuit Complexity	Lecture, tutorial and seminar (2+1+2 semester hours)	summer semester		MP	7
Advanced Logics	Lecture and tutorial Advanced Logics (2+2 semester hours)	summer semester		MP	5
Module for recognition of co faculties Computer Science 1	Lecture and tutorial offered by the Faculty of Electrical Engineering and Computer Science		Irses completed 01.10.2022	K/MP	4-7
Module for recognition of co faculties Computer Science 2	Lecture and tutorial offered by the Faculty of Electrical Engineering and Computer Science			K/MP	4-7
Module for recognition of co faculties Computer Science 3	Lecture and tutorial offered by the Faculty of Electrical Engineering and Computer Science			K/MP	4-7
Total					20

# Appendix 1.3.d: Minor subject mechanical engineering

Students must take courses according to the following table unless they already selected the minor subject mechanical engineering in their bachelor's degree programme.

Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ment	СР
Product Design I	Lecture and tutorial Design I	winter semester	Selected on or after 1.10.2024		К	4
	Design Project I	winter semester	_	1 SL		
Fundamentals of Product	Lecture and tutorial	winter	Selected on or after		К	5
Design + Product Design	Fundamentals of Product Design	semester	1.10.2024			
Project I	Design Project I	winter semester		1 SL		

Module name	Courses	Semes- ter	Prerequi- sites	Pieces of course- work	Assess- ment	СР
Product Design II	Product Design II Design Project II	summer semeste r		1 SL	к	5
Fundamentals of Electrical Engineering I for Students of Mathematics or Physics	Electrical Engineering I + exercise	1			к	5
Fundamentals of Electrical Engineering II and Electrical Drives for Students of Mathematics or Physics	Fundamentals of Electrical Engineering II and Electrical Drives + exercise	2		1 SL	к	5
Control Engineering I	Control Engineering I + exercise + group exercise Lab	4		1 SL	К	5
				I SL		
Metrology I	Metrology I + exercise + group exercise	5			К	5
Engineering Mechanics I	Engineering Mechanics + exercise	1			К	5
Engineering Mechanics II	Engineering Mechanics II + exercise	2			К	5
Engineering Mechanics III	Engineering Mechanics III + exercise + group exercise	3			К	5
Engineering Mechanics IV	Engineering Mechanics IV + exercise + group exercise	4			к	5
Introduction to Manufacturing Technology	Introduction to Manufacturing Technology + exercise	3			к	5
Thermodynamics I / Chemistry	Thermodynamics I + exercise + group exercise Chemistry + exercise	3		1 SL	к	7
				TOL	14	<u> </u>
Thermodynamics II	Thermodynamics II + exercise	4			K	5
,	Lab			1 SL		
Fluid Dynamics I	Fluid Dynamics I + exercise	5			К	5
	Basic Laboratory A	_		1 SL		
Heat Transfer I	Heat Transfer I exercise	5			K	5
	Basic Laboratory B			1 SL		_
Material Science I	Material Science I + exercise	1			K	5
Material Science II	Material Science II + exercise	2			K	5
	Basic lab Material Science	2		1 SL		
Module for recognition of courses from other faculties Mechanical Engineering 1	Lecture and exercise offered by the Faculty of Mechanical Engineering		Only for courses completed	1 SL	к	5-
Module for recognition of courses from other faculties Mechanical Engineering 2	Lecture and exercise offered by the Faculty of Mechanical Engineering		before 01.10.202 2	1 SL	к	5-
Total						1

In case Mechanical Engineering was already taken in the bachelor's degree programme as a minor subject, four of the following advanced modules must be completed according to the following table.

Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Mechatronic Systems	Mechatronic Systems	1, 2			К	5
Automation: Control Systems	Automation: Control Systems	1, 2	_		К	5
Basic Transport Phenomena - I	Basic Transport Phenomena - I	1, 2	_		К	5
Machine Tools - I	Machine Tools - I	1, 2	_		К	5
Robotics I	Robotics I	1, 2			К	5
Total						20

### Appendix 1.3.e: Minor subject philosophy

Students may take modules in philosophy comprising at least 20 and at most 24 CP, i.e., they take either two advanced specialisation modules or three basic modules or two basic modules and one advanced specialisation module. They may not take modules again that they already took in their bachelor's degree programme.

Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ment	СР
Basismodul	Lecture					
Metaphysics, Epistemology, Mind, and Language	Tutorial	winter semester		1 SL	K 90	7
Basismodul	Lecture	summer		1 SL	K 90	7
Value Theory	Tutonai	semester		I SL	K 90	
Basismodul	Lecture	winter		1 SL	14.00	7
History of Philosophy I	Philosophy I Tutorial	semester		I SL	K 90	
Basismodul	Lecture	summer		1 SL	K 90	7
History of Philosophy II	Tutorial	semester		I SL	130	
Advanced specialisation	Seminar	Minter and		1 SL		
module Metaphysics, Epistemology, Mind, and Language	Seminar	Winter and summer semester		1 SL	HA 10-12 or MP 20	10
Advanced specialisation	Seminar	Winter and		1 SL	HA 10-12	
module Value Theory	Seminar	summer semester		1 SL	or MP 20	10
Advanced specialisation	Seminar	Winter and		1 SL	HA 10-12	
module Advanced Module Philosophy of Science	Seminar	summer semester		1 SL	or MP 20	10
Total						20- 24

Appendix 1.3.f: Minor subject physics

Students must take courses according to the following table 1.3.f.1 unless they already selected the minor subject physics in their bachelor's degree programme. Students must complete at least 20 CP.

Tab	le	1	.3	.f.	1	

Module	Courses	Semester	Prerequisites for admission	Pieces of coursework	Assessments	СР
Mathematical Methods in Physics	Lecture and tutorial Mathematical Methods in Physics	winter semester		Ü	K or MP (ungraded)	7
Experimental Physics Part 1	Lecture and tutorial Mechanics and Heat Lecture and tutorial Electricity and Relativity	winter semester summer		Ü Ü	K or MP	14
Classical Fields and Particles	Lecture and tutorial Theoretical Electrodynamics Lecture and tutorial Analytical Mechanics and Special Relativity			Ü or K Ü	MP	18
Quantum Theory and Statistical Physics		summer semester winter		Ü	MP	18

or, in case Physics was already taken in the bachelor's degree programme as a minor subject, modules not yet taken can be chosen freely from Table 1.3.f.1 and Table 1.3.f.2 totalling at least 20 CP. The assessment in the module Modern Aspects of Physics covers courses totalling at least 4 CP freely chosen by the students.

# Table 1.3.f.2.

Module	Courses		Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Modern Aspects of Physics	<ul> <li>Courses totalling at least 12 CP Analytical Mechanics and Special Relativity</li> </ul>	1-4		1 per course	MP	12

# Appendix 1.3.g: Minor subject actuarial science

For the interdisciplinary minor subject actuarial science, students take courses in the area of insurance law offered by the Faculty of Law and in the area of Finance, Banking & Insurance offered by the Faculty of Economics and Management. Students who select this minor subject must have successfully obtained knowledge in business administration or economics in their bachelor's degree programme comprising at least 6 semester hours (3 modules, as a rule 12 credit points).

In the area of insurance, law, students must take exactly one of the modules insurance law A or insurance law B. Students shall determine and record their individual curriculum for the area of Finance, Banking & Insurance comprising 10 credit points on the basis of an academic advice session with the representative of the Faculty of Economics and Management for minor subjects. They shall submit the curriculum to the examination office for purposes of registering for examinations.

Module	Course	Semester	Pieces of course- work	Assessment	СР
Insurance law A	Insurance law I and insurance law II	winter semester		K or MP	10
Insurance law B	Insurance law in the degree programme Actuarial Science	winter and summer semester		K or MP	10
Finance, Banking & Insurance	Two courses from the elective modules of the area Finance, Banking & Insurance (excluding seminars) in accordance with the module handbook of the Faculty of Economics and Management	winter and summer semester		2 x (K or MP or HA or VbP	10
Total		•	1	•	20

# Appendix 1.3.h: Minor subject economics and management

Provided that students have already successfully completed courses in business administration or economics comprising 16 credit points in their bachelor's degree programme, training in their minor subject (Nebenfach) enables them to specialise in a specific subject by selecting a master's module (major/minor) from the areas of the master's degree programme in economics. The specialisation in a subject comprises areas in economics according to the following list:

- Accounting, Taxation and Public Finance
- Economic Policy and Theory
- Empirical Economics and Econometrics
- Finance, Banking & Insurance
- Health Economics
- Information and Operations Management
- International Environment and Development Studies
- Strategic Management.

