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## Table of contents

### I. General

- § 1 Objective of the master's examination
- § 2 Academic degree
- § 3 Structure of the programme, required ECTS credits, standard period of study, deadline for the final examination
- § 4 Structure of examinations, deadlines
- § 5 Examination Board (*StPA*)
- § 6 Examiners and observers
- § 7 Recognition of previous studies, coursework and performance assessments
- § 8 Recognition of non-higher education achievements
- § 9 Absence, withdrawal, health impairments, leave of absence for family reasons, fraud, breach of regulations
- § 10 Course and examination languages
- § 11 Grades
- § 12 Examination certificate and degree certificate

### II. Course-related performance assessments

- § 13 Types of course-related performance assessments
- § 14 Course-related performance assessments: Scheduling, exam organization and admission
- § 15 Conducting and repeating course-related performance assessments, final failure
- § 16 Course-related performance assessments in courses from other departments
- § 16a Regular attendance as a special form of coursework

### III. Master's examination

- § 17 Type and scope of the master's examination
- § 18 Registration for and admission to the master's thesis
- § 19 Master's thesis
- § 20 Results of the master's examination

### IV. Final provisions

- § 21 Invalidation of the master's examination
- § 22 Inspection of examination records
- § 23 Legal recourse
- § 24 Effective date and transitional provisions

## Appendix

Attachment: study plan

## I. General

### § 1 Objective of the master's examination

Through a successfully passed master's examination the candidates acquire a scientific degree in social and economic data science qualifying them for a profession. In the master's examination, candidates must show that they have extensive knowledge in the chosen field, are able to work independently according to scientific principles and can apply scientific methods and insights. The aim of the master's programme is to equip students with data and computer-based methods and the ability to apply them to diverse economic and socio-scientific questions and issues. Graduates will have gained the qualification for research-related activities in the business world or for academic research. The interdisciplinary master's programme in Social and Economic Data Science comprises courses from the following departments:

- Department of Economics
- Department of Politics and Public Administration
- Department of History and Sociology
- Department of Computer and Information Science
- Department of Mathematics and Statistics
- Department of Psychology

### § 2 Academic degree

Once a candidate has passed the master's examination, the University of Konstanz awards the academic degree "Master of Science" (MSc) in Social and Economic Data Science.

### § 3 Structure of the programme, required ECTS credits, standard period of study, deadline for the final examination

- (1) The master's programme in "Social and Economic Data Science is a graduate programme with a strong emphasis on research as defined in the structural specifications of the German federal states as per § 9 para. 2 *Hochschulrahmengesetz HRG* (Framework Act for Higher Education) for the accreditation of bachelor's and master's programmes enacted by the Standing Conference of the Ministers of Education and Cultural Affairs on 10 October 2003, as amended on 4 February 2010.
- (2) The standard period of study for the master's programme is four semesters. If the student has not completed the master's examination by the end of the seventh semester, the right to take examinations expires, unless the reasons for not completing the master's examination in time are beyond the candidate's control.
- (3) The curriculum of the master's programme has a modular structure. A module is a study unit consisting of one or several courses that are related to one another in either method or content. A total of 120 ECTS credits must be acquired in the master's programme in Social and Economic Data Science. An overview of the modules and courses and corresponding ECTS credits can be found in the appendix, which is part of these examination regulations. The course catalogue in the attachment only lists courses that take place regularly. Other courses from the changing set of courses offered by the departments may also be recognized as coursework and performance assessments subject to the approval of the Examination Board and the corresponding department.

