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Examination Regulations of the University of Mannheim for the Master's Program "Mannheim Master in Data Science" (M.Sc.)

as at 20 February 2024
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I. General Provisions

Section 1 – Purpose of the Program of Study

[1]The master's examination marks the proper completion of the master's program "Mannheim Master in Data Science" (M.Sc.) (master's program MMDS). [2]The completion of the master's examination constitutes the second professional qualification (consecutive degree). [3]It proves that the student has acquired in-depth knowledge regarding the analysis and management of complex data. [4]It shows that the student has the ability to analyze new problems by making use of the acquired knowledge in the areas Data Storage, Data Management and Data Analytics. [5]In doing so, students recognize new requirements independently and develop new solutions for complex issues. [6]In addition, it serves to demonstrate whether the student has the ability to apply scientific methods and findings adequately in order to ensure a successful transition into research or the labor market.

Section 2 – Graduation

[1]Based on the completion of the master's examination, the School of Business Informatics and Mathematics of the University of Mannheim awards the academic degree "Master of Science" (M.Sc.). [2]In accordance with section 37, the academic degree is only to be used after having received the diploma.

Section 3 – Required Coursework and Examinations, Structure, and Language of Instruction and Examination

(1) [1]Coursework and examinations within the master's program total at least 120 ECTS credits and are obtained in line with the structure of each subject area:

1. Data Science Fundamentals (27 ECTS credits),
2. Data Management (6 to 24 ECTS credits),
3. Data Analytics Methods (12 to 36 ECTS credits),
4. Responsible Data Science (3 to 7 ECTS credits),
5. Data Science Applications (0 to 12 ECTS credits),
6. Projects and Seminars (14 to 18 ECTS credits),
7. Master's Thesis (30 ECTS credits).

[2]The detailed rules and regulations on the required ECTS credits for each subject area are specified in sections 28 to 34 in conjunction with the annex. [3]One ECTS credit corresponds to a workload of 30 hours. [4]The workload comprises the hours spent in class, the hours spent on the preparation for and the revision of classes, self-study and the hours spent on preparing for examinations, as well as the examinations themselves.

(2) [1]The master's program MMDS has a modular structure. [2]The technical, topical and coherent units of instruction (modules) include one course each; in the module Seminar, students can choose from several available courses and the modules Team Project, Individual Project and Master's Thesis do not include a course. [3]The individual modules are organized by superordinate units (subject areas). [4]The composition of the subject areas and modules are specified in sections 28 to 34 in conjunction with the annex. [5]The content of the modules, with exception of the contents of sentence 7, is specified in the current version of the University of Mannheim's module catalog for the "Mannheim Master in Data Science" (module catalog MMDS). [6]The module catalog MMDS is approved by the school council of the School of Business Informatics and Mathematics. [7]The contents of the available elective modules in the areas "Data Management", "Data Analytics Methods" and "Data Science Applications" that are not offered by the department of Informatics (imported elective modules) can be found in the valid version of the respective module catalog that is referred to in the annex of the module catalog MMDS (external module catalog).

(3) [1]As a rule, the majority of the modules are taught in English; elective modules may also be taught in German. [2]The language of instruction for a module is indicated in the MMDS module catalog; for the imported

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elective modules this is indicated in the external module catalog. [3]If a module is designated as an English-taught module in the module catalog, the course which belongs to it is held completely in English. All of the coursework and examinations (preliminary coursework and examinations) for this course are to be completed in English. [4]Examinations without a corresponding course are to be completed in English.

Section 4 – Standard Period of Study, Maximum Period of Study

(1) The period of study for the master's program, during which all coursework and examinations required to pass the master's examination are to be completed, is four semesters (standard period of study).

(2) [1]All coursework and examinations that must be completed as a part of the master's examination must be completed within a given time (maximum period of study). [2]The maximum period of study ends three semesters after the standard period of study at the end of the seventh semester, unless the student is not responsible for having exceeded this time. [3]The student will be notified by the examination committee if they have exceeded the deadline; eligibility to take exams is lost in accordance with section 32 subsection 5 sentences 4 and 5 in accordance with sentence 3 alternative 2 of the act on the higher education institutions in Baden-Württemberg (Landeshochschulgesetz, LHG).

(3) [1]At the beginning of their studies, students are recommended to seek academic advice for orientation purposes. [2]This serves to help them to draw up their individual degree plans according to the scope of the examination regulations. [3]If a student does not pass the master's examination until the end of their sixth semester of the program, the student is recommended to seek academic advice again. [4]The examination committee is in charge of academic advising. [5]It may pass on the task to qualified staff members.

(4) The student is responsible for meeting the deadlines listed in these examination regulations.

II. Organization and Administration of Examinations, Recognition of Coursework and Examinations

Section 5 – Examination Committee

(1) [1]An examination committee is formed for the "Mannheim Master in Management" program. [2]It is composed of three university teachers or senior academic staff members (Privatdozent*innen) who are eligible to vote, at least two of which must be from the School of Business Informatics and Mathematics, and a student member exercising an advisory function. [3]The members of the examination committee are appointed by the school council of the School of Business Informatics and Mathematics.

(2) [1]The term of office for members who are eligible to vote is three years. The student member's term of office is one year. [2]All members can be reappointed. [3]The committee members' term of office starts on 1 August of each year. [4]If a member of the examination committee retires from their position before the end of the term of office, a successor is appointed for the remaining term of office.

(3) [1]The school council of the School of Business Informatics and Mathematics elects a member of the examination committee to be the chair and another member to be vice chair for the duration of their term of office. The chair manages the examination committee.

(4) [1]The examination committee has a quorum if the chair or vice chair and at least another member who is eligible to vote are present. [2]Decisions require a simple majority of votes from the members present. [3]In the event of a tie, the vote of the chair decides the matter.

(5) [1]The members of the examination committee are obliged to exercise discretion. [2]If they are not employed in the public service, they must be obliged to exercise discretion by the chair of the examination committee in writing. [3]This obligation applies to all examination-related facts and matters

1. that the members were informed about in a non-public meeting and/or that happened to be discussed,
2. that are to be kept secret by law,
3. that were ordered or decided to be kept secret for the public good or in order to protect the legitimate interests of an individual,
4. that are to be kept secret by their nature.

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[4]The obligation to exercise discretion continues after the term of office ends and includes discussion-related documents.

Section 6 – Competences of the Examination Committee

(1) [1]The examination committee makes all decisions in accordance with these examination regulations if no other entity is responsible. [2]The examination committee enforces the examination regulations. [3]By way of a resolution, the committee can entrust the chair with certain tasks that the committee is normally in charge of:

1. Appointment of examiners and observers,
2. Decisions on the recognition of coursework and examinations,
3. Decisions on the approval of reasons for de-registration and absence,
4. Decisions on disadvantage compensations,
5. Decisions on the extension of deadlines,
6. Decisions on breaches of procedure,
7. Declaring the failure of the final examination attempt,
8. Declaring the exceeding of the maximum period of study,
9. Assigning students to a Team Project and informing the Student Services of the topic, the duration of the preparation period and the group members of the Team Project,
10. Assigning students to the dates of the block courses in the module Scientific Research and informing the Student Services about this,
11. Assigning students to a seminar in the module Seminar,
12. Declaring the registration period for the Team Projects, assigning students to a Team Project and informing the Student Services of the topic, the duration of the preparation period and the group members of the Team Project,
13. Decisions in appeal procedures,
14. Decisions on substituting an exam of a certain form with another exam of a different form but requiring the same competencies.

[4]The resolution can be revoked at any time.

(2) In order to support the examination committee, an office can be established whose staff is mainly in charge of proceedings on behalf of the chair or their deputy.

Section 7 – Examiners and Observers

(1) [1]Only university teachers, auxiliary professors (außerplanmäßige Professor*innen), honorary professors and senior academic staff members (Privatdozent*innen) as well as those academic members of staff who have been appointed by the President's Office in accordance with section 52 subsection 1 sentences 5 and 6 LHG are authorized to administer preliminary coursework and examinations. [2]An individual can only act as an observer if they have at least completed a master's degree, an equivalent degree at a higher education institution successfully, or are certified by the state in the field of the examination.

(2) [1]Usually, the teacher responsible for each course is appointed as examiner. [2]For examinations without corresponding a course, such as the examinations in the modules Team Project, Individual Project and Master's Thesis, the regulations for examiners according to section 15 subsection 4 sentence 1, section 16 subsection 3 sentence 1 and section 18 subsection 2 sentences 1, 2 and 5 remain unaffected.

(3) Every examiner may make use of one or several assistants for the correction of examinations or coursework; the examiner must ensure competent evaluation and grading.

(4) Examiners, observers, and assistants for the correction of examinations are obliged to exercise discretion in accordance with section 5 subsection 5.

(5) For the preliminary coursework and examinations of the imported elective modules (imported elective examinations), the regulations for examiners and observers apply as they are stipulated in the current version of the respective examination regulations, which are referred to in the external module catalog (external examination regulations).

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Section 8 – Competences of the Student Services

(1) The Student Services are in charge of the administration of the examinations.