Students select courses from the elective modules (excluding seminars) of the areas in accordance with the module handbook of the Faculty of Economics and Management. The students select from a major area

(comprising at least 2 and up to 4 courses) and a minor area (comprising at least 1 and up to 2 courses). They may freely select their major and minor areas; the master's module shall have the same name as the major area.

Students may not select closely related modules offered by the Institute of Statistics of the Faculty of Economics and Management. The academic advisors for the minor subject at the Faculty of Economics and Management shall prepare an individual curriculum for conducting the master's phase.

Module	Courses	Semester	Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Minor in economics in the master's degree programme	Four courses according to the specifications of the Faculty of Economics and Management	summer semester/ winter semester		-	4 x (K or MP or HA or VbP)	20
Total						20

or: Minor subject modules in business administration in the master's degree programme if the student did not take business administration or economics as a minor subject in the bachelor's degree programme:

Module	Courses	Semes- ter	Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Principles of Business Administration I	Lecture( 2 semester hours)	winter semest er			к	4
Principles of Business Administration II	Lecture( 2 semester hours)	winter semest er			К	4
Principles of Business Administration III	Lecture( 2 semester hours)	summer semest er			К	4
Principles of Business Administration IV	Lecture( 2 semester hours)	summer semest er			К	4
Rechnungswesen I	Lecture( 2 semester hours)	winter semest er			К	4
Rechnungswesen II	Lecture( 2 semester hours)	summer semest er			К	4
Total						20

# or: Minor subject modules in economics in the master's degree programme if the student did not take economics or business administration as a minor subject in the bachelor's degree programme:

Module	Courses	Semes- ter	Prerequisites for admission	Pieces of course- work	Assess- ments	СР
Principles of Economics I	Lecture( 2 semester hours)	winter semest er			К	4
Principles of Economics II	Lecture( 2 semester hours)	summer semest er			К	4
Principles of Economics	Lecture( 2 semester hours)	winter semest er			к	4

Principles of Economics IV	Lecture( 2 semester hours)	summer k semest er	(	4
Principles of Economics V	Lecture( 2 semester hours)	winter k semest er k	(	4
Principles of Economics VI	Lecture( 2 semester hours)	summer semest er	(	4
Total				20

# Appendix 1.3.i: Specialising minor subject

Students may select a different minor subject, the specialising minor subject, upon application to the responsible body specified in section 3. Upon application to the responsible body specified in section 3, the modules to be completed in this minor subject, comprising at least 20 credit points, shall be determined in an individual, binding curriculum by the faculty offering the courses.

# Appendix 1.4: Master's Thesis Module

Module	Courses	Semester	Prerequisites	Pieces of course- work	Assess- ments	СР
Master's thesis		4	Module seminar and 75 credit points	1 SL	MA	30

The master's thesis module includes one assessment and one piece of coursework.

# Appendix 2: Assessment Types

#### Appendix 2.1: Definitions

#### Bachelor's thesis (BA)

The bachelor's thesis module comprises the bachelor's thesis and, if applicable, an oral assessment and/or a piece of coursework as defined in the (degree programme-related) appendix.

#### Term paper (HA)

A term paper is an independently written paper on a subject-specific or interdisciplinary topic.

### Written examination (K)

A written examination is a written or electronic assessment completed under supervision.

#### Multiple-choice examination (KA)

<sup>1</sup>A written examination is a written or electronic assessment completed under supervision. <sup>2</sup>Parts of written examinations may be conducted as multiple-choice examinations. <sup>3</sup>When drafting the examination questions and answers, the examiner must determine which answers shall be recognised as correct. <sup>4</sup>Two authorised examiners must review the examination questions and answers for multiple-choice examinations in advance for errors, consistency of content and appropriateness. <sup>5</sup>Should a subsequent review of the examination questions reveal obvious errors in individual questions, these shall be deemed not to have been assigned. <sup>6</sup>Evaluation of the examinations shall be based on the number of questions minus the number of erroneous questions. <sup>7</sup>Reduction of the number of examination questions shall not have a disadvantageous effect for examination candidates.