- (4) During the first semester, students attend the introductory module **Introduction to Computational Methods for the Social Sciences**. It is worth 9 ECTS in total and is comprised of a lecture and a practice tutorial.
- (5) In the module **Foundations of Data Science** students select, depending on their prior qualification, courses from the four focus areas Computer Science, Mathematics, Social-scientific methods and Statistics worth a minimum of 18 ECTS. Until the end of the first year of studies, all four focus areas must have been covered with at least one successfully completed course. Prior achievements recognized during admission will be taken into account in this context. After completing courses from this module, students can continue with advanced courses. For each student, the Examination Board *StPA* determines at the beginning of the first semester which courses he/she has to attend.
- a) *Focus Area Computer Science*  
In BA courses on the foundations of computer science, students will further deepen the knowledge gained in the introductory lectures, especially in the fields of algorithms and data structures, data bases, automatic processing of texts and visualization of data.
  - b) *Focus Area Mathematics*  
BA courses on the foundations of analysis, linear algebra, mathematical logic and discrete mathematics.
  - c) *Focus Area Social-scientific Methods*  
BA and fundamental MA courses on the theoretical and practical foundations of quantitative empirical social research, especially cognitive science, research logic, measurement theory, selection procedures and data collection techniques, as well as alternative research designs.
  - d) *Focus Area Statistics*  
BA courses on the foundations of probability calculation, as well as descriptive and inductive statistics, especially discrete and continuous probability distribution, sampling theory, point and interval estimation, hypothesis testing, linear regression and generalized linear models.
- (6) In the second and third semester, students attend courses from the following modules:
- a) **Module Advanced Methods: Computer Science**  
In this module, students must complete performance assessments worth 18 ECTS in MA or advanced BA courses that deepen their knowledge of selected computer science topics. The focus is on modern methods and systems on the visualization, analysis, exploration and processing of large amounts of information. Exemplary topics in this area are algorithms and data structures as well as data base systems, big data and data stream processing.

**b) Module Advanced Methods: Statistics**

In this module, students must complete performance assessments worth 18 ECTS in MA or advanced BA courses dealing with the mathematical-statistical modelling of data-generating processes. Courses range from the foundations of statistical modelling and inference to applications e.g. in econometrics and information processing.

**c) Module Programming and Scripting**

In this module, students must complete coursework and performance assessments worth 12 ECTS on programming and script languages such as Java, Matlab, Python or R. A maximum of one course on statistics software, such as EViews, SPSS or Stata, can also be recognized as coursework.

**d) Module Social Science Applications**

In this module, students must complete different types of achievements worth 18 ECTS. For example, a performance assessment in the context of a research-oriented MA seminar, or a report on a research cooperation that results from the Social and Economic Data Science project data base, or a project report in the context of an internship.

- (7) In the fourth semester, the students write their master's thesis and present their research ideas in a colloquium. A total of 27 ECTS is awarded for the successful completion of the module **Master's Thesis**, 24 ECTS for the master's thesis and 3 ECTS for the colloquium.
- (8) The ECTS credits listed for the modules as per § 3 paras. 4 to 6 are the minimum number to be acquired. They may be exceeded by a maximum of 6 ECTS credits in total.

#### **§ 4 Structure of examinations, deadlines**

- (1) The master's examination comprises course-related performance assessments in the areas mentioned above as per § 3 para. 4 to 6 as well as a master's thesis as per § 19. The number of course-related performance assessments depends on the courses the student has selected. Course-related performance assessments that were part of a bachelor's examination that was an admission requirement for this master's programme cannot be recognized for the master's examination.
- (2) If the reasons for not completing an examination within the scheduled deadline are beyond the candidate's control, the Examination Board (*StPA*) grants an extension of the examination deadline upon written request and accompanied by the corresponding documentation.

#### **§ 5 Examination Board (*StPA*)**

- (1) The Examination Board Social and Economic Data Science (*Ständiger Prüfungsausschuss, StPA*) is responsible for organizing and conducting the examinations. *StPA* decisions concerning examination procedures are made in accordance with these examination regulations, unless otherwise stipulated in these examination regulations or in other statutory provisions. Subject to revocation, the *StPA* may assign certain tasks to the chairperson.