(2) In particular, the Student Services

1. determine and announce registration deadlines, examination dates and rooms,
2. announce the names of the examiners and notify them about the examination,
3. receive examination registrations from students, unless students register with the examiner,
4. enter the admissions and rejections for examinations into the system,
5. carry out compulsory registration,
6. maintain student examination records,
7. enforce the deadlines specified in these examination regulations,
8. are in charge of the technical administration of all examinations and the coordination of supervision for written examinations,
9. issue and hand out official documents, degree certificates and confirmations on coursework and examinations along with attachments.

Section 9 – Recognition of Coursework and Examinations

(1) Coursework and examinations as well as periods of study obtained in other degree programs at official or officially recognized higher education institutions in Germany or abroad as well as at public universities of cooperative education (Berufsakademien) of the Federal Republic of Germany are recognized, provided there is no significant difference between the competences obtained and the coursework or examinations.

(2) [1]For the recognition of coursework, examinations and semesters completed abroad, agreements between the Federal Republic of Germany and other countries need to be taken into account, such as agreements on equivalencies in higher education (equivalency agreements) and agreements within the framework of university partnerships and double degree programs (cooperation agreements). [2]Furthermore, in cases of doubt regarding the equivalency of qualifications, the Central Office for Foreign Education (Zentralstelle für ausländisches Bildungswesen - ZAB) can be consulted.

(3) [1]Skills and qualifications obtained outside of the higher education sector are to be recognized if

1. the requirements for admission to a higher education institution are fulfilled at the time of recognition,
2. the skills and qualifications to be recognized are equivalent to the coursework and examinations to be substituted in terms of content and level, and
3. the criteria for recognition were examined as part of an accreditation.

[2]For recognition, the applicant has to prove that the competences they acquired outside of the higher education sector are comparable to the coursework and examinations to be substituted in terms of content and level. [3]For the decision on the recognition, the form of instruction is to be considered as well. [4]Skills and qualifications obtained outside of the higher education sector may substitute 50 percent of the master's program at most. [5]The regulations for the recognition of coursework and examinations at public universities of cooperative education (Berufsakademien) in Germany remain unaffected.

(4) [1]The examination committee decides on the recognition upon written request of the student. [2]It is the student's responsibility to provide the examination committee with the necessary documents for the recognition of coursework and examinations.

(5) [1]If coursework and examinations are recognized and the grading systems are similar, the grades must be transferred according to these examination regulations and considered for calculation of the final grade. [2]In order to guarantee a consistent procedure, the examination committee can pass general regulations for the conversion of grades obtained abroad within the limits of the legal provisions. [3]If conversion is impossible because the grading systems differ or the coursework was not graded, the work is simply marked "passed" ("bestanden"). [4]In this case, the coursework or examination will not be included in the final grade. [5]The recognition is indicated in the degree certificate and in the Transcript of Records.

(6) In case the student takes part in an examination at the University of Mannheim even though they have already obtained the respective qualification elsewhere, they automatically waive the right to have the previous qualification recognized.

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(7) Modules and examinations that were completed in the program of study that was a requirement for the master's program cannot be recognized.

III. Examination Process

Part 1: Admission Requirements and Examinations

Section 10 – General Information

(1) The examinations that are to be completed as a part of the master's examination, excluding the examinations Team Project, Individual Project and Master's Thesis, are assigned to the individual courses within the modules.

(2) The module catalog MMDS may include requirements to be fulfilled (required preliminary coursework) as well as further requirements in order to be admitted to an examination held by the School of Business Informatics and Mathematics. [2]The admission requirements for imported elective examinations can be found in the external module catalog.

(3) [1]An examination as defined in these examination regulations usually involves completing one or several individual tasks. [2]The imported elective examinations must be composed as stipulated in the respective regulations of the external module catalog. [3]Group examinations are permitted unless they are incompatible with the actual form of the examination. [4]If an examination is completed in a group, the final topic of the group examination and the assignment of respective tasks to the students must be determined by the examiner. [5]In case of group examinations, the individual contribution of each student to the examination must be evaluated; it must be ensured that within the joint preparation of a topic the individual contribution of each group member can clearly be separated and evaluated individually. [3]The respective stipulations that are set out in the external examination regulations are the basis for the specifications of the individual examinations of the imported elective examinations.

(4) [1]The composition of the individual examinations in the mandatory and elective modules (mandatory and elective examinations) as well as the type, form and scope or duration of the respective examinations are stipulated in the examination regulations. [2]If these examination regulations include alternative options for an examination, the specific examination for the respective semester can be found in the module catalog MMDS. [3]For the composition of the actual examinations in the individual seminars in each semester, sentence 2 applies accordingly.[4]The composition of the individual examinations in the elective modules (elective examinations) as well as the type, form and scope or duration of the respective elective examinations from the department of Informatics are stipulated in the examination regulations in connection with the module catalog MMDS and for the imported elective examinations this is stipulated in the external module catalog.

(4a) The coursework or examination designated in the annex can be substituted by a different kind of coursework or examination or can be adapted in terms of its scope provided that both kinds of coursework or examinations are appropriate to assess the respective competencies and there are, considering the organizational requirements, no essential differences in the form of the coursework or examinations. [2]In particular, competencies are equal between written and supervised digital examinations (on campus), between written and unsupervised digital take home exams (off campus), and between oral examinations and digitally supported oral examinations. [3]In compliance with data protection regulations, the decision on changing the form of the examination or adapting the scope lies with the examiner and the responsible examination committee. [4]Students are informed of these decisions by the beginning of the lecture period of the respective semester at the latest. [5] The decision is to be made coherently for all examination dates of an examination of the respective semester.

(5) [1]Written examinations serve to prove the student's ability to solve a problem by independently applying the common methods of the field in a limited period of time and with a limited number of authorized materials. [2]The examiner determines the authorized materials and informs the students about it using appropriate means in due time before the examination.

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Section 11 – Registration and Admission to Examinations; Examination Dates

(1) [1]Students need to register for all examinations. [2]It is the student's responsibility to register for an examination. [3]If a student fails an examination in the first attempt or if this attempt or the re-sit examination are deemed not taken, they will automatically be registered for the next regular examination date or it is their own responsibility to register again. [4]Students are not automatically registered for exams taking place in the next semester.

(2) [1]Students need to register for their examinations at the Student Services within the registration period that is determined by the Student Services, except if the examination takes place before the start of the registration period (subsection 3) or if the examination regulations stipulate that students need to register for their exam with their examiner or the examination committee. [2]The Student Services can extend the registration period (late registration).

(2a) [1]After the registration period, a registration can only be withdrawn during the withdrawal period determined by Student Services (withdrawal). [2]Once the withdrawal period has ended, the registration for an examination attempt is binding. [3]Sentences 1 and 2 also apply to examinations for which students were automatically registered. [4]If an examination is comprised of several components of coursework or examinations, the registration cannot be withdrawn if the student has already accepted a task of the first coursework or examination component from the examiner (participation).

(3) [1]If the examination takes place before the start of the registration period that is determined by the Student Services and students are therefore unable to register in the student portal before the examination, students are registered bindingly as soon as they accept the task of the examination from the examiner (participation in the examination). [2]In this case, students are admitted to the respective examination by the examiner as soon as they are given the task; it is the students' responsibility to provide the examiner with the information that is required for their admission. [3]Students must indicate in the student portal that they participate in an exam within the registration deadline, the only exception is when they participate in the exam in the module Scientific Research. [4]In case students must register with the examiner or the examination committee, sentences 1 to 3 apply accordingly.

(4) The examination registration and the examination procedures in the modules Team Project, Individual Project, Seminar and Master's Thesis are subject to the regulations that are set out in section 15 to 18 apply.

(5) If an examination from the Department of Informatics consists of one component, the following examination procedures must be observed:

1. Supervised written exam, supervised digital examination and unsupervised digital take home exam, whose time frame for completion is indicated in minutes.

    a. [1]The regular examination date of a semester must take place at the start of the semester break and the alternate examination date must take place before the following lecture period begins or at the latest during the first week of the lecture period of the following semester. [2]There must be at least three weeks time between announcing the results from the regular examination date and the alternate examination date. [3]The alternate examination date counts for the semester in which the regular date took place. [4]In deviation from this rule, the examination dates for the examination in the module Scientific Research are scheduled after the block course, which takes place several times per semester.

    b. [1]Students can decide on their own if they want to participate in the regular or the alternate examination date for the modules of the CS, IE and DS areas. [2]For the examination in the module Scientific Research, students can only register for the examination that is scheduled after the block course that they were assigned to.

    c. [1]For the examinations in the module Scientific Research, students register for the examination at the examination committee by choosing a date for the block course. [2]Once the students are assigned

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to the date of a block course, their registration for the related examination is binding and the students are admitted; this also applies if the students are assigned to another date than they chose.

d. If an examination is divided into two parts for the regular examination date, the first part is to be taken during the course of the semester while the second part is to be taken on the date of the regular examination date as defined in letter a sentence 1; for the alternate examination date both parts are to be taken together.

e. [1]If an attempt was failed or deemed not taken at the regular examination date, students are automatically registered for the second (alternate) examination date of the respective semester, provided they are eligible for a further examination attempts. [2]However, the students will not be automatically registered for the examination in the module Scientific Research; the students are responsible for registering again for the next possible date of the block course and the related examination date.