### Master's thesis (MA)

The master's thesis module comprises the master's thesis and, if applicable, an oral assessment and/or a piece of coursework as defined in the (degree programme-related) appendix.

#### **Oral examination (MP)**

<sup>1</sup>Oral examinations are conducted privately in the presence of an observer who holds the qualification to be ascertained through said examination or an equivalent qualification. <sup>2</sup>The essential topics of the examination shall be recorded in the minutes of the assessment. <sup>3</sup>Students wishing to take the same examination at a later date and other members of the university who express legitimate interest must be permitted to observe the oral examination as guests. <sup>4</sup>This permission does not extend to the consultations about the results and the announcement of the examination candidate's or candidates' results. <sup>5</sup>At the request of the examination candidate or candidates, the guests specified in sentence 3 must be excluded.

#### **Placement report (PB)**

<sup>1</sup>A placement report is a written paper relating to a placement organised individually by the student and undertaken outside of the determined registration and examination periods at an external institution or at one of the university facilities. <sup>2</sup>Topics include, for example, preparing and performing the placement as well as critical reflection on a predetermined subject.

#### Project-related examination (PJ)

<sup>1</sup>A project-related examination involves addressing a predefined subject-specific or interdisciplinary topic in a theoretical, empirical, experimental, constructive, conceptual, applied artistic or documentary manner. <sup>2</sup>The results are presented in the form of a written and/or planning and/or artistic and/or electronic assignment. <sup>3</sup>The examiner may require a presentation followed by a discussion. <sup>4</sup>The scope of the work (in months or hours) specified in appendix 1 is binding.

#### Practical sports presentation (SP)

<sup>1</sup>A practical sports presentation comprises one or more assignments to prove the demonstration and movement skills of examination candidates in the subject of sports. <sup>2</sup>Skills such as techniques and tactics specific to a particular sport; coordinative-rhythmic, coordinative-technical or conditional basics as well as

the situational ability to play or act may be evaluated. <sup>3</sup>The type of presentation in a particular case is determined by agreement. <sup>4</sup>The practical sports presentation is conducted before one examiner and one proficient observer. <sup>5</sup>The essential topics of the examination shall be recorded in the minutes of the assessment. <sup>6</sup>Students wishing to take the same examination at a later date and other members of the university who express legitimate interest must be permitted to observe the practical sports presentation as guests. <sup>7</sup>This permission does not extend to the consultations about the results and the announcement of the examination candidate's or candidates' results. <sup>8</sup>At the request of the examination candidate or candidates, the guests specified in sentence 6 must be excluded.

#### Independent assignment (ST)

<sup>1</sup>In an independent assignment a subject-specific or interdisciplinary topic is addressed in a theoretical, experimental or constructive respect and the solutions developed are presented and explained in a manner usual for the professional activity. <sup>2</sup>The scope of the work (in months or hours) specified in appendix 1 is binding. <sup>3</sup>The stipulations in section 5 of these examination regulations shall apply. <sup>4</sup>The topic of the independent assignment shall be determined by the examiner after hearing the examination candidate. <sup>5</sup>The topic shall be assigned by the responsible body specified in section 3 or the entity appointed by that body; assignment of the topic must be recorded. <sup>6</sup>The topic and a schedule for completion must also be set when the topic is assigned; the schedule for completion is to be prepared by the examination candidate. <sup>7</sup>During preparation of the independent assignment, the examination candidate shall be supervised by the examiner, if appropriate in consultation with a person designated by the examiner. <sup>8</sup>The period from assignment of the independent assignment is six months. <sup>9</sup>The student may return the topic of the independent assignment assignment must be submitted to the entity appointed by the responsible body specified in section 3 by the deadline; the date and time of submission must be recorded. <sup>11</sup>Evaluation of the independent assignment may also include consideration of the process of its preparation.