- (2) The *StPA* ensures that the provisions stipulated in these examination regulations are observed. The *StPA* can also make suggestions for changes to the curriculum and examination regulations.
- (3) The *StPA* consists of:
  - a) Six university teachers, one each of the departments involved: Mathematics and Statistics, Economics, Politics and Public Administration, Computer Science, History and Sociology, and Psychology.
  - b) One academic staff member from each of the faculties involved.
  - c) Two students of the master's programme in Social and Economic Data Science, in an advisory capacity.
  - d) The director of the departmental administration of the Department of Economics, in an advisory capacity.
- (4) The term of office of the members as per para. 3 a) and b) is two years, of the student members one year. The Study Commission of the Department of Economics appoints the members of the *StPA* in agreement with the deans of studies of the other departments involved in the study programme (Mathematics and Statistics, Politics and Public Administration, Computer Science, History and Sociology, Psychology).
- (5) The *StPA* elects a chairperson and a vice chairperson from among its professorial members.
- (6) The *StPA* members have the right to be present during examinations.
- (7) The *StPA* members are legally bound to maintain confidentiality. Those who are not in civil service have to be instructed by the chairperson to maintain confidentiality.
- (8) In simple cases the *StPA* may also take its decisions in an electronic circular procedure.

### **§ 6 Examiners and observers**

- (1) The *StPA* appoints the reviewers of the master's thesis. The *StPA* can task its chairperson with these appointments. Usually, university teachers and *Privatdozenten* (lecturers) are appointed as reviewers of the master's thesis. Academic employees who have many years of teaching experience and who have been authorized by the Rectorate to conduct examinations as per § 52 sec. 1 sentence 6 *LHG*, may also be appointed as examiners. Only university teachers, *Privatdozenten* and academic employees who have been authorized by the Rectorate to conduct examinations, may assign topics for master's theses and supervise and assess the theses.
- (2) Course-related performance assessments are conducted by the respective course instructors.

### **§ 7 Recognition of previous studies, coursework and performance assessments**

- (1) Previous studies, coursework and performance assessments completed as part of the same or another study programme at a university or equivalent institution of higher education in Germany or abroad are recognized on request and the amount of credits defined for the achievement in these examination regulations can be recognized, provided the competencies thus acquired do not differ significantly from the achievements they replace. There is no significant difference if learning objectives, contents and examinations largely correspond to the requirements of the study pro-

gramme at the University of Konstanz. Decisions should be based on an overall appraisal and evaluation, rather than a point-by-point comparison. When recognizing coursework and performance assessments completed outside of Germany, the following have to be considered:

- Recommendations of the *Kultusministerkonferenz, Zentralstelle für ausländisches Bildungswesen* (Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, Central Office for Foreign Education)
- Agreements on Equivalence of the Federal Republic of Germany
- Agreements with partner universities.

The master's thesis cannot be recognized. In addition, § 4 para. 1 sentence 3 applies.

- (2) For the recognition of coursework and performance assessments completed before starting the master's programme, students must present the corresponding documentation. Requests for recognition must be filed no later than 12 months after the start of the study programme. Requests that are submitted later cannot be considered.
- (3) Paragraphs 1 and 2 apply accordingly for periods of study, coursework and performance assessments completed in state-accredited university distance learning programmes or at a state or officially recognized *Berufsakademie* (university of cooperative education).
- (4) If the prerequisites (as per paras. 1 and 3) are met, students are legally entitled to recognition of credits. Students must submit the required documents when applying for recognition of credit. The Examination Board (*StPA*) or an appointed representative decides on the recognition of credit.
- (5) If recognition of credit is granted, and insofar as the grading systems are comparable, the relevant grades will be transferred and counted towards the overall grade. If the grading systems are incomparable, the grade "passed" (4.0) will be applied. Recognition of credits will be stated in the examination certificate.

### **§ 8 Recognition of non-higher education achievements**

- (1) Non-higher education achievements will be assessed as coursework and performance assessments if the following apply:
  - The knowledge and skills thus acquired are equivalent to the coursework and performance assessments they stand to replace
  - The prerequisites for acceptance at an institution of higher education are met at the time credit is granted for such achievements
  - The institution at which the knowledge or skills were acquired has implemented a quality assurance system.
- (2) An overall view must be taken and an overall assessment made when determining whether knowledge and skills are equivalent. They are considered equivalent if there is no significant difference between the knowledge and skills acquired. There is no significant difference if the knowledge and skills obtained outside of any institution of higher education largely correspond to the learning objectives, contents and requirements of the corresponding achievement in the study programme at the University of Konstanz.