2. Oral examination

a. [1]The regular examination date of a semester must take place until the end of the semester in which the course was taken. [2]The alternate examination date of a semester must take place before the following lecture period begins or at the latest during the first week of the lecture period of the following semester. [3]There must be at least three weeks time between announcing the results from the regular examination date and the alternate examination date. [4]The alternate examination date counts for the semester in which the regular date took place.

b. [1]Students can only register for an examination for the regular examination date. [2]The examination needs to be registered with the examiner. [3]The registration is binding as soon as the student is informed of the examination date.

c. [1]If an examination attempt was failed or deemed not taken, students are responsible to register themselves for another examination date, provided they are eligible for further examination attempts.

(6) If an examination from the department of Informatics consists of several components, the following examination procedures must be observed:

1. The examination registration according to subsections 2 and 3 must be completed before the first component is completed.

2. [1]If the examination comprises several components that must be completed during the semester as part of a course as well as a supervised written exam, supervised digital exam or unsupervised digital take home exam, the exam is to be taken on the regular examination date according to section 5 number 1 letter a sentence 1; all other components are to be completed during the semester as part of the course (examination date of a semester). [2]Students can only register for the examination date of a semester. [3]If the examination at this examination date is failed or deemed not taken and the student is eligible for a further examination attempt, they are responsible to register themselves for another examination that is offered as part of the respective course.[1]If an examination only consists of components that must be completed during the semester, these must be completed during the semester (examination date of a semester). [2]Students can only register for the examination date of a semester. [3]If a student fails a first attempt at an examination or the attempt is deemed not taken and the student has another attempt, they are required to retake the examination at the next possible occasion during the course. [4]It is the students' responsibility to register for the next examination attempt.

(7) When registering for an imported elective examination and for the related examination procedures, the regulations that are set out in the external examination regulations must be observed.

(8) [1]The student is only admitted to an examination if they

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1. are enrolled in the "Mannheim Master in Data Science" master's program,
2. meet the requirements for the examination in question, having successfully completed any preliminary coursework, and
3. did not already fail the final examination attempt for the examination that they want to be admitted for in this degree program or in another degree program.

[2]It is the students' responsibility to provide the office at which they register for the examination with all necessary documents for their admission. [3]For the admission to the examinations Team Project, Individual Project, Seminar and Master's Thesis, the regulations as set out in sections 15 to 18 apply accordingly. [4]In all other respects, students are admitted to the examination in the module "Scientific Research" once the examination committee assigns them to a course with the respective examination.

Section 12 – Type and Form of Coursework and Examinations

(1) The types and forms of coursework and examinations are usually as follows:

1. written tasks in the form of written exams, term papers, digital take home exams - unsupervised (off campus), written reports, project reports, peer reviews, and master's thesis;
2. oral tasks, among others in the form of oral examinations;
3. digital coursework and examinations in the form of programming exams and programming projects as well as supervised digital examinations (on campus) and unsupervised digital take home exams (off campus), as far as exam problems are being displayed on a computer screen and the respective answers are being typed directly at the computer;
4. practical tasks in the form of project-related papers.
5. Combinations of these types in the form of presentations. (2) Apart from the required preliminary coursework, examiners may include further requirements in the module catalog MMDS in order to be admitted to an examination such as homework, practical programming projects, written and oral reports.

(2) Apart from the required preliminary coursework, examiners may include further requirements in the module catalog MMDS in order to be admitted to an examination such as homework, practical programming projects, written and oral reports.

Section 13 – Oral Examinations

(1) [1]Oral examinations are conducted by an examiner in the presence of an observer. [2]Observers have an advisory role in the oral examination. [2]Oral examinations are usually conducted as an individual assessment. [3]Oral examinations are to last at least 15 and no more than 45 minutes. [4]In individual cases, the oral examination can be conducted with several examinees as a group assessment; this decision is made by the examiner. [5]The duration of a group assessment is to allow for each student to be examined for at least 15 minutes and no more than 45 minutes.

(2) [1]Minutes from the examination (Ergebnisprotokoll) are to be taken during the main course of the oral examination. [2]For oral examinations, the examiner must bring in a person familiar with the field of study as secretary to take the minutes. [3]The secretary may act as an observer at the same time. [2]The result from this examination, which must be communicated to the student shortly after its completion, is to be recorded in the minutes. [3]The minutes are to be signed by the examiner, the secretary and the observer, and must be included in the examination records.

(3) [1]Oral examinations can be conducted with digital support; oral examinations are considered to be conducted with digital support if not all examiners and examinees attend the examination in person, but via electronic means of communication. [2]In compliance with data protection regulations, the decision according to sentence 1 lies with the examiner or the examination committee of the respective oral examination. [3]Students will be informed of this decision by the beginning of the examination registration period preceding the examination

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date at the latest. [4]The regulations of section 32a LHG, in particular regarding examinations with video supervision, remain unaffected.

Section 14 – Written Examinations

(1) Written examinations are to last at least 20 and no more than 180 minutes.

(2) [1]As a rule, written examinations must not be conducted in the form of multiple-choice examinations. [2]In justified cases, written examinations may be conducted completely or in part as multiple-choice examinations. [3]In case an examination is conducted as multiple-choice throughout, the tasks must allow for reliable examination results. [4]When designing the examination, the examiner must determine which answers are accepted as correct and how the scoring system works. [5]If, during the assessment of the examination, it turns out that single exercises do not lead to reliable results, they must not be considered for the calculation of the examination's result. [6]The minimum passing score is to be adjusted accordingly; lowering the passing score must not have negative implications for the students. [7]The examination is passed if a student achieves at least the minimum passing score determined before the exam. If a student does not achieve the minimum passing score, they might still pass the exam, provided their performance was good enough to be among the set minimum rate of students that will pass the exam regardless of the results (pass rate; pass rate + failure rate = 100%). [8]If the examination is only partly multiple-choice, the regulations of this section apply to that part respectively.

(3) The examination supervisors must take minutes for each written examination. The minutes must be signed and included in the examination records unless the type of examination is not suitable for minutes.

(4) [1]When evaluating a project-related paper, a written draft paper, a term paper or similar pieces of work for academic performance, the examiner is to ascertain the quality of research and the quality of academic work. [2]If data and implementations are to be submitted, the student must provide them to the examiners in adequate form when submitting the written tasks. [3]The examiner informs the students at the latest if this is necessary when they give them the topic for the written task. [4]The students are responsible for providing the required information outlined in sentence 2.

(5) [1]When grading term papers or an equivalent, the examination committee and the examiners are authorized to use software to detect plagiarism. [2]For the grading of their work, students must submit a digital data file and a hard copy of their work to the examiners. [3]The work must be anonymized before the plagiarism check. [4]When submitting coursework as defined in sentence 1, the student must submit the following signed declaration:

"I hereby declare that the paper presented is my own work and that I have not called upon the help of a third party. In addition, I affirm that neither I nor anybody else has submitted this paper or parts of it to obtain credits elsewhere before. I have clearly marked and acknowledged all quotations or references that have been taken from the works of others. All secondary literature and other sources are marked and listed in the bibliography. The same applies to all charts, diagrams and illustrations as well as to all Internet resources. Moreover, I consent to my paper being electronically stored and sent anonymously in order to be checked for plagiarism. I am aware that if this declaration is not made, the paper may not be graded."

(6) [1]In digital take home exams - unsupervised (off campus), students demonstrate that they can complete a task or solve a problem independently within limited time, either with or without authorized resources. [2]These examinations can be provided in hard copy or digitally; the completed examination prepared by the students in electronic or handwritten form must be submitted digitally in a way specified by the university and in a file format approved by the university; section 14a subsection 2 remains unaffected. [3]For unsupervised digital take home exams (off campus), a reasonable amount of time for downloading the examination and uploading the completed examination is provided in addition to the actual working time that is set in minutes; students are not allowed to work on the examination during this time; it is the responsibility of the students to start the download and upload in a timely manner to ensure that it can be completed within the allocated time frame. [4]If students do not submit examinations within the allocated upload period in accordance with the requirements, this is considered failure to attend the examination (no-show); in this case, the examination is graded with "failed" (5.0 or nicht bestanden), unless the student is not responsible for exceeding the upload period. [5]The examination committee is responsible for determining whether the upload period has been exceeded. [6]A handwritten signature is not required for unsupervised digital take home exams (off campus); instead, students

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must submit a declaration stating that they have completed the examination on their own and have only used the authorized resources. [7]In all other aspects, the regulations on written examinations apply accordingly for unsupervised digital take home exams (off campus), for which a working time is set in minutes. [8]The regulations of section 32a LHG, in particular regarding examinations with video supervision, remain unaffected.

Section 14a – Digital coursework and examinations

(1) In digital examinations, students demonstrate that they can complete a task or solve a problem independently within a limited time in an examination environment set up by the university, either with or without authorized resources.

(2) [1]Unsupervised digital take home exams (off campus) and supervised digital examinations (on campus) are digital examinations if the examination questions of the relevant examination are displayed on a computer screen and the answers are entered immediately on this computer. [2]If a relevant examination is not exclusively but partially conducted this way, sentence 1 applies to this part accordingly.