#### Course-accompanying examination (VbP)

<sup>1</sup>A course-accompanying examination (VbP) addresses a topic relating to a specific course and is conducted continuously during the semester. <sup>2</sup>A VbP may comprise multiple examination components, which shall not exceed four components. <sup>3</sup>The examiner shall determine and communicate the assessment type for a VbP by 15.10. for the winter semester or by 15.04. for the summer semester at the latest, at least for the semester in question. <sup>4</sup>For courses and modules with a VbP, other assessments may be mandated as prerequisites only if the responsible dean of studies office can ensure that evaluation of the required module has been completed by the registration period for the VbP. <sup>5</sup>The relevant registration and examination periods for the VbP examinations can be found in appendix 3.1 of the examination regulations.

<sup>6</sup>A VbP may comprise the following assessment types:

#### Written assignment (AA)

<sup>1</sup>Written assignments are independent academic papers on a predetermined topic. <sup>2</sup>They comprise a definition of the topic, a discussion of the problem, results and a conclusion. <sup>3</sup>Written assignments include reports and/or minutes of field trips, placements or projects.

#### **Documentation (DO)**

<sup>1</sup>A documentation comprises the analysis and presentation of an artistic, cognitive or action-oriented process. <sup>2</sup>Documentations can take the form of reports and plans that correspond to those used in professional practice. <sup>3</sup>Conditions regarding the number of pages or the number of plans or draft sheets may be determined by the examiner at the beginning of the examination and depend on the assignment. <sup>4</sup>Further materials may be appended to the report.

#### Essay (ES)

<sup>1</sup>An essay is a critical analysis of a literary and/or scientific question in written form. <sup>2</sup>A topic is discussed in a greater overall context according to general academic standards and scientific positions are critically evaluated or analysed.

### Colloquium (KO)

<sup>1</sup>A colloquium comprises an oral presentation with a subsequent discussion of the topic, methods and results of the paper. <sup>2</sup>The examination candidate is to demonstrate in the colloquium that they have the ability to defend their point of view within the scope of critical academic discussion. <sup>3</sup>The essential topics of the assessment shall be recorded in the minutes of the assessment. <sup>4</sup>Students wishing to take the same examination at a later date or other members of the university who express legitimate interest must be permitted to observe the colloquium as guests. <sup>5</sup>This permission does not extend to the consultations about the results and the announcement of the examination candidate's or candidates' results. <sup>6</sup>At the request of the examination candidate or candidates, the guests specified in sentence 4 must be excluded.

#### In-class test (KU)

<sup>1</sup>An in-class test is a written assessment conducted under supervision during a set time. Following the requirements of the examiner, students must successfully complete a certain proportion of the assigned tasks in order to pass the in-class test.

#### Artistic academic presentation (KW)

<sup>1</sup>An artistic academic presentation is based on the interaction between artistic processes and scientific analysis addressed in an artistic project and presented in an appropriate form. <sup>2</sup>The lines of argument and interpretation featured in the presentation in the form of images and text are either expressed in an oral presentation with a subsequent discussion or explained in a term paper. <sup>3</sup>An artistic academic presentation is conducted as an individual examination before an examiner and a proficient observer. <sup>4</sup>The essential topics of the examination shall be recorded in the minutes of the assessment. <sup>5</sup>Students wishing to take the same examination at a later date and other members of the university who express legitimate interest must be permitted to observe the artistic academic presentation as guests. <sup>6</sup>This permission does not extend to the consultations about the results and the announcement of the examination candidate's or candidates' results. <sup>7</sup>At the request of the examination candidates, the guests specified in sentence 5 must be excluded.

# Lab exercise (LÜ)

<sup>1</sup>A lab exercise comprises a series of practical tests or programming assignments, accompanied by written assignments (lab reports). <sup>2</sup>As a rule, students explain their practical work, interpret the results and place them in a scientific context.

#### Model (MO)

<sup>1</sup>Models are extensions of two-dimensional designs or plans and serve to illustrate a plan's spatial layout and to clarify planning issues. <sup>2</sup>They are created to different scales, depending on the task and focus.

#### Teaching a group to play music (ME)

The aim of the VbP component "teaching a group to play music" is to demonstrate the ability to apply practical teaching skills (particularly practical music making at school) in a school class or a smaller group in an appropriate methodological and didactic manner.