- (3) If equivalence cannot be determined, a placement test may be administered.
- (4) A maximum of 8 ECTS credits can be granted for achievements obtained outside the higher education system.
- (5) Decisions on recognition and placement tests are made by the Examination Board *StPA* or by an authorized representative.

### **§ 9 Absence, withdrawal, health impairments, leave of absence for family reasons, fraud, breach of regulations**

- (1) A performance assessment will be graded "fail" (5.0) if the student does not attend the examination without adequate justification or withdraws without adequate justification after the examination has already started. The same applies if the student fails to complete a written performance assessment within the set time limit.
- (2) Students must provide the Examination Board (*StPA*) with credible reasons for missing or withdrawing from an examination without delay. In the case of illness, the student has to submit a medical certificate. The form provided by the Central Examination Office must be used for the medical certificate. If the reasons are accepted, the student will be informed that he/she has to take the performance assessment at the next examination date. In this case, examination results acquired up to that point will be credited if they can be separated from the part of the examination that still needs to be completed.
- (3) If a student is able to verify by means of a medical certificate that he/she is unable to undergo an performance assessment in part or in full in the designated form or deadline due to a longer or permanent medical condition, the chair of the Examination Board (*StPA*) will allow him/her additional time or grant him/her permission to complete an equivalent type of performance assessment in a different form. The same applies for coursework assignments.
- (4) On request, the *Mutterschutzfrist* (maternity protection period), as defined by the applicable federal law in Germany on the protection of working mothers (*MSchG*) will be taken into consideration. The required documentation must be submitted with the request. The *Mutterschutzfrist* interrupts all other periods defined in these examination regulations; this means that time spent on *Mutterschutz* (maternity protection) is not counted as elapsed time within these periods.
- (5) Similarly, *Elternzeit* (parental leave) as defined in the *Bundeselternzeit- und Elternzeitgesetz BEEG* (law on parental leave allowance and parental leave) will be taken into consideration on request. The student must inform the Examination Board (*StPA*) of the period(s) of *Elternzeit* to be taken no later than four weeks before the first day of planned *Elternzeit*. This must be done in writing and include the necessary documentation. The *StPA* will assess whether the legal prerequisites are met under which employees have the right to *Elternzeit* in accordance with the *BEEG*, and will inform the student of their decision and, if applicable, of the new schedule for examination dates, without delay. The time period allowed for completing the master's thesis (part of the final examination) cannot be interrupted by *Elternzeit*. In this case the topic is considered not to have been assigned. After the *Elternzeit* period has ended, the student will be assigned a new topic.
- (6) Students who have familial obligations beyond those described in paragraph 5 can also apply for an extension of the deadlines set down in these examination regulations. The required documentation must be submitted with the request.

- (7) If a student attempts to influence the result of a performance assessment through fraud, plagiarism, or the use of aids that are not permitted, it will be graded "fail" (5.0). The relevant examiner or supervisor can exclude a student who has disturbed the proper proceedings of an examination from continuing the examination. In this case the corresponding performance assessment is deemed to have failed.
- (8) In case of repeated or particularly serious fraud or plagiarism, the *StPA* may decide to deny the candidate permission to retake the examination, resulting in a complete loss of right to take any further examinations in this study programme.
- (9) The student must be notified of an incriminating decision by the *StPA* without delay; the decision must be substantiated in writing, and information on available options for legal recourse must be included. Before the *StPA* takes a decision, the student will be given the opportunity to comment the case.

### **§ 10 Course and examination languages**

- (1) Courses are taught in English or German.
- (2) Coursework and performance assessments are to be completed in the course language. In courses taught in German, students may complete performance assessments in English if agreed upon with the lecturer.