(3) Digital examinations can only be conducted partly or in full in the form of multiple choice examinations, if the tasks are given and assessed by the same person.

(4) The regulations of section 32a LHG, in particular regarding examinations with video supervision, remain unaffected.

Section 14b – Obligation to Cooperate During Digitally Supported Examinations

(1) Digitally supported examination formats within the meaning of this regulation are unsupervised digital take home exams (off campus), supervised digital examination (on campus), digital oral examinations, as well as all examinations in which the work is performed directly on a computer or the submission of the completed examination is done electronically.

(2) [1]In the case of digitally supported examination formats where the university does not provide supervision at the student's respective location, students must cooperate in ensuring examination security; it is particularly important to guarantee the means of verification that are intended to ensure independent performance in the examinations. [2]Students are to remain in a quiet room throughout the entire examination, including the download and upload period. [3]Any form of contact with other persons during this time is to be prevented; examiners are not considered other persons within the meaning of this regulation; the same applies to technical support staff of the university if they are responsible for the technical support of the respective examination and the contact solely serves to resolve a technical issue.

(3) [1]If the university does not provide technical equipment for the respective examination, students themselves are responsible to ensure that their technical equipment works properly; they are responsible for must making sure that their technical equipment is suitable for the intended purpose in due time before the exam. [2]Section 32b LHG remains unaffected. [3]If the cause for a technical error cannot be clearly determined, students who claim such a technical error can be imposed with the condition to take examinations exclusively on campus and with equipment provided by the university for additional examination attempts and other examinations

(4) The university is required to provide students with the opportunity to test the environment for examinations with video supervision in accordance with section 32a LHG with regard to its (technical) equipment and facilities. Students are obliged to make use of this opportunity in due time before the examination.

(5) [1]If digital examinations are conducted on campus and under the supervision of the university, the examiner decides whether students must bring their own device to take the examination or whether a device provided by the university is to be used. [2]If students are permitted to use their own device for examinations within the meaning of sentence 1 and it is necessary to avoid cheating and attempts to cheat, students are required to install a browser specified by the university on their devices which is to be started in due time before the examination and used throughout the entire examination. [3]If the devices are provided by the university the prescribed browser is installed by the university; in all other respects, sentence 2 applies accordingly. [4]If students close the prescribed browser during the examination period, the examination is deemed to have been completed without the submission of any work. [5]In cases of hardship, in particular in the event of a sudden defect of their device, students may use a device provided by the university to take the digital examinations

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referred to in sentence 1. [6]Students who have to use a device provided by the university, must contact the examination coordination of the university in due time before the examination.

Section 15 – Examination in the Module Team Project

(1) [1]The Team Project is a mandatory elective module in the area Projects and Seminars with an examination of the same title. [2]By passing the examination in the module Team Project, the student must prove their ability to contribute to a significant major research project as a member of a group. [3]This contribution includes a written work on the research question or development task as well as a presentation of (preliminary) findings.

(2) [1]The examination Team Project consists of a paper and an oral examination and a presentation based on the first part of the examination. [2]The paper as well as the presentation are group work. The group size must not exceed twelve members.

(3) [1]The Team Projects available each semester are defined by the examiners offering the Team Project and announced using appropriate means in due time before the examination, usually at the beginning of the lecture period of the respective semester. [2]The examiner must define the topic, the minimum and maximum number of participants, the duration of the Team Project as well as the weighting of the individual examination components for the calculation of the examination grade.

(4)[1]The university teacher who assigned the topic of the Team Project to the participants will be the examiner. [3]The examiner is also the supervisor and may assign further people as supervisors who have completed at least a master's degree or an equivalent degree at a higher education institution successfully. [3]The supervisor advises students on any questions to do with the production of the written work, the individual performance and the student's self-reliance for the examination must be maintained.

(5) [1]The student is responsible for registering for each attempt at the examination Team Project with the examination committee in due time before the start of the preparation period for the Team Project and within the registration period set by the examination committee; this also applies if an attempt has been deemed not taken. [2]Students must be granted the chance to make suggestions which Team Project they want to be assigned to; however, no legal right arises to be assigned to the suggested Team Project. [3]Once a student has been assigned to a Team Project, the student is admitted to the examination. [4]The tasks to be completed by individual students for the written work of the Team Project must be assigned in agreement with the examiner. [5]The date of the examination will be set by the examiner in consultation with the group.

(6) [1]The Team Projects are either completed at the end of the subject-specific semester or at the end of the following semester (preparation period of the Team Project). [2]The workload per semester depends on the length of the preparation period of the Team Project; the total workload, regardless of the length of the preparation period, is the same. [3]The preparation period of the examination for the Team Project begins once students are assigned to a Team Project and ends on the following 31 January or 31 July, depending on the preparation period.

(7) [1]Each student may return the topic of the Team Project once during their master's program. [2]For Team Projects with a duration of one semester, the topic must be returned within the first three weeks, for Team Projects with a duration of two semesters it must be returned within the first six weeks after assignment. [3]If the topic is returned in time, the attempt is deemed not taken. [4]In these cases, the student may begin a new attempt within the same semester (swap) if they register for the new Team Project within the return period, the minimum number of participants but not the maximum number of participants for the new Team Project has been reached by the time of registration and there are no academic reasons to decline admission to the new Team Project, especially the work progress of the current group. [5]If multiple students register for the same new Team Project in due time, their registrations are considered in chronological order by the date of receipt. [6]If a student is admitted to a new Team Project in the same semester, the same duration of the preparation period applies to the student as applies to the group members assigned to the Team Project according to subsection 6; the preparation period cannot be extended due to a swap.

(8) [1]If the attempt for the examination Team Project is deemed not taken for one or more members of a group, the examiner is to ensure that the remaining group members are still able to continue their examination. [2]In particular, the scope of the project may be adapted to the smaller group size. [3]Sentences 1 and 2 also apply if the minimum group size requirement is no longer fulfilled as a consequence.

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(9) [1]Two hard copies and one digital copy of the written work must be submitted and the presentation must be held no later than by the end of the preparation period. [2]If one of the tasks of the examination is not completed in due time, it will be graded "failed" (5.0, "nicht bestanden") for the respective student. [3]If the tasks of the examination are completed successfully, the examiner grades each task for each group member with a grade according to section 19 subsection 2 and determines the grade for each participant. [4]This must be done based on the individual grades of the written work and the presentation.

(10) After the end of the return period, the Student Services must be informed about the topic and the preparation period of the Team Project as well as about the remaining group members.

Section 16 – Examination in the Module Individual Project

(1) [1]The Individual Project is a mandatory elective module in the area Projects and Seminars with an examination of the same title. [2]By completing the Individual Project, students are to prove that they acquired the skills and proficiency to analyze a theoretical or practical problem from the field of data science independently and to plan, implement and present a solution for this problem by using scientific methods.

(2) The examination Individual Project consists of a project report and a presentation based on this report; group work is not permitted.

(3) [1]The university teacher who assigns the topic of the Individual Project to the participants will be the examiner. [2]The examiner is also the supervisor. [3]As supervisor the examiner advises students on any questions to do with completing the project report; the individual performance and the students' self-reliance for the examination must be maintained.

(4) [1]The student is responsible for registering with the examiner for each attempt at the examination Individual Project; this also applies if an attempt has been deemed not taken. [2]The student can register their Individual Project with the examiner outside the registration periods of the Student Services. [3]The examiner determines the topic of the Individual Project. [4]Students must be granted the chance to make suggestions for their topic; however, no legal right arises to be assigned to the suggested topic. [5]Once the examiner assigns a topic for the Individual Project to the student, the student is registered bindingly for the examination and the student is admitted to this examination. [6]The date of the presentation will be set by the examiner in consultation with the student.

(5) [1]The preparation period for the examination Individual Project is six months. [2]The preparation period begins once the student is admitted to the examination. [3]Two hard copies and one digital copy of the project report must be submitted to the examiner and the presentation must be held no later than by the end of the preparation period.

(6) The Student Services must be informed about the topic of the Individual Project, about the date when the student was assigned to a topic as well as about the date when the last task of this examination was completed.

Section 17 – Examination in the Module Seminar

(1) [1]By completing this mandatory examination, the students are to prove that they acquired the skills to read academic literature about a specialist subject and to apply the content to an issue as well as to present and discuss the scientific issue. [2]The examination in the module Seminar consists of a written work about a topic that is assigned to the students as well as of a presentation about a preliminary or a final version of this written work which may be complemented by peer reviews.

(2) [1]The student has two attempts to successfully complete the examination in the module Seminar. [2]The students are responsible for registering with the examiner for each attempt at the examination in the module Seminar; the students can register their examination with the examiner outside the registration periods of the Student Services. [3]At the beginning of a seminar, the examiner assigns topics to the students and determines the date of the examination. [4]Once the students receive their topic they are registered bindingly for the examination and are admitted to the examination in the module Seminar. [5]If an examination attempt was failed or deemed not taken, the student must retake the examination in one of the following semesters in another seminar and is responsible for registering again with the examiner; an additional attempt in the same seminar is not possible.

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(3) The Student Services must be informed about the students who are admitted to the examination in their seminar.

