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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 April 2011

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This is a non-official version of the Regulations on Admission and Enrollment. Only the version published in the Bulletin of the President's Office (Amtliche Bekanntmachungen des Rektorats) shall prevail and be binding.

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I. General Provisions

Section 1 – Purpose of the Degree Course

¹The master's examination marks the proper completion of the master's program "Mannheim Master in Data Science" (Master of Science). ²The completion of the master's examination constitutes the second professional qualification (consecutive degree). ³It proves that the student has acquired in-depth knowledge regarding the analysis and management of complex data. ⁴In 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

¹Based 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.). ²In accordance with section 28, the academic degree shall only be used after having received the diploma.

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

(1) ¹The coursework and examinations within the master's program, including the completion of the master's thesis, total at least 120 ECTS credits in accordance with the respective regulations for the areas outlined below:

1. Fundamentals (0 to 14 ECTS credits)
2. Data Management (24 to 36 ECTS credits),
3. Data Analytics Methods (30 to 54 ECTS credits),
4. Projects and Seminars (12 to 16 ECTS credits),
5. Master's Thesis (30 ECTS credits).

The detailed rules and regulations on the required ECTS credits are specified in the attachment. ³One ECTS credit corresponds to a workload of 25 to 30 hours.

(2) ¹The degree course has a modular structure. ²A course usually includes technical, topical and coherent units of instruction (modules); the Master's Thesis module does not include a course. ³The individual modules are organized by superordinate units (areas). ⁴The composition of the areas is specified in the attachment of these Examination Regulations; course contents are stated in the current version of the University of Mannheim's module catalog for the "Mannheim Master in Data Science" (M.Sc.); the committee on student affairs and teaching of the School of Business Informatics and Mathematics approves the module catalog. ⁵If the Examination Regulations or the module catalog refer to other examination regulations or module catalogs, the rules and regulations of said examination regulations and module catalogs apply in line with the rules and regulations of these Examination Regulations.

(3) ¹As a rule, all courses are taught in English; some courses may also be taught in German. ²Sentence 1 applies for taking examinations and completing coursework. ³The decisions according to sentences 1 and 2 are taken by the examiner, as indicated in the module catalog. ⁴The master's thesis shall be written in English only.

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).

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(2) ¹All coursework and examinations that must be completed as part of the master's examination must be completed within a given time (maximum period of study). ²The 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. ³If the student has exceeded the period of study, an official notification is issued by the examination committee.

(3) ¹At the beginning of their studies, students are recommended to seek academic advice for orientation purposes. This serves to help them to draw up their individual degree plans. ²The examination committee shall take care of the academic advising. ³It may pass on the task to qualified staff members. ⁴If a student does not pass the master's examination until the end of his or her sixth semester of the program, the student is recommended to seek academic advice from the School of Business Informatics and Mathematics.

(4) The student is responsible for meeting the deadlines listed in the Examination Regulations.

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

Section 5 – Examination Committee

(1) ¹An examination committee is formed for the "Mannheim Master in Data Science" (M.Sc.) program of the University of Mannheim. ²It is composed of three university teachers or senior academic staff members (Privatdozenten) of the School of Business Informatics and Mathematics, who are eligible to vote, and a student member exercising an advisory function. ³The members of the examination committee are appointed by the school council.

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

(3) ¹The examination committee appoints one of its members as chair and one as deputy chair for the term of office. ²The chair manages the examination committee.

(4) ¹The examination committee has a quorum if the chair or the deputy chair and at least one other member are present. ²Decisions require a simple majority of votes from the members present. ³In the event of a tie, the vote of the chair shall decide the matter.

(5) ¹The members of the examination committee are obliged to exercise discretion. ²If they are not employed in the public service, they shall be obliged to exercise discretion by the chair of the examination committee in writing. ³This 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. or that are to be kept secret by their nature.

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

Section 6 – Competences of the Examination Committee

(1) ¹The examination committee makes all decisions regarding these Examination Regulations if no other entity is responsible. ²The examination committee enforces the Examination Regulations. ³It regularly reports on the developments of the study and examination periods as well as on the development of the exam results. ⁴The report shall be published in an appropriate manner by the university. ⁵It may entrust the chair with certain tasks the committee is normally in charge of.

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

Section 7 – Examiners and Observers

(1) ¹Only university teachers, auxiliary professors (außerplanmäßige Professoren), honorary professors and senior academic staff members (Privatdozenten) as well as those academic members of staff who have been appointed by the President's Office in accordance with section 52 subsection 1(5, 6) LHG are authorized to administer coursework and examinations. Section 15 subsection 2(1) remains unaffected. ²A person may only function as an observer if he or she has at least successfully completed a master's degree or an equivalent degree at a higher education institution or is state-certified in the field that the assessed examination relates to.

(2) ¹The examination committee appoints the examiners and observers. ²It may entrust its chair with the appointment.

(3) Observers have an advisory role in the examination processes.

(4) ¹For oral examinations, the examiner responsible shall bring in a person familiar with the field of study as secretary to take the minutes. ²The secretary may act as an observer at the same time.