#### Musical performance (MU)

<sup>1</sup>The VbP component "musical performance" is conducted as an individual examination before two examiners or one examiner and one proficient observer. <sup>2</sup>The essential topics of the examination shall be recorded in the minutes of the assessment. <sup>3</sup>Students wishing to take the same examination at a later date and other members of the university who express legitimate interest must be permitted to observe the musical performance as guests. <sup>4</sup>This permission does not extend to the consultations about the results and the announcement of the examination candidate's or candidates' results. <sup>5</sup>At the request of the examination candidate or candidates, the guests specified in sentence 3 must be excluded.

#### Musical performance by pupils (MK)

The VbP component "musical performance by pupils" is based on a music education seminar and includes a musical performance by pupils.

#### Portfolio (PF)

<sup>1</sup>A portfolio documents the learning process concerning certain topics or assignments set by the examiners at the start of the course. <sup>2</sup>Students conduct systematic self-reflection during the course or retrospectively; in so doing, they may compile various materials in a folder, depending on what is agreed. <sup>3</sup>An optional supplementary interview may be conducted to discuss the portfolio. <sup>4</sup>Like the portfolio itself, the interview is competence-oriented.

### Concert with an educational focus (PK)

<sup>1</sup>The VbP component "concert with an educational focus" is an assignment in relation to the artistic major in which the educational focus (if applicable, in terms of modern concert pedagogy) plays an important role in execution and presentation/performance. <sup>2</sup>As a rule, it is presented in a school learning group.

### Presentation (PR)

<sup>1</sup>A presentation is an independent and in-depth analysis of a predetermined topic within the context of the course. <sup>2</sup>The work and results are presented orally and/or using electronic and other media, as well as in the subsequent discussion. <sup>3</sup>The examiner may require a written assignment. <sup>4</sup>The type and duration of the presentation shall be determined by the examiner, unless this is specified in the (degree programme-related) appendix.

### Practical examination (PP)

<sup>1</sup>A practical examination comprises one or more assignments to prove students' movement skills in the subject of sports. <sup>2</sup>Skills such as techniques and tactics specific to a particular sport; coordinative-rhythmic, coordinative-technical or conditional basics as well as the situational ability to play or act may be evaluated. <sup>3</sup>The type of presentation in a particular case is determined by agreement. <sup>4</sup>The ungraded practical examination is conducted by one examiner over the course of the semester.

# Project assignment (P)

<sup>1</sup>A project assignment involves addressing a predefined subject-specific or interdisciplinary topic in a theoretical, empirical, experimental, constructive, conceptual, applied artistic or documentary manner. <sup>2</sup>The results are presented in the form of a written and/or planning and/or artistic and/or electronic assignment. <sup>3</sup>The examiner may require a presentation followed by a discussion.

#### Seminar assignment (SE)

A seminar assignment comprises a term paper and – depending on the requirements of the examiner – may include a presentation with a subsequent discussion.

#### Theatrical performance (TP)

<sup>1</sup>A theatrical performance is the presentation of practical theatrical work before an audience, either in a process-oriented or product-oriented form. <sup>2</sup>The essential topics of the examination shall be recorded in the minutes of the assessment. <sup>3</sup>Students wishing to take the same examination at a later date and other members of the university who express legitimate interest must be permitted to observe the theatrical performance as guests. <sup>4</sup>This permission does not extend to the consultations about the results and the announcement of the examination candidate's or candidates' results. <sup>5</sup>At the request of the examination candidate or candidates, the guests specified in sentence 3 must be excluded.

#### Practical assessment (Ü)

<sup>1</sup>A practical assessment is an assessment conducted under supervision during a set time within the course schedule. <sup>2</sup>Following the requirements of the examiner, students must successfully complete a certain proportion of the practical assessment assignments in order to pass.

# Lesson preparation and implementation (U)

<sup>1</sup>As an assessment type, lesson preparation and implementation entails independent planning and implementation of a lesson as part of a teaching placement at a school for children with special needs or in an inclusive environment. <sup>2</sup>The lesson is reviewed and evaluated by a mentor and the seminar coordinator of the preparation seminar.