Section 18 – Examination in the Module Master's Thesis

(1) [1]The Master's Thesis is a mandatory module with an examination of the same title. [2]By completing the master's thesis, the students are to prove that they have acquired the skills and proficiency to work independently on scientific and subject-specific questions in their field of study by using scientific methods within a limited period of time. [3]This examination must be completed as an individual examination.

(2) [1]The master's thesis will be evaluated by two examiners. [2]The university teacher who assigns the topic of the master's thesis to the student is the main examiner. [3]The main examiner is also the supervisor and may assign further people as supervisors who have completed at least a master's degree or an equivalent degree at a higher education institution successfully. [4]The supervisor advises the student on any questions to do with the production of the master's thesis; the individual performance and the students' self-reliance for the thesis must be maintained. [5]The second examiner is appointed by the examination committee based on the recommendation of the main examiner.

(3) [1]The student is responsible for registering each attempt of the master's thesis with the main examiner in due time; this also applies if an attempt has been deemed not taken. [2]As a requirement for admission to the master's thesis, the student must obtain at least 60 ECTS credits and successfully pass the mandatory examinations in the subject area "Data Science Fundamentals". [3]The student is responsible for providing the main examiner with the information required for admission; in particular, a Transcript of Records is to be submitted. [4]The main examiner ensures that this requirement has been fulfilled before allocating the topic to the student. [5]Once the topic has been assigned to a student, the exam registration is binding and the student is admitted to write their master's thesis.

(4) [1]The main examiner determines and allocates the topic to the student. [2]Students must be granted the chance to make suggestions for their topic; however, no legal right arises to be assigned to the suggested topic.

(5) [1]The preparation period for the master's thesis is six months. [2]The preparation period begins once the topic of the master's thesis has been allocated to the student. [3]In case of valid reasons and upon written request from a student, which must be submitted in due time, the preparation period may be paused and the submission deadline extended for a period that is to be determined on a case-by-case basis. [4]A request is to be made to the examination committee immediately once the student is aware of the circumstances justifying an extension and is only possible within the preparation period. [5]Should the request not be made in due time, the circumstances justifying an extension are considered irrelevant for the examination attempt concerned. [6]If the preparation period must be paused and the submission deadline is extended due to professional reasons, sentences 3 to 5 apply accordingly provided that the main examiner agrees. [7]Sections 25 and 26 remain unaffected.

(6) [1]The master's thesis must be submitted in due time to the main examiner in duplicate as a hard copy and as a digital data file. [2]The student must submit a declaration according to section 14 subsection 5 when submitting their master's thesis.

(7) [1]When evaluating the master's thesis for academic performance, section 14 subsection 4 applies accordingly. [2]If data and implementations must be submitted, the examiner informs the student of the requirement no later than when the topic is allocated.

(8) [1]If the master's thesis is not submitted completely in due time under consideration of subsection 7, it will be graded "failed" (5.0, "nicht ausreichend"). [2]A master's thesis submitted completely in due time will be evaluated by both examiners of the master's thesis. [3]If the grades given by the two examiners differ, the grade awarded for the master's thesis must be the grade as defined in section 19 subsection 2 which comes closest to the arithmetic average of both individual grades. If in doubt, the better of the two grades is to be awarded. [4]If the calculated average in line with sentence 3 is 4.1 or worse, the master's thesis is graded 5.0 ("nicht ausreichend").

(9) The topic of the master's thesis, the date on which the student was allocated the topic and the date on which the thesis is to be submitted are to be communicated to the Student Services.

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Section 19 – Grading of Examinations and Coursework, Calculation of Grades for Individual Examinations and Coursework and Module Grades

(1) [1]The examiner assesses examinations or coursework either with a grade (examination) or without a grade with "(not) passed" (coursework or examination). [2]The assessment is to be completed within four weeks; for the master's thesis within two months. [3]If coursework or an examination is not completed in due time, it is considered "failed" or graded 5.0 ("nicht ausreichend").

(2) [1]The following grades may be assigned:

Numerical Value	*Grade*	*Explanation*
1.0 or 1.3	very good ("sehr gut")	an excellent performance
1.7; 2.0 or 2.3	good ("gut")	a performance which is substantially above the average requirements
2.7; 3.0 or 3.3	satisfactory ("befriedigend")	a performance corresponding to the average requirements
3.7 or 4.0	fair ("ausreichend")	a performance which, in spite of its flaws, suffices to meet the requirements
5.0	failed ("nicht ausreichend")	a performance which does not meet the requirements due to considerable flaws

[2]For grading the master's thesis, section 18 subsection 8 sentences 2 to 4 remain unaffected.

(3) If an examination comprises only one component, the overall examination grade equals the grade of the component.

(4) [1]If an examination comprises several components, the overall examination grade equals the grade closest to the weighted average grade calculated using the grades of the components. [2]The weighted average grade is calculated to one decimal place; all further decimal places are excluded without rounding. [3]The examination grades according to their weighted average are:

1.0 up to and including 1.1	= 1.0
above 1.1 and up to and including 1.5	= 1.3
above 1.5 and up to and including 1.8	= 1.7
above 1.8 and up to and including 2.1	= 2.0
above 2.1 and up to and including 2.5	= 2.3
above 2.5 and up to and including 2.8	= 2.7
above 2.8 and up to and including 3.1	= 3.0
above 3.1 and up to and including 3.5	= 3.3
above 3.5 and up to and including 3.8	= 3.7
above 3.8 and up to and including 4.0	= 4.0
4.1 or worse	= 5.0

[4]The weighting of individual examination and coursework components for the calculation of the respective grade are determined in the MMDS module catalog; section 15 subsection 3 sentence 2 remains unaffected.

(5) For the grading of imported mandatory examinations and the corresponding preliminary coursework as well as for the calculation of the examination grades only the regulations that are set out in the external examination regulations apply.

(6) The module grade equals the examination grade.

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Section 20 – ECTS Credits

[1]The examination must be passed for ECTS credits to be awarded. [2]The examination process ends when the examination is passed.

Section 21 – Failing and Redoing Coursework or Retaking Examinations (including Examinations and Preliminary Coursework), Failing the Final Examination Attempt

(1) Failed examinations or coursework are those that are graded "failed" ("nicht bestanden") or 5.0 ("nicht ausreichend").

(2) [1]If an examination consists of one piece of coursework or one examination, it is considered "failed" ("nicht bestanden") if said piece of coursework or examination has been failed. [2]If an examination consists of several pieces of coursework or examinations, the examination is failed if the calculated examination grade equals 5.0 ("nicht ausreichend").

(3) [1]Coursework or examinations which were done as required preliminary coursework for an examination and subsequently failed may be redone; it is not possible to redo the preliminary coursework in the same semester. [2]If the student passes the preliminary coursework for an examination but fails the related examination in the same semester or if the attempt on the last possible examination date of the semester is deemed not taken, the required preliminary coursework usually must be redone and passed. [3]The examiner of the retake examination decides on exceptions upon request of a student. [4]The request is to be submitted in due time and before the examination in question takes place, otherwise the preliminary coursework is to be redone.

(4) [1]Failed examinations may generally be retaken once (resit examination). [2]If a students fails an examination in the resit examination, this examination is failed with no option to resit. [3]Failing the final attempt at an examination terminates the examination process.

(5) [1]In derogation of subsection 4 sentence 1, a student who fails a resit examination in the subject area "Data Science Fundamentals", which is specified as mandatory in the annex, is granted a maximum of two second resit examinations in this area over the course of the master's program (jokers).

(6) [1]When retaking an examination consisting of several components, all examination components are to be retaken. [2]It is not possible to retake an examination that has already been passed.

Section 22 – Breaches of Procedure

(1) [1]The examination committee can remedy disturbances of the examination procedure or other breaches of procedure by virtue of office or upon request from a student by deciding on appropriate measures or orders. [2]In particular, the examination committee may order that coursework or examinations must be retaken by all or by individual students or, in case the principle of equal opportunity was violated, grant an extension or impose another appropriate measure of compensation.

(2) [1]Any disturbances of the examination procedure must be reported immediately by the affected student during the examination:

1. in case of a written examination to the supervisor,
2. in case of an oral examination to the examiner and
3. in case of another type of examination to the examiner.

[2]Any other kinds of breaches of procedure are to be reported by the affected student in due time as soon as the student takes note of a particular breach of procedure. [3]The reports according to sentences 1 and 2 must be entered into the examination minutes. [4]If the disturbances of the examination procedure or any other kind of breaches of procedure relevant to the evaluation of the respective examination are not reported in due time, they are deemed insignificant.

(3) [1]If the examination committee did not take measures of compensation in accordance with subsection 1 for a disturbance that occurred during an examination and was reported without delay or for other breaches of procedure, or those measures were inadequate, the student must address their request for the necessary measures of compensation to the examination committee in writing immediately after the examination. If the

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examination consisted of several parts, the request must be made immediately after the relevant part of the examination. [2]The request is not to contain any conditions. [3]If the request is not made in due time, the disturbances of the examination procedure or any other kind of breaches of procedure relevant to the evaluation of the respective examination are deemed insignificant.