(5) ¹Usually, the responsible teacher of each course is appointed as examiner. Section 15 subsection 2(2) remains unaffected. ²The examination committee shall decide on exceptions.

(6) Every examiner may make use of one or several assistants for the correction of examinations; he or she ensures competent evaluation.

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

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 applications for admission to examinations and registrations for examinations and re-sit examinations from students; section 15 subsection 4 remains unaffected,
4. maintain student examination records,
5. enforce the deadlines specified in these Examination Regulations,
6. are in charge of technical administration of all examinations and coordination of supervision for written examinations,
7. provide examination results to students, and
8. 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 degree courses 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 to be substituted.

(2) ¹For 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). ²Furthermore, in cases of doubt regarding the equiv-

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agency of qualifications, the Central Office for Foreign Education (Zentralstelle für ausländisches Bildungswesen - ZAB) can be consulted.

- (3) ¹Skills and qualifications obtained outside of the higher education sector shall 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.

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

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

(5) ¹If credits are recognized and the grading systems are similar, the grades shall be transferred according to these Examination Regulations and considered for calculation of the final grade. ²In 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. ³If conversion is impossible because the grading systems differ or the coursework was not graded, the work is simply marked "passed" ("bestanden"). ⁴In this case, the coursework or examination will not be included in the final grade. ⁵The 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 he or she already obtained the respective qualification elsewhere, he or she automatically waives the right to have the previous qualification recognized.

III. Examination Process

Part 1: Coursework and Examinations

Section 10 – General Provisions; Coursework and Examinations

(1) ¹The examinations that are to be completed as part of the master's examination, excluding the master's thesis, are assigned to the individual courses within the modules. ²The type, form, scope and duration of the coursework or examinations are specified in the attachment and in the module catalog. ³If there are several types and styles of examinations available, the examiner responsible is to decide the type and form in which the examination in question is to take place in the respective semester. ⁴The decision according to sentence 3 is announced by the examiner using appropriate means in due time before the examination, usually at the beginning of the lecture period for the respective semester. The examiner is also to communicate this decision to Student Services.

(2) ¹An examination as defined in these Examination Regulations usually involves completing one or several tasks; the details are determined in the attachment. ²In contrast to sentence 1, the examinations for courses in modules offered by the School of Social Sciences of the University of Mannheim, which are labeled "Tutorial" or "Übung" (exercise course), are substituted by coursework.

(3) ¹The module catalog may include requirements to be fulfilled (in the form of coursework and / or examinations) in order to be admitted to an examination held by the School of Business Informatics and Mathemat-

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ics. ²If, in the column labeled "Coursework (Composition and Type)" in the attachment, reference is made to the examination regulations or the module catalog of a program in a different faculty of the University of Mannheim, requirements to be fulfilled in order to be admitted to these examinations are determined in the respective examination regulations and the module catalog of the respective program.

(4) ¹Written 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 amount of authorized material. ²The examiner determines the authorized material and informs the students about it using appropriate means in due time before the examination.

Section 11 – Registration and Admission to Examinations; Examination Dates

(1) ¹Registration is obligatory for all examinations. ²It is the student's responsibility to register for the regular examination date.

(2) ¹It is to be done strictly within one of the registration periods set by Student Services before taking the examination; section 15 subsection 4 remains unaffected. ²Student Services can extend the registration period (late registration). ³After the registration period has closed, registration for the respective examination attempt can only be withdrawn during the period determined by Student Services (withdrawal); section 15 subsection 7 remains unaffected. ⁴If an examination is comprised of several pieces of coursework or examinations, the registration cannot be withdrawn if the student has already completed part of the examination or did not attend part of the examination without a valid reason. ⁵Once the withdrawal period has closed, registration for an examination attempt is binding.

(3) ¹If an examination is comprised of several pieces of coursework or examinations and if, by way of derogation from subsection 2(1), it is not possible for students to register for the examination at the Student Services prior to completing the first component, the student is considered registered as soon as the examiner has registered the student's wish to take the examination. ²Once students have registered, they may only withdraw the registration within a limited period of time set by the examiner. ³Once the deadline mentioned above has lapsed, the registration for the examination attempt is binding.

(4) A student is only admitted to an examination if he or she

1. is enrolled in the "Mannheim Master in Data Science" degree program,
2. has not lost his or her eligibility to take examinations in this subject or in another Diplom, Magister, bachelor's or master's program in a similar field of study, and
3. meets the requirements for the examination in question, having successfully completed any preliminary coursework.

(5) ¹The regular examination dates for supervised examinations shall be at the start of the semester break. The alternate examination dates shall be before the following lecture period begins or during the first week at the latest. ²There shall be at least three weeks between announcing results from the examinations taken on the regular dates and the alternate examination dates. ³In accordance with sentence 1, the alternate examination dates count for the semester in which the regular dates occurred.

(6) If a student's de-registration or absence is approved or in case a student fails an examination attempt, he or she will be registered for the next possible examination date, provided that he or she is eligible. Section 15 subsection 4(1) and subsection 11(1 and 2) remain unaffected.