# Graphic representation (ZD)

<sup>1</sup>Graphic representations explain, clarify and present design and planning work. <sup>2</sup>Depending on the task and thematic focus, they are prepared at different scales and using different techniques.

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# Appendix 2.2: Glossary of Assessment Types

- BA Bachelor's thesis
- HA Term paper
- K Written examination
- KA Multiple-choice examination
- MA Master's thesis
- MP Oral examination
- PB Placement report
- PJ Project-related examination
- SP Practical sports presentation
- ST Independent assignment
- VbP Course-accompanying examination
  - AA Written assignment
  - DO Documentation
  - ES Essay
  - KO Colloquium
  - KU In-class test
  - KW Artistic academic presentation
  - LÜ Lab exercise
  - MO Model
  - ME Teaching a group to play music
  - MU Musical performance
  - MK Musical performance by pupils
  - PF Portfolio
  - PK Concert with an educational focus
  - PR Presentation
  - PP Practical examination
  - P Project assignment
  - SE Seminar assignment
  - TP Theatrical performance
  - Ü Tutorial
  - U Lesson preparation and implementation
  - ZD Graphic representation

# Appendix 3: Supplementary Provisions

#### Appendix 3.1: Registration and Examination Periods

<sup>1</sup>The responsible body specified in section 3 shall determine the variant for this degree programme and for the subjects in this degree programme. <sup>2</sup>It shall decide either on variant 1 (one registration period/one examination period) or on variant 2 (two registration periods/two examination periods).

<sup>3</sup>In the case of modules that are exported to other degree programmes or made available to them, the degree programme or the responsible body of the faculty as specified in section 3 offering the module shall determine the variant; as a result, modules in this degree programme offered by other degree programmes (imported modules) may be assigned to a different variant. <sup>4</sup>Students may register for the bachelor's thesis, master's thesis and independent assignments (ST) outside of the periods stated. <sup>5</sup>Placement reports shall be registered in the registration period corresponding to the specified variant, but can be completed outside of the applicable examination periods and during the subsequent semester.

<sup>6</sup>Students must be notified of examination dates for oral examinations at least 14 days in advance via appropriate means of communication.

	Registration Period Summer Semester	Examination Period Summer Semester	Registration Period Winter Semester	Examination Period Winter Semester
Variant 1	45.05 04.05	45.00 44.40		45.40 44.04
Period for all assessment types except VbP	15.05. – 31.05.	15.06. – 14.10.	15.11. – 30.11.	15.12. – 14.04.
Period for VbP assessment types	15.04. – 30.04.	01.05. – 31.08.	15.10. – 31.10.	01.11. – 28.02.
Variant 2 Period I for all assessment types except	15.05. – 31.05.	15.06. – 31.08.	15.11. – 30.11.	15.12. – 28.02.
VbP				
Period <b>II</b> for all assessment types except VbP	16.09. – 23.09.	24.09. – 14.10.	16.03. – 23.03.	24.03. – 14.04.
Period for VbP assessment types	15.04. – 30.04.	01.05. – 31.08.	15.10. – 31.10.	01.11. – 28.02.

# Appendix 3.2: Deadlines for Evaluation of Assessments

<sup>1</sup>Depending on the variant selected, as specified in appendix 3.1, examiners shall submit marks as follows:



	Summer Semester	Winter Semester
Variant 1 Period for all assessment types except VbP	by 26.10.	by 26.04.
Period for VbP assessment types	by 15.09.	by 15.03.
Variant 2 Period I for all assessment types except VbP	by 12.09.	by 12.03.
Period <b>II</b> for all assessment types except VbP	by 26.10.	by 26.04.
Period for VbP assessment types	by 15.09.	by 15.03.

<sup>2</sup>Examiners shall evaluate assessments and submit marks within the deadline in accordance with section 17 paragraph 1. <sup>3</sup>Assessments that occur at the end of the examination period shall be subject to a shorter deadline for evaluation of at least 12 days. <sup>4</sup>The same shall apply for VbP.

# Appendix 3.3: Deviating Stipulations Concerning Variant 2 Assessment Types

In variant 2, term papers must be registered during registration period I. In these cases, the assessment must be completed at the latest at the end of examination period II, as determined by the examiner.