(4) [1]In addition to the responsibilities as in subsection 1, measures to compensate for procedural errors that cannot be postponed can be taken by the examiner, the examination committee or the supervisor of the exam in question. [2]A measure is deemed not to be postponed, when a decision of the examination committee cannot be obtained in time; this applies particularly in case of sudden disruptions of the examination, when waiting for a decision of the committee does not make sense, as the remaining examination seems to be in jeopardy. [3]In case measures are being taken that are deemed not to be postponed, the examiner, the examination commission or the supervisor of the exam in question informs the responsible examination committee without delay about the decisions that were taken.

Section 23 – Access to Examination Records

(1) The students must be granted access to their graded written examinations upon written request submitted within an appropriate period of time. This includes the written examination, the respective evaluation(s) of the examiner(s) and the minutes of each examination.

(2) [1]The request must be submitted to the chair or the Student Services within one year after having received the result of the respective examination. [2]They decide on the time and place for accessing the examination records.

Part 2: Disadvantage Compensation

Section 24 – Extending the Maximum Period of Study

(1) The examination committee may extend the maximum period of study upon written request from a student, which is submitted in due time, if the respective student is in need of an extension due to certain conditions they are not responsible for. The examination committee may grant individual extensions based on case by case decisions.

(2) [1]In particular, this applies to students

1. with children, or
2. with a relative in need of care within the meaning of section 7 subsection 3 of the Caregiver Leave Act (Pflegezeitgesetz, PflegeZG), and

to students

4. with a disability, or
5. with a chronic illness

if the situation resulting from the aforementioned conditions requires an extension of the examination deadlines. [2]The same applies to students who are eligible for periods of protection in accordance with section 3 subsections 1 and 2 of the maternity protection act (*Mutterschutzgesetz, MuSchG*).

(3) [1]A request in accordance with subsection 1 must be submitted immediately as soon as the student is aware of the circumstances demanding an extension of examination deadlines. [2]If the request is not made in due time in accordance with sentence 1, the extension may only be granted if additional requirements according to section 32 of the administrative procedure act of the Land of Baden-Württemberg (*Landesverwaltungsverfahrensgesetz, LVwVfG*) are met.

(4) [1]The student requesting the extension is responsible for producing adequate proof. [2]If there are significant changes to the personal situation of the student, particularly any changes that would result in a lapse of entitlement to the extension, the student is obliged to inform the examination committee without delay.

(5) The extension of the maximum period of study must not exceed the number of semesters of the standard period of study provided there are no legal regulations indicating otherwise.

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(6) [1]The preceding subsections do not apply to extensions of preparation periods and submission deadlines for examinations or coursework. [2]The option of requesting disadvantage compensation in accordance with section 25 remains unaffected.

(7) When calculating the maximum period of study, section 32 subsection 6 LHG must be taken into consideration.

Section 25 – Disadvantage Compensation

(1) [1]If students, as a result of a particular condition or situation within the meaning of section 24 subsection 2, cannot take the respective examination or complete a piece of coursework, in particular due to the form of examination, they can request disadvantage compensation. Students must submit the request for disadvantage compensation in due time and in writing. In coordination with the respective examiners, the examination committee grants the appropriate disadvantage compensation in order to adhere to the principle of equal opportunity. [2]Students with a disability or with a chronic illness must submit their request for disadvantage compensation to the commissioner and counselor for students with a disability or a chronic illness. The examination committee is obliged to take the recommendation of the commissioner and counselor for students with a disability or a chronic illness into account in their decision-making process.

(2) [1]A request as outlined in subsection 1 is to be made in due time before the coursework or examination concerned is started. Where it is the responsibility of the student to register for coursework or an examination, the request is to be submitted by the end of the registration period at the latest. [2]If the request is not made in due time in accordance with sentence 1, the extension may only be granted if additional requirements according to section 32 LVwVfG are met. [3]If students fail to submit the request for disadvantage compensation in due time in accordance with sentences 1 or 2, their particular circumstances will not be considered for the evaluation of the respective coursework or examination. [4]The possibility to withdraw or de-register from an examination or piece of coursework with a valid reason remains in effect.

(3) [1]The student requesting disadvantage compensation is responsible for producing adequate proof. [2]If there are significant changes to the personal situation of the student before or during the claim for disadvantage compensation, particularly any changes that would result in a lapse of entitlement, the student is obliged to inform the examination committee without delay and in writing.

Section 26 – De-registration and Absence

(1) [1]If a valid reason, especially illness, prevents the student from entirely or partially taking an examination, they may request the approval of the reasons for de-registration or withdrawal. [2]If an examination comprises several components, a request can only be submitted for the examination as a whole. [3]In derogation of sentence 2, a separate request may be submitted once per examination attempt for the presentation in the module Team Project and in the module Seminar if the written work was passed.

(2) [1]The request must be submitted immediately in written form to the Student Services; the examination committee decides on the approval of the request; if a student submits a request for the examination in the module Seminar in accordance with subsection 1 sentence 3, the examiner is responsible for the decision. [2]The student seeking approval is responsible for producing adequate proof. [3]If the student is ill, they must submit a medical certificate to the Student Services. This certificate must include the medical diagnosis which confirms that the student is not able to take the examination. [4]If the student has a child who is sick, or a relative who is in need of care, proof of this responsibility is to be submitted.

(3) The approval of the request is ruled out if the examination result has been published, unless valid proof could not be provided earlier by the student due to reasons beyond their control.

(4) In case the student is not able to take a mandatory examination, for which they are registered, due to a period of study at a university abroad, this, in particular, will be recognized as a valid reason.

(5) [1]If the student took an examination whilst being aware of an illness or on the basis of negligent lack of knowledge of an illness, a de-registration for this reason cannot be approved. [2]In particular, the criteria for negligent lack of knowledge are met if the student did not react to symptoms of health problems as soon as possible.

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(6) [1]If de-registration is approved, the examination is deemed not taken and it will be mandatory for the student to register for the next possible examination date. [2]If a request in accordance with subsection 1 sentence 3 has been granted, the participant remains in the examination in derogation of sentence 1 and is to continue with the examination at the next possible date; if the examination in the module Seminar is affected, the examiner informs the student about an alternative date in the near future.

(7) [1]If a request for de-registration is not approved, the request is to be deemed not made. [2]In this case, the examiner grades an examination handed in by the student in due time; if the student did not hand in an examination in due time, the examination will be graded "failed" (5.0, "nicht ausreichend").

(8) [1]The student may de-register from required preliminary coursework without providing proof of a valid reason. [2]In such cases, admission to the examination must be ruled out for the semester in question, unless, upon request from the student, the examiner responsible allows the completion of different preliminary coursework as an alternative. [3]The request is to be granted if, upon consideration, the significance of preliminary coursework is relative to the reasonable interests of the student. [4]Section 25 remains unaffected.

Part 3: Master's Examination

Section 27 – Master's Examination

(1) The master's examination is passed if all required examinations in accordance with sections 28 to 34 in conjunction with the annex are completed within the maximum period of study.

(2) [1]If a subject area comprises elective examinations or mandatory elective examinations, the correlations within the same or between different subject areas as described in sections 29 to 34 must be considered if such examinations are passed; in case a student fails the final attempt of such an examination, the options for compensation within the same subject area as described in sections 28 to 33 must be considered. [2]This applies in particular if an elective examination is passed and therefore the maximum required coursework in the respective subject area that the passed elective examination belongs to is reached or if a student reached or exceeded the maximum number of 120 ECTS credits that can be obtained by passing elective examinations; if further elective examinations are passed in the same semester in the respective subject area or in any other subject areas, these will neither be considered for the passing of the master's examination nor for the grade in the respective area nor for the overall grade. [3]If and which passed elective examinations are taken into account depends on the chronological order of the examinations taken in the respective semester. [4]The elective examinations to be considered are used to calculate the grade for the respective subject area under which they are listed in area tables in the annex in connection with the module catalog MMDS. [5]The elective examinations not taken into account according to sentences 1 and 2 are to be listed on the Transcript of Records as additional examinations with the respective grade. [6]If a student is participating in any additional examination processes at the end of the examination date in the respective subject area in which they can pass an elective examination and therefore reach the maximum required coursework in this subject area but not the maximum required coursework of 120 ECTS credits, these examination processes are ended once the maximum required coursework is reached in the respective subject area.

Section 28 – Subject Area Data Science Fundamentals

(1) Four mandatory examinations amounting to 27 ECTS credits, are to be passed.

(2) If the student fails their final attempt at one of the mandatory examinations, the examination committee notifies them, in writing, that the respective mandatory examination has been failed and cannot be re-taken; the student loses their eligibility to take exams in accordance with section 32 subsection 5 sentence 3 alternative 1 LHG.

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Section 29 – Subject Area Data Management

(1) [1]In the subject area "Data Management", students must complete mandatory elective examinations that amount to 6 ECTS credits for the master's examination. [2]This subject area is completed once these examinations are passed.

(2) [1]It is the students' responsibility to choose modules and examinations to obtain the minimum number of ECTS credits. [2]The available elective modules from the department of Informatics including the respective ECTS credits that can be obtained can be found in the annex in conjunction with the module catalog MMDS; for imported elective modules this information can be found in the external module catalog that is mentioned in the module catalog MMDS.