Section 12 – Type and Form of Coursework and Examinations

(1) Examinations and coursework are:

1. Examinations as defined in these Examination Regulations are individual tasks that are graded by the examiner with a grade in line with section 16 subsection 2.
2. Coursework as defined in these Examination Regulations is an individual task that is graded by the examiner as either "passed" or "failed".

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

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1. written tasks in the form of examinations, term papers, project reports, master's thesis;
2. oral tasks in the form of presentations, participation and oral examinations;
3. electronic tasks in form of programming exams or programming projects.

²Obligatory attendance of courses and studies may also be defined as coursework if the respective course objectives and certain communicative tasks require a minimum number of participants to be present.

Section 13 – Oral Examinations

(1) ¹Oral examinations are usually conducted by the examiners as an individual assessment; as a rule, oral examinations shall last at least 15 and no more than 45 minutes per candidate. ²In exceptional cases, oral examinations can be conducted as a group assessment; it shall be ensured that each candidate is assessed for at least 15 minutes and no more than 45 minutes. ³Regarding sentence 2, the examiner makes a decision. ⁴If necessary, the examiner may ask an observer to be present.

(2) ¹If an oral examination is the last available attempt at an examination for a student, he or she can submit a written request asking for the presence of a competent observer. ²A request in accordance with sentence 1 shall be submitted to the examination committee in due time before the beginning of the examination in question.

(3) ¹Minutes from the examination (Ergebnisprotokoll) are to be taken during the main course of the oral examination. ²The result from this examination, which is to be communicated to the student shortly after its completion, is to be recorded in the minutes. ³The minutes are to be signed by the examiner, the secretary and the observer (in accordance with subsection 1(4) and subsection 2) and to be put on file.

Section 14 – Written Examinations

(1) Written examinations shall last at least 30 and no more than 180 minutes.

(2) ¹As a rule, written examinations shall not be conducted in the form of multiple-choice examinations. ²In exceptional cases with valid reasons, written examinations may be conducted completely or in part as multiple-choice examinations. ³Should a complete examination be conducted as multiple-choice, the tasks should allow for reliable examination results. ⁴When designing the examination, the examiner shall determine which answers are accepted as correct and how the scoring system works. ⁵If, during the assessment of the examination, it turns out that single exercises do not lead to reliable results, they shall not be considered for the calculation of the examination's result. ⁶The minimum passing score is to be adjusted accordingly; lowering the passing score shall not have negative implications for candidates. ⁷The 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, he or she might still pass the exam provided his or her 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%). ⁸If the examination is only partly multiple-choice, the regulations of this section apply to that part respectively.

(3) Each written examination shall be recorded in the minutes by the examination supervisor. The minutes have to be signed and filed unless the type of examination is not suitable for minutes.

(4) ¹When evaluating term papers or similar pieces of work for academic performance, the examiner is to ascertain the quality of research. ²Section 15 subsection 10 applies accordingly.

(5) When grading term papers or an equivalent, the examination committee and examiners are authorized to use software to detect plagiarism. ²For the grading of their work, students shall submit a digital data file and a hard copy of their work to the examiners. ³In accordance with section 3 subsection 6 of the Data Protection Act of the Land of Baden-Württemberg, the work must be anonymized before using the plagiarism software. ⁴When submitting coursework as defined in sentence 1, the student shall submit the following signed declaration:

⁵"I hereby declare that the paper presented is my own work and that I have not called upon the help of a third party. ⁶In addition, I declare that neither I nor anybody else has submitted this paper or parts of it to obtain credits elsewhere before. ⁷I have clearly marked and acknowledged all quotations or references that have

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been taken from the works of others.⁸All secondary literature and other sources are marked and listed in the bibliography.⁹The same applies to all charts, diagrams and illustrations as well as to all Internet resources.¹⁰Moreover, I consent to my paper being electronically stored and sent anonymously in order to be checked for plagiarism.¹¹I am aware that if this declaration is not made, the paper may not be graded."

Section 15 – Master's Thesis

(1)¹In writing the master's thesis, the student shall prove that he or she has acquired the skills and proficiency to work independently on a problem of his or her field of study employing the scientific methods available within a limited period of time.²Group work is not permitted.

(2)¹Only university teachers, auxiliary professors (außerplanmäßiger Professor), honorary professors and senior academic staff members (Privatdozent) are permitted to act as examiners for master's theses.²The person who assigned the topic of the master's thesis to the student shall be the examiner.³The examiner may assign further persons as supervisors.⁴Supervisors advise students on any questions to do with the production of the master's thesis; the individual performance and the students' self-reliance for the thesis shall be maintained.

(3)¹To be permitted to write the master's thesis, the student is to obtain at least 60 ECTS credits in the areas according to section 3 subsection 1(1) numbers 1-4; section 10 subsection 3 remains unaffected.²The student is responsible for providing the examiner with the information required; in particular, a Transcript of Records is to be submitted.³The examiner ensures that this requirement has been fulfilled before allocating a topic to the student.

(4)¹It is the student's responsibility to register his or her master's thesis with the examiner each time he or she attempts to complete it.²Once the topic has been issued, registration is binding and the student is admitted to write his or her thesis.³Late registration or de-registration after being admitted to write the thesis is not possible. Section 7 remains unaffected.

(5)¹The examiner determines and allocates the topic to the student.²The student shall be granted the chance to put forward suggestions for a topic.³However, no legal right arises to be assigned the suggested topic.⁴The topic for the master's thesis must be set in such a way that allows it to be completed within the preparation period.

(6)¹As a rule, the time to complete the master's thesis is six months.²The preparation period begins once the topic of the master's thesis has been given to the student.³In case of valid reasons and upon written request from a student, which is submitted in due time, the examination committee shall grant individual extensions based on case by case decisions. Extensions shall only be granted with the consent of the examiner.⁴A request in accordance with sentence 3 shall 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.⁵Should the request not be made in due time within the meaning of sentence 4, the circumstances justifying an extension are considered irrelevant for the examination attempt concerned.⁶Sections 22 and 23 remain unaffected.

(7)¹The topic of the master's thesis may be changed once and only during the first five weeks of the preparation period.²In this case, the examination attempt does not count as having been taken.

(8) The student shall submit a declaration according to section 14 subsection 5 when submitting his or her master's thesis.

(9)¹The master's thesis shall be submitted in due time to the examiner in duplicate as a hard copy and as a digital data file.²If the master's thesis is not submitted in due time, it will be graded "failed" ("nicht bestanden").

(10)¹When evaluating the master's thesis for academic performance, the examiner is to ascertain the quality of research.²If data and implementations are to be submitted, the student must provide them to the examiner in a suitable form when submitting the master's thesis; the examiner informs the student of their requirement no later than when the topic is allocated.³The student is responsible for providing the required information outlined in sentence 2.

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(11) ¹If the master's thesis is failed, it may be redone once. ²Under no circumstances may the master's thesis be redone twice. ³If the repeat attempt at the master's thesis is graded "failed" ("nicht ausreichend"), it shall be passed on to a second examiner, in accordance with subsection 2(1), for grading. ⁴If, in the case mentioned in sentence 3, the grades given by the two examiners differ, the grade awarded for the master's thesis shall be the grade as defined in section 16 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. ⁵If the calculated average in line with sentence 4 is 4.1 or worse, the master's thesis is graded "failed" ("nicht ausreichend").

(12) ¹If the student fails his or her first attempt at the thesis, he or she must begin writing the new thesis on a different topic within six months after the results from the first attempt were announced. ²It is the student's responsibility to register with the examiner in due time for the repeat attempt at the thesis. ³Sentences 1 and 2 shall apply if a request for de-registration is granted or the topic of the thesis is changed.

(13) The topic of the master's thesis, the date on which the student was issued a topic, the end of the preparation period and the date on which the thesis is to be submitted are to be put on record by Student Services.

(14) The master's thesis shall be graded within a period of two months.

Section 16 – Grading of Examinations and Coursework, Calculation of Grades for Individual Examinations and Coursework and Module Grades

(1) ¹According to section 12 subsection 1, the grades for individual examinations and coursework are determined by the respective examiner; section 15 subsection 11(3-5) remain unaffected. ²Assessment is to be completed within four weeks; section 15 subsection 14 remains unaffected.

(2) ¹The following grades may be assigned:

1.0 = very good ("sehr gut") = an excellent performance;

2.0 = good ("gut") = a performance which substantially exceeds the average requirements;

3.0 = satisfactory ("befriedigend") = a performance corresponding to the average requirements;

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.

²Grades may be differentiated by adding or subtracting 0.3. ³The grades 0.7, 4.3, 4.7 and 5.3 shall not be assigned. ⁴The grading system of coursework and examinations from other schools may differ from this system.

(3) If an examination comprises only one component, the overall examination grade equals the grade of the component. Section 15 subsection 11(3-5) remain unaffected.

(4) ¹If 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. ²The weighted average grade is calculated to one decimal place; all further decimal places are excluded without rounding. ³The examination grades according to their weighted average are:

from 1.0 to 1.1 = 1.0

from 1.1 up to and including 1.5 = 1.3

from 1.5 up to and including 1.8 = 1.7

from 1.8 up to and including 2.1 = 2.0

from 2.1 up to and including 2.5 = 2.3

from 2.5 up to and including 2.8 = 2.7

from 2.8 up to and including 3.1 = 3.0

from 3.1 up to and including 3.5 = 3.3

from 3.5 up to and including 3.8 = 3.7

from 3.8 up to and including 4.0 = 4.0

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⁴If the grade calculated in accordance with sentences 1 and 2 equals 4.1 or worse, the grade 5.0, "failed", is awarded. ⁵The weighting of individual examination and coursework components for the calculation of the respective grade are determined in the module catalog.

(5) The module grade equals the examination grade.

Section 17 – Passing Examinations and Modules, Obtaining ECTS Credits

(1) An examination comprising only one component is passed where the grade 4.0, "fair", or better is awarded.