(3) [1]If, by passing several elective examinations in one semester, the student obtains the minimum number of 6 ECTS credits required in this area, those elective examinations for this subject area which were completed first in chronological order will be taken into account. [2]If the student passed several elective examinations in the same semester or if the student is participating in examination processes in this subject area that are not ended when they complete this subject area, these examinations are completed and considered as elective examinations, if, at this point in time, the student can still have further elective examinations in this subject area recognized for the master's examination; in all other cases, the examination processes end. [3]Furthermore, students can choose to deepen their qualifications and competencies after they completed a subject area and thus register for the other elective examinations in this subject area if, at this point in time, they can still have further elective examinations recognized for the master's examination. [4]Aside from the additional requirements, the student may only be permitted to take another elective examination if, under normal circumstances, it can be successfully completed within the maximum period of study. [5]By passing further elective examinations, students can obtain another 18 ECTS credits in this subject area and have these recognized for the master's examination.

(4) [1]If an elective examination is failed with no option to re-sit, the student must register for another available elective examination in order to obtain the minimum number of required ECTS credits; if the student already completed the subject area, they can choose to register for another elective examination on a voluntary basis. [2]If students fail their final attempt at an elective examination, the examination committee does not issue a notification; the students do not lose their eligibility to take exams in accordance with section 32 subsection 5 sentence 3 alternative 1 LHG.

Section 30 – Subject Area Data Analytics Methods

(1) [1]In the subject area "Data Analytics Methods", students must pass elective examinations amounting to at least 12 ECTS credits. [2]In all other respects, the regulations of section 29 for the subject area "Data Management" apply provided that students completed this subject area by obtaining 12 ECTS credits and a maximum of another 24 ECTS credits may be recognized for the master's examination by passing elective examinations and.

Section 31 – Subject Area Responsible Data Science

(1) [1]In the subject area "Responsible Data Science", students must complete mandatory elective examinations that amount to 3 ECTS credits for the master's examination; these mandatory elective examinations can be found in the annex. [2]This subject area is completed once these examinations are passed. [3]This subject area is not completed if a student fails a final attempt of such an examination with no option to re-sit and cannot take another examination from the area table in order to obtain the minimum number of ECTS credits. [4]In this case, the examination committee notifies the student in writing that the elective mandatory examinations in the subject area "Responsible Data Science" have been failed and cannot be re-taken; the student loses their eligibility to take exams in accordance with section 32 subsection 5 sentence 3 alternative 1 LHG.

(2) [1]It is the students' responsibility to choose modules and examinations to obtain the minimum number of ECTS credits. [2]The available elective modules including the respective ECTS credits that can be obtained can be found in the area table in the annex.

(3) [1]If a student fails a final attempt of a mandatory elective examination with no option to resit, they can register for another available mandatory elective examination; it is not possible to change a chosen examination

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beforehand. [2]Aside from the additional requirements, the student can only be permitted to take the alternative mandatory elective examination if they are still able to pass the required number of mandatory elective examinations in the subject area and, under normal circumstances, they can pass the mandatory elective examination within the maximum period of study.

(4) [1]If, by passing several mandatory elective examinations in one semester, the student obtains the minimum number of 3 ECTS credits required in this area, those mandatory elective examinations for this subject area which were completed first in chronological order will be taken into account. [2]If the student passed several mandatory elective examinations in the same semester or if the student is participating in examination processes in this subject area that are not ended when they complete this subject area, these examinations are completed and considered as elective examinations, if, at this point in time, the student can still have further elective examinations recognized for the master's examination; in all other cases, the examination processes end. [3]Furthermore, students can choose to deepen their qualifications and competencies after they completed a subject area and thus register for the other examinations in this subject area as elective examinations which they did not complete or fail yet if, at this point in time, they can still have further elective examinations recognized for the master's examination. [4]Aside from the additional requirements for such an elective examination, students may only be permitted to take this examination if, under normal circumstances, it can be successfully completed within the maximum period of study. [5]By passing these elective examinations, students can obtain another 4 ECTS credits in this subject area and have these recognized for the master's examination. [6]If both of the available mandatory elective examinations are failed with no option to re-sit, the examination committee notifies the student, in writing, that they have failed the mandatory elective examination and that it cannot be re-taken; the student loses their eligibility to take exams in accordance with section 32 subsection 5 sentence 3 alternative 1 LHG.

Section 32 – Subject Area Data Science Applications

[1]In the subject area "Data Science Applications" students can decide which elective examinations they want to register for; if the chosen examinations are passed, students can obtain a maximum of 12 ECTS credits and have these recognized for the master's examination. [2]In all other respects, the regulations of section 29 for the subject area "Data Management" apply provided that the obtaining of ECTS credits in this area is optional for students, no minimum of ECTS credits must be obtained and a maximum of another 12 ECTS credits may be recognized for the master's examination by passing elective examinations.

Section 33 – Subject Area Projects and Seminars

(1) [1]In the subject area "Projects and Seminars", students must pass both mandatory examinations as well as one of the available mandatory elective examination as laid out in the area table in the annex for the master's examination. [2]This subject area is completed once students pass both mandatory examinations and one mandatory elective examination; students may not participate in the alternative mandatory elective examination. [3]For the examinations in the modules of this subject area, the regulations according to section 11 subsection 5 number 1 letter c apply in particular for the examination in the module Scientific Research and sections 15 to 17 for all other examinations.

(2) [1]In this subject area, students can choose between courses on different topics (seminars) for the module Seminar. [2]The available seminars for each semester can be found in the module catalog MMDS.

(3) [1]If a student fails a final attempt of a mandatory elective examination with no option to re-sit, they can register for the alternative mandatory elective examination; it is not possible to change the chosen mandatory elective examination beforehand. [2]Aside from the additional requirements, the student can only be permitted to take the alternative mandatory elective examination if , under normal circumstances, they can pass the mandatory elective examination within the maximum period of study.

(4) [1]The subject area is failed if the student fails the final attempt of one mandatory examination or both mandatory elective examinations. [2]In this case, the examination committee notifies the student, in writing, that the respective mandatory examination or the mandatory elective examination in the subject area "Projects and Seminars" has been failed and cannot be re-taken. [3]The student loses their eligibility to take exams in accordance with section 32 subsection 5 sentence 3 alternative 1 LHG.

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Section 34 – Subject Area Master's Thesis

(1) [1]In the subject area "Master's Thesis", students must pass the mandatory examination in form of the master's thesis that amounts to 30 ECTS credits in order to complete the subject area. [2]The regulations stated in section 18 apply to this examination in particular.

(2) [1]If a student fails this mandatory examination with no option to resit, the examination committee officially notifies them, in writing, that the respective mandatory examination has been failed and cannot be retaken. [2]The student loses their eligibility to take exams in accordance with section 32 subsection 5 sentence 2 alternative 1 LHG.

Section 35 – Calculation of the Subject Area Grade, Grading of the Master's Examination (Final Grade)

(1) [1]The subject area grade is calculated using the grades achieved in the modules belonging to an area, weighted according to the number of ECTS credits allocated to the module; additional modules are not taken into consideration when calculating subject area grades. [2]If only one module in the subject areas "Data Management", "Responsible Data Science" and "Data Science Applications" is passed, the grade for this area equals the module grade; if no module in the subject area "Data Science Applications" is passed, no area grade is calculated. [3]In the subject area "Master's Thesis", the subject area grade equals the module grade.

(2) The final grade of the master's examination is calculated from the average of the subject area grades weighted in ECTS credits.

(3) [1]For the subject area grades in line with subsection 1 sentence 1 as well as the final grade, only the first decimal place is of importance; all other decimal places are eliminated without rounding up or down. [2]In line with sentence 1, the grades are as follows:

in case of an average grade of 1.5 or better = "very good" ("sehr gut");
in case of an average grade from 1.6 to 2.5 = "good" ("gut");
in case of an average grade from 2.6 to 3.5 = "satisfactory" ("befriedigend");
in case of an average grade from 3.6 to 4.0 = "fair" ("ausreichend").

(4) In case the final grade is 1.2 or better, the student graduates "with honors" ("mit Auszeichnung bestanden").

(5) [1]Prior to having received the final grade, students are given a preliminary average grade that is indicated on the Transcript of Records. [2]The regulations on calculating and indicating the final grade also apply to the preliminary average grade.

Section 36 – Master's Degree Certificate

(1) [1]After successful completion of the master's examination, the student is issued a German-language degree certificate. [2]This comprises:

1. the subject areas in line with section 3 subsection 1 sentence 1 numbers 1 to 4 and 6, and, provided that modules have been passed, the subject area in line with section 3 subsection 1 sentence 1 number 5; the subject areas are listed with the corresponding number of ECTS credits and the subject area grade (in words and figures);
2. the topic of the master's thesis and the name of the examiner;
3. the grade awarded for the master's thesis (in words and figures);
4. the final grade (in words and figures);
5. if applicable, the honors according to section 35 subsection 4.

[3]The certificate dates back to the day of completion of the last examination. [4]If it is not possible to determine this date, the last day of classes of the respective semester serves as the date of completion. [5]The certificate must be signed by the chair or deputy chair of the examination committee.