(2) An examination comprising several components is passed if the examination grade calculated in line with section 16 subsection 4 equals 4.0, "fair", or better.

(3) A module is passed if the respective module examination is passed.

(4) The module examination must be passed for ECTS credits to be awarded.

Section 18 – Failing and Redoing Coursework or Retaking Examinations (including Examinations and Preliminary Coursework), Failing the Final Examination Attempt

(1) Failed pieces of coursework or examinations are those which have been graded "5.0" "failed" ("nicht bestanden", "nicht ausreichend") or which are considered to be graded "5.0" "failed" ("nicht bestanden", "nicht ausreichend").

(2) ¹If an examination consists of one piece of coursework or one examination, it is considered "failed" ("nicht bestanden", "nicht ausreichend") if said piece of coursework or examination has been failed. ²If an examination consists of several pieces of coursework or examinations, it is considered "failed" ("nicht bestanden", "nicht ausreichend") if the assigned grade calculated in line with section 16 subsection 4 is "5.0" "failed" ("nicht bestanden", "nicht ausreichend").

(3) ¹Coursework or examinations which were done as a preliminary requirement for an examination and subsequently failed may be repeated. ²Failing a related examination in the same semester usually means that the preliminary coursework must be redone and passed. ³The examiner of the retake examination decides on exceptions upon request of a student. ⁴In accordance with sentence 3, the request is to be submitted in due time and before the examination concerned takes place, otherwise the preliminary coursework is to be redone.

(4) ¹Failed examinations may generally be retaken once. ²If the second examination attempt is not successful (re-sit examination), the student can take a second re-sit examination on two occasions at the most during his or her master's program (extra chance). ³Module examinations for the area "Projects and Seminars" as well as the master's thesis are excluded from the regulation in sentence 2.

(5) When retaking an examination consisting of several components, all examination components are to be retaken.

(6) The failure of an examination is final if the last available attempt at the examination was not passed. In this case, an official notification shall be issued by the examination committee.

(7) It is not possible to retake an examination that has already been passed.

Section 19 – Breaches of Procedure

(1) ¹The examination committee may 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. ²In particular, the examination committee may order that coursework or examinations shall be retaken by all or by individual students or, in case the principle of equal opportunities was violated, grant an extension or impose another appropriate measure of compensation.

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(2) ¹Any disturbances are to be reported immediately by the affected student during a written or oral 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 any other type of examination to the responsible examiner.

²Any other kinds of breaches of procedure are to be reported by the affected student in due time as soon as the student acknowledges a particular breach of procedure. ³The reports according to sentences 1 and 2 shall be entered into the examination minutes. ⁴If 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) ¹If the examination committee did not take measures of compensation in accordance with subsection 3 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 shall address his or her request for the necessary measures of compensation to the examination committee in writing immediately after the examination. If the examination consisted of several parts, the request shall be made immediately after the relevant part of the examination. ²The request shall not contain any conditions. ³If 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.

Section 20 – Access to Examination Records

(1) Provided that the examination papers have not been returned to the respective student, he or she shall be granted access to his or her written examinations upon written request submitted within an appropriate period of time. This includes the master's thesis, the respective evaluation(s) of the examiner(s) and the minutes of each examination.

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

Part 2: Disadvantage Compensation

Section 21 – Extension of Examination Deadlines

(1) The examination deadlines as well as the deadlines to take examinations and complete coursework in order to complete the program shall be extended by the examination committee upon written request from a student, which is submitted in due time, if the respective student is in need of an extension due to special conditions he or she is not responsible for. The examination committee shall grant individual extensions based on case by case decisions.

(2) ¹In 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 (PflegerZG), and to students
3. with a disability, or
4. with a chronic illness

if the situation resulting from the aforementioned special conditions requires an extension of the examination deadlines. ²The same applies to students who are eligible for periods of protection in accordance with the respective section 3 subsection 1, section 6 subsection 1 of the Maternity Protection Act (MuSchG).

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- (3) ¹A request in accordance with subsection 1 shall be promptly submitted as soon as the student is aware of the circumstances demanding an extension of examination deadlines. ²If the request is not made in due time in accordance with sentence 1, the extension shall only be granted if additional requirements according to section 32 of the Administrative Procedure Act of Baden-Württemberg (LVwVfG) are met.
- (4) ¹The student requesting the extension is responsible for producing adequate proof. ²If 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) ¹The extension of deadlines to take examinations, re-sit examinations or complete coursework shall not exceed a total of two semesters in any case. ²The extension of the deadline to complete the program shall not exceed the standard period of study provided there are no legal regulations indicating otherwise.
- (6) ¹The extension of examination deadlines, the preparation period and submission deadlines for coursework, particularly a term paper or master's thesis, are not covered by the subsections listed above. ²The option of requesting disadvantage compensation in accordance with section 22 remains unaffected.
- (7) When calculating the examination deadlines, section 32 subsection 6 of the Act on Higher Education of the Land of Baden-Württemberg (LHG) shall be taken into consideration.

Section 22 – Disadvantage Compensation

- (1) ¹If students, as a result of a special condition or situation within the meaning of section 21 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 are obliged to 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 opportunities. ²Disabled students or students with a chronic illness shall submit their request for disadvantage compensation to the Commissioner and Counselor for disabled students and students with chronic illnesses. The examination committee is obliged to take the recommendation of the Commissioner and Counselor for disabled students and students with chronic illnesses into account in their decision making process.
- (2) ¹A 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. ²If the request is not made in due time in accordance with sentence 1, the extension shall only be granted if additional requirements according to section 32 of the Administrative Procedure Act of Baden-Württemberg (LVwVfG) are met. ³If students fail to submit the request for disadvantage compensation in due time, in accordance with sentences 1 or 2, the special circumstances will not be considered for the evaluation of the respective coursework or examination. ⁴The possibility to withdraw or de-register from an examination or piece of coursework with a valid reason remains in effect.
- (3) ¹It is the student's responsibility to provide sufficient proof of his or her special circumstances upon filing the request for disadvantage compensation. ²If there are significant changes to the special circumstances 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 23 – De-registration and Absence

- (1) ¹An examination for which a student is registered is graded "failed" (5.0) ("nicht bestanden") if the student de-registers from the examination without a valid reason (de-registration) or if he or she does not attend (absence). ²The same applies to written pieces of coursework or examinations that are not completed within the given period of time.
- (2) ¹The relevant reasons for de-registration or absence, and the relevant proof, must be submitted in writing to the Student Services immediately; the examination committee is responsible for taking decisions. ²If de-

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registration is approved, the examination shall be deemed not taken and it will be mandatory for the student to register for the next possible examination date. ³If an examination comprises several components, a request as outlined in sentence 1 can only be submitted for the examination.

(3) ¹In case of illness of the student, of a child the student has custody of or of a relative in need of care, a medical certificate shall be submitted. ²If the student de-registers or is absent due to an illness, the medical certificate shall include the required medical results confirming that the student is not able to take the examination.

(4) ¹It shall not be possible to assert a valid reason if the student took an examination whilst being aware of an illness or on the basis of negligent lack of knowledge of an illness. ²In particular, the criteria for negligent lack of knowledge are met if symptoms of health problems were not taken care of as soon as possible.

(5) Should the student not be able to take a compulsory examination for which he or she is registered due to a period of study at a university abroad, this, in particular, will be recognized as a valid reason.

(6) De-registration 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 his or her control.

(7) ¹The student may de-register from so-called required preliminary coursework, which is coursework that needs to be completed for admission to an examination, without providing proof of a valid reason. ²In such cases, admission to the examination shall 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. ³The request is to be granted if, upon consideration, the significance of preliminary coursework is relative to the reasonable interests of the student. ⁴Section 22 remains unaffected.

Part 3: Master's Examination

Section 24 – Master's Examination, Additional Modules

(1) ¹The master's examination is passed if all of the required examinations for the modules in the areas have been passed. ²The detailed rules and regulations on the modules required to pass the master's examination, particularly the modules available and the respective type of examination for each area, are specified in the attachment and the module catalog.

(2) ¹To select a module in the areas named in section 3 subsection 1(1) numbers 1-4, students must register for the first attempt at the examination in that module. ²Students can only change a module twice and upon request if their withdrawal or absence was approved or in case they failed an examination attempt. ³The request must be submitted to the examination committee in due time and it must also be linked with a request to deduct the number of examination attempts made to date for the new module. ⁴The request has to be made no later than by the time of registration for the first examination in the module to which the student would like to change. ⁵If the request is granted and was submitted before the registration period for the examination in the module in question, it is mandatory for the student to register for the examination attempt in accordance with section 11 subsection 6. ⁶The approval of the request ends the examination process in the module from which the student has changed.

(3) ¹If examinations in modules totaling the required minimum number of credits for each area outlined in section 3 subsection 1(1) are passed, and, if by completing a module, a student meets or exceeds the required 120 ECTS credits, the additional remaining completed modules are not taken into account for the successful completion of the master's examination, or the calculation of the area grades and the final grade. Only the examinations in modules that the student took first are considered. ²The modules considered when determining whether the master's examination has been passed, as outlined in sentence 1, are taken into account in the area grades. The area which corresponds to each module can be found under the "Area Overviews" in the attachment. ³The modules which are not considered when determining whether the master's examination has been passed (additional modules), as outlined in sentence 1, are listed on the Transcript of Records along with the grade achieved.

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Section 25 – Calculation of the Area Grade, Grading of the Master's Examination (Final Grade)

(1) ¹The area grade is calculated using the grades achieved in 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 area grades. ²If only one module is passed in area "1. Fundamentals", the grade achieved in this module is also the grade for this area. If no module is passed in this area, then no area grade is awarded. ³No area grade is awarded for area "5. Master's Thesis".

(2) The overall grade of the master's examination is calculated from the average of the area grades weighted in ECTS credits. ²Additional modules are not taken in to account in the calculation of the overall grade.