(2) [1]An English-language Diploma Supplement in accordance with the European Diploma Supplement model is attached to each certificate. [2]A Transcript of Records forms part of the Diploma Supplement comprising all

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completed modules and the respective examinations including the issued ECTS credits and grades; all completed additional modules and the respective examinations including the grades are listed as well.

(3) [1]The Diploma Supplement also contains an ECTS Grading Table in accordance with the ECTS guidelines. [2]The ECTS Grading Table contains a list of the percentage distribution of the final grades obtained by graduates of the "Mannheim Master in Data Science" (M.Sc.) program. [3]The ECTS Grading Table is produced annually in June. [4]The calculation is based on the final grades of all graduates who have completed their program of study in the last three years. [5]The chair of the examination committee decides for each class whether or not a relative grade is given. [6]They may decide to take further classes into account for the calculation.

Section 37 – Diploma

(1) Along with the master's degree certificate, the student receives a bilingual diploma in German and English certifying the conferment of the academic degree, which includes the final grade for the master's examination and if applicable the honors according to section 35 subsection 4. The diploma bears the date of the master's degree certificate. [3]The diploma is signed by the dean of the school or their deputy and bears the seal of the University of Mannheim.

Part 4: Violation of the Examination Regulations

Section 38 – Cheating and other Misconduct

(1) [1]If a student manipulates or tries to manipulate their examination by cheating or using unauthorized resources or by influencing the examiner or supervisor in favor of themselves or a third person, the respective examination or further examinations may be graded "failed" or the student may be excluded from the examination depending on the severity of the violation. [2]In especially severe cases, the student may be excluded without the option to retake the examination. [3]It is also considered cheating according to sentence 1 if coursework or examinations contain quotations or references from the works of others which have not been indicated as such by the student.

(2) [1]If a student tries to have coursework and/or examinations completed abroad recognized on the basis of false information, the coursework or examinations they are to substitute are graded "failed". [2]In case of mandatory courses, the coursework or examinations to be substituted must be submitted or taken on the next possible date at the University of Mannheim.

(3) [1]A student who violates the examination regulations severely, in particular, if they disturb the proper course of an examination, may be excluded from the examination by the examiner or the supervisor. [2]In such cases, the relevant coursework or examination is graded "failed". [3]In severe cases, the examination committee may exclude the student from taking any further examinations.

Section 39 – Voidness of the Master's Examination

(1) [1]In case a student has manipulated an examination by cheating and this fact is revealed after the student has received the master's degree certificate, the examination committee can revise the result or the respective grade retroactively and declare the examination as completely or partially failed. [2]If the completion of the master's examination is affected by this, the examination committee can revoke the respective ECTS credits and, if necessary, declare the master's examination "failed with no option to resit".

(2) [1]If the requirements to be admitted to an examination were not met, without the candidate's intent to disguise this fact and if this fact is revealed after the student has received the master's degree certificate, this defect is remedied by having passed the examination. [2]If the student attained admission to an examination illegitimately on purpose, the examination and consequently the degree completion may be considered "failed" ("nicht bestanden").

(3) The person in question must be granted the chance to comment on the issue prior to the decision.

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(4) [1]Inaccurate master's degree certificates are to be recalled. [2]Where applicable, new master's degree certificates are to be issued. [3]Along with the inaccurate master's degree certificates, the respective diploma is to be recalled if changes to the final grade have to be made or failure of degree completion was declared. [4]After a period of five years starting from the issuance date of the original master's degree certificate, a decision in accordance with subsection 1 or subsection 2 sentence 2 is no longer possible.

(5) The revocation of the degree complies with the legal rules and regulations.

IV. Final Provisions

Section 40 – Commencement; Scope; Transitional Provisions

(1) [1]These examination regulations become effective on 1 August 2024. [2]The examination regulations only apply to students who start their master's program "Mannheim Master in Data Science" (M.Sc.) at the University of Mannheim in the first or advanced semester in the fall semester 2024/2025 or later.

(2) [1]The examination regulations of the University of Mannheim for the master's program "Mannheim Master in Data Science" of 10 December 2019 (Bulletin of the President's Office (Bekanntmachungen des Rektorats (BekR)) No. 28/2019, pp. 81 et seqq.) in their current version ceases to be effective with the commencement of these examination regulations. [2]Students who have already started their master's program "Mannheim Master in Data Science" (M.Sc.) at the School of Business Informatics and Mathematics at the University of Mannheim under the examination regulations that cease to be effective in accordance with sentence 1 have the option to finish their program according to the former examination regulations up until and including the fall semester 2027/2028. [3]The fall semester 2027/2028 will be the last semester to offer examinations according to the former examination regulations that ceased to be effective in accordance with sentence 1. [4]Students who have not completed their program until the fall semester 2027/2028, can only finish their program according to these examination regulations; regulations regarding examination deadlines, in particular regarding the maximum period of study, remain unaffected.

Article 2 of the first amendment of 16 July 2024:

This amendment applies to all students who study the master's program Mannheim Master in Data Science in accordance with the examination regulations for the master's program Mannheim Master in Data Science (M.Sc.) of 20 February 2024 (Bulletin of the President's Office (Bekanntmachungen des Rektorats) No 03/2024 pp. 39 et seqq.) in its respective valid version.

The amendment will come into effect the day after its publication in the Bulletin of the President's Office (Bekanntmachungen des Rektorats) of the University of Mannheim.

Article 2 of the second amendment of 4 July 2025:

This amendment applies to all students who study the master's program Mannheim Master in Data Science in accordance with the examination regulations for the master's program Mannheim Master in Data Science (M.Sc.) of 20 February 2024 (Bulletin of the President's Office (Bekanntmachungen des Rektorats) No 03/2024 pp. 39 et seqq.) in its respective valid version.

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Annex: Subject Area Components

1. Data Science Fundamentals (27 ECTS credits),

[1]In the subject area "Data Science Fundamentals", students learn the required basic skills relating to data management, data security, data mining and machine learning, if they have not already acquired these skills in the bachelor's program. [2]Students are required to obtain 27 ECTS credits from the mandatory examinations laid out in the table below.

	Module Abbr.	Name	Examination	ECTS Credits
P	CS 560	Large Scale Data Management	Exam (90 min.)	6
P	CS 652	Data Security	Exam (90 min.)	6
P	IE 500	Data Mining	Exam (60 min.), project draft and oral presentation	6
P	IE 675b	Machine Learning	Exam (120 min.)	9

2. Data Management (6 to 24 ECTS credits)

[1]In the subject area "Data Management", students develop theoretical and practical competences for collecting, integrating and managing data, in particular with regard to the scaling of processes for large volumes of data. [2]This includes questions of data storage, data quality and data-based information retrieval as well as technical basics of efficient storage and processing algorithms. [3]The specific classes that are available for the program year are listed in the module catalog under the area "Data Management".

3. Data Analytics Methods (12 to 36 ECTS credits)

[1]In the subject area "Data Analytics Methods", students develop theoretical and practical competences for using data to answer complex questions from various fields. [2]They obtain theoretical knowledge of processes used for recognizing patterns in data and for deriving models from multimodal data and learn to practically implement these processes. [3]The specific classes that are available for the program year are listed in the module catalog under the area "Data Analytics Methods".

4. Responsible Data Science (3 to 7 ECTS credits)

[1]In the subject area "Responsible Data Science", students obtain knowledge about the social and legal consequences of using data science methods. [2]Students are made aware of the areas of use which might be problematic for society as well as for problems arising due to legal and social framework conditions in the field of data protection and data security.

	Module Abbr.	Name	Examination	ECTS Credits
WP		Legal and Ethical Aspects of Privacy	Exam (90 min.)	3
WP	CS 718	AI and Data Science in Fiction and Society	Paper (15-20 pages), presentation (20-30 minutes) and peer review (up to 10 pages)	4

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5. Data Science Applications (0 to 12 ECTS credits)

[1]In the subject area "Data Science Applications", students develop theoretical and practical competences for using data and models from data science to answer complex questions from various fields. [2]Students are to obtain a maximum of 12 ECTS credits in this area. The specific classes that are available for the program year are listed in the module catalog under the area "Data Science Applications".

6. Projects and Seminars (14 to 18 ECTS credits)

[1]In the subject area "Projects and Seminars", students acquire the competency to theoretically and practically work on problems in the field of Data Science. [2]The focus is on methodological competences such as learning independently about the latest developments in research and technology, working independently on scientific and practical problems, developing solutions independently, as well as planning and managing projects and presenting and communicating project results.

	Module Abbr.	Name	Examination	ECTS Credits
WP	TP 500	Team Project	Written work and presentation	12
WP		Individual Project	Project report and presentation (15-30 min.)	8
P	SQ 500	Scientific Research	Supervised digital examination, on campus (150 minutes)	2
P	CS 7XX as well as IE 704	Seminar	Paper (5-25 pages), 1-2 presentations (15-60 minutes in total) and peer reviews (not in all seminars; up to 10 pages)	4

7. Master's Thesis (30 ECTS credits)

	Module Name	Examination	ECTS Credits
P	Master's Thesis	Master's Thesis	30

List of Abbreviations

P mandatory examination (Pflichtprüfung)
WP mandatory elective examination (Wahlpflichtprüfung)
W elective examination (Wahlprüfung)

PLEASE NOTE:
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