(3) ¹For the area grades in line with subsection 1(1) and the final grade, only the first decimal place shall be of importance; all other decimal places shall be eliminated without rounding up or down. ²In 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) ¹In addition to the overall grade, a relative grade according to the following system may be given in the Diploma Supplement:

- A for the best 10%
- B for the next 25%
- C for the next 30%
- D for the next 25%
- E for the next 10%

²The calculation of the relative grade is based on the previous three classes that have graduated. ³The chair of the examination committee decides for each class whether or not a relative grade is given. ⁴He or she may decide to take further classes into account for the calculation. ⁵The number of classes taken into consideration for the calculation of the relative grade is indicated.

(6) ¹Students may request a Transcript of Records with a provisional average grade be drawn up prior to receiving their final grade as soon as they have completed 30 ECTS credits. ²The provisional average grade derives from the average of all completed and graded modules weighted according to the ECTS credits at the time of the request. Subsection 3 applies respectively.

Section 26 – Failure of the Master's Examination, Confirmation

(1) The master's examination is failed with no option to re-sit, if

1. a final attempt at an examination or piece of coursework, which these Examination Regulations and the respective attachment have highlighted as being required, has been failed, or
2. an examination deadline has been exceeded unless the student is not responsible for having exceeded this time limit.

(2) In case of failure of the master's examination and upon request by the student, the Student Services issue a confirmation listing all completed modules and the respective grades as well as all modules which have not been completed. The confirmation clearly states that the failure of the degree is final.

Section 27 – Master's Thesis

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

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1. the areas in section 3 subsection 1(1) numbers 2-4, and, provided that modules have been passed, the area named in section 3 subsection 1(1) number 1; areas are listed with the corresponding number of ECTS credits and the 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 ("mit Auszeichnung bestanden").

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

(2) ¹An English Diploma Supplement in accordance with the European Diploma Supplement model shall be attached to each certificate. ²A Transcript of Records forms part of the Diploma Supplement comprising all 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.

Section 28 – Diploma

¹Along with the master's degree certificate, the student receives a diploma certifying the conferment of the academic degree and comprising the final grade of the degree and/or the honors ("mit Auszeichnung bestanden") according to section 25 subsection 4. ²The diploma bears the date of the master's degree certificate. ³The diploma is signed by the dean of the school or his or her deputy and bears the seal of the university.

Part 4: Violation of the Examination Regulations

Section 29 – Cheating and other Misconduct

(1) ¹If the student manipulates or tries to manipulate his or her examination by cheating or using unauthorized resources or by influencing the examiner or supervisor in favor of himself or herself 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 violation. ²In especially severe cases, the student shall be excluded without the option to retake the examination. ³It 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) ¹If 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". ²In case of mandatory courses, the coursework or examinations to be substituted shall be submitted or taken on the next possible date at the University of Mannheim.

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

Section 30 – Voidness of the Master's Examination

(1) ¹In case the student has manipulated an examination by cheating and this fact is revealed after the student has received his or her master's degree certificate, the examination committee may revise the result or the respective grade retroactively and declare the examination as completely or partially failed. ²If the comple-

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tion of the master's examination is affected by this, the examination committee may revoke the respective ECTS credits and, if necessary, declare the master's examination as failed.

(2) ¹If 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 his or her master's degree certificate, this defect is remedied by having passed the examination. ²If the student attained his or her admission illegitimately on purpose, the examination and consequently the degree completion may be considered "failed" ("nicht bestanden").

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

(4) ¹Inaccurate master's degree certificates shall be recalled. ²Where applicable, new master's degree certificates shall be issued. ³Along with the inaccurate master's degree certificates, the respective diploma shall be recalled if changes to the final grade have to be made or failure of degree completion was declared. ⁴After 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 (2) is no longer possible.

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

IV. Final Provisions

Section 31 – Commencement, Scope, Transitional Provisions

(1) These Examination Regulations become effective on 1 February 2017.

(2) ¹By way of derogation from section 5 subsection 2(3), the term of office for the first members of the examination committee, who shall be appointed once these Examination Regulations have become effective, starts on the day of their appointment; the term of office for the non-student and student members ends on 31 July 2017. ²The examination committee for the program "Business Informatics" in accordance with its examination regulations as at 7 March 2013 in the respective valid version conducts the affairs of the examination committee for this program temporarily until members are appointed according to section 5 subsection 1 of these Examination Regulations.

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Attachment: Area Components

1. Fundamentals (0 to 14 ECTS credits)

Module Name		Coursework (Composition and Type)	ECTS Credits
CS 450	Programming Course	Two pieces of coursework (electronic): programming exam (180 min.) and programming project	6
CS 460	Database Technology	One piece of coursework (oral or written): oral exam (30 min.) or written exam (90 min.)	6
	Multivariate Analyses	1	6
	Tutorial Multivariate Analyses	1	2
	Datenerhebung	2	6

2. Data Management (24 to 36 ECTS credits)

Module Name		Coursework (Composition and Type)	ECTS Credits
CS 560	Large Scale Data Management	One piece of coursework (written): exam (90 min.)	6
IE 663	Information Retrieval and Web Search	Three pieces of coursework (two written, one oral): exam (90 min.), project report and presentation	6
IE 650	Semantic Web Technologies	Three pieces of coursework (two written, one oral): exam (90 min.), project report and presentation	6
CS 530	Datenbanksysteme II	One piece of coursework (written): exam (90 min.)	6
IE 630	Anfrageoptimierung	One piece of coursework (oral): oral exam (30 min.)	6
CS 500	Advanced Software Engineering	One piece of coursework (written): exam (90 min.)	6
CS 600	Model-driven Development	One piece of coursework (written): exam (90 min.)	6
CS 550	Algorithmik	One piece of coursework (written): exam (90 min.)	6
IE 670	Web Data Integration	Three pieces of coursework (two written, one oral): exam (90 min.), project report and presentation	6

3. Data Analytics Methods (30 to 54 ECTS credits),

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Module Name		Coursework (Composition and Type)	ECTS Credits
IE 500	Data Mining I	Three pieces of coursework (two written, one oral): exam (90 min.), project report and presentation	6
IE 672	Data Mining II	Three pieces of coursework (two written, one oral): exam (90 min.), project report and presentation	6
IE 673	Data Mining and Matrices	One piece of coursework (oral or written): oral exam (30 min.) or written exam (90 min.)	6
IE 674	Hot Topics in Machine Learning	One piece of coursework (oral or written): oral exam (30 min.) or written exam (90 min.)	6
IE 671	Web Mining	Three pieces of coursework (two written, one oral): exam (90 min.), project report and presentation	6
IE 661	Text Analytics	One piece of coursework (written): exam (90 min.)	6
MAC 502	Computational Finance	One piece of coursework (oral): oral exam (30 min.)	5
MAC 505	Mathematische Visualisierung	One piece of coursework (oral or written): oral exam (30 min.) or written exam (90 min.)	8
MAB 504	Mathematics and Information	One piece of coursework (oral or written): oral exam (30 min.) or written exam (90 min.)	8
MAB 508	Algebraische Statistik	One piece of coursework (oral or written): oral exam (30 min.) or written exam (90 min.)	8
MAC 404	Optimization	One piece of coursework (oral or written): oral exam (30 min.) or written exam (90 min.)	8
IE 560	Decision Support	Two pieces of coursework (written): exams (45 min. each)	6
MAC 507	Non-linear Optimization	One piece of coursework (oral or written): oral exam (30 min.) or written exam (90 min.)	6
	Cross Sectional Data Analysis: Lecture	³	6
	Cross Sectional Data Analysis: Exercise Course	³	3
	Advanced Quantitative Methods: Lecture	¹	6

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	Advanced Quantitative Methods: Tutorial	¹	2
	Longitudinal Data Analysis: Lecture	³	6
	Longitudinal Data Analysis: Exercise Course	³	3
	Research Design: Lecture	¹	6
	Research Design: Exercise Course	¹	3

4. Projects and Seminars (12 to 16 ECTS credits),

The examination in either the "Team Project" module or the "Individual Project" module, as well as the examination in one of the modules listed are to be passed in this area.

Module Name		Coursework (Composition and Type)	ECTS Credits
Team Project		Three pieces of coursework (one written, two oral): project report, presentation (15-30 min.), and participation	12
or			
Individual Project		Two pieces of coursework (one written, one oral): Project report and presentation (15-30 min.)	8
CS 704	Master Seminar Artificial Intelligence	Three pieces of coursework (one written, two oral): term paper, presentation and participation	4
CS 705	Datenbankseminar	Three pieces of coursework (one written, two oral): term paper, presentation and participation	4
CS 707	Seminar Data and Web Science	Three pieces of coursework (one written, two oral): term paper, presentation and participation	4
CS 708	Seminar Software Engineering	Two pieces of coursework (one written, one oral): term paper and presentation	4
CS 709	Seminar Prof. Ponzetto	Three pieces of coursework (one written, two oral): term paper, presentation and participation	4

5. Master's Thesis (30 ECTS credits).

Module Name	Coursework (Composition and Type)	ECTS Credits
Master's Thesis	One piece of coursework (written): master's thesis	30

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¹The coursework which belongs to this module is stipulated in the subject-specific attachment, "Political Science", which accompanies the current version of the joint Examination Regulations for the Master of Arts (M.A.) in Political Science and the Master of Arts (M.A.) in Sociology at the School of Social Sciences at the University of Mannheim in combination with the current version of the module catalog for this program.

²The coursework which belongs to this module is stipulated in the current version of the Examination Regulations for the Bachelor of Arts (B.A.) in Political Science at the School of Social Sciences at the University of Mannheim in combination with the current version of the module catalog for this program.

³The coursework which belongs to this module is stipulated in the subject-specific attachment, "Sociology", which accompanies the current version of the joint Examination Regulations for the Master of Arts (M.A.) in Political Science and the Master of Arts (M.A.) in Sociology at the School of Social Sciences at the University of Mannheim in combination with the current version of the module catalog for this program.