### **§ 11 Grades**

- (1) Grades for the individual performance assessments are determined by the examiners. The following grades are used:
  - 1 = very good = sehr gut = excellent performance
  - 2 = good = gut = performance well above average
  - 3 = satisfactory = befriedigend = average performance
  - 4 = sufficient = ausreichend = performance that meets the requirements despite shortcomings
  - 5 = fail = nicht ausreichend = performance that does not meet the requirements due to considerable shortcomings

For a more detailed evaluation of the student's performance, grades can be raised or lowered by a value of 0.3. Values of 0.7, 4.3, 4.7 or 5.3, however, are not permitted.
- (2) If a performance assessment is evaluated by more than one examiner, the grade will be the arithmetic mean of the grades given by each of the examiners as per paragraph 1. Grades for individual performance assessments are calculated to only one decimal place. Additional decimal places are discarded without rounding. This also applies to the determination of module grades and the overall grade for the master's examination.
- (3) The grade for a module will be the average of the grades for the performance assessments completed in that module. The overall grade for the master's examination is calculated as the weighted average from the module grades, with the weight resulting from the relative number of ECTS credits to be acquired in the modules. The module Programming and Scripting worth 12 ECTS is not taken into account for the overall grade. Consequently, the basis for calculating the weight of the other modules is the total number of ECTS to be acquired minus 12:



$120 - 12 = 108$ . Therefore, the weight of the grade for the module Introduction to Computational Methods for the Social Sciences is  $9/108$  of the overall grade. The weight of the other modules is  $18/108$  each (Foundations of Data Science; Advanced Methods: Computer Science; Advanced Methods: Statistics; Social Science Applications) and  $27/108$  (Master's Thesis).

(4) The grades are as follows:

- an average up to 1.5 = very good
- an average above 1.5 up to 2.5 = good
- an average above 2.5 up to 3.5 = satisfactory
- an average above 3.5 up to 4.0 = sufficient
- an average above 4.0 = fail

(5) An examination is passed if the grade is "sufficient" (4.0) or better.

### **§ 12 Examination certificate and degree certificate**

- (1) Once students have passed the master's examination and all achievements relevant for passing the examination have been recorded, they receive a certificate with the overall grade of their study programme. The certificate also includes the grade and topic of the master's thesis.
- (2) The certificate will be awarded "with distinction" if students achieve an overall grade of 1.2 or better.
- (3) With the examination certificate, students also receive a degree certificate confirming that they have earned an academic master's degree and indicating the subject studied.
- (4) The examination and degree certificate are signed by the chairperson of the Examination Board (StPA) and stamped with the seal of the University of Konstanz. The date to be entered is the date on which, according to the request for issuing a certificate, the last coursework or performance assessment was completed.
- (5) A diploma supplement in line with the European Diploma Supplement Model and a transcript of records are issued as further components of the certificate. The transcript of records contains the completed modules and their components, the module grades, the ECTS credits acquired in the modules and the overall number of ECTS credits as well as the grades for the completed coursework and performance assessments; ungraded modules and achievements will be included with a remark about successful participation. Coursework and performance assessments that are not included in the master's examination will be included in the transcript of records as "Sonstige Leistungen" / "Additional voluntary course work".
- (6) In addition to that, a transcript of records as per para. 5 is issued without the grades for the individual coursework and performance assessments.
- (7) On request of the students, the duration of studies until completion of the study programme can be included in the transcript of records.
- (8) All documents mentioned in paragraphs 1, 3, 5 and 6 are issued in German and – as far as possible – in English.

## II. Course-related performance assessments

### § 13 Types of course-related performance assessments

- (1) Course-related performance assessments have to be completed for courses (usually lectures with accompanying practice tutorials) and seminars.
- (2) The course-related performance assessment in a course usually is a written or oral examination at the end of the semester. Written end-of-semester exams usually last one to two hours, oral examinations 20-40 minutes. Grades for performance assessments completed during the course can be part of the overall grade for a course, e.g. grades for intermediate exams, papers or short presentations. The course instructor announces at the beginning of the course which performance assessments can or must be completed and how the overall grade for the course is calculated. If a performance assessment component (as per sentence 3) is not completed due to circumstances beyond the student's control, the overall grade will result only from the performance assessments that were completed in that course.
- (3) The course-related performance assessment in a seminar consists of a written paper and a presentation.

### § 14 Course-related performance assessments: Scheduling, exam organization and admission

- (1) The registration dates for course-related performance assessments are posted along with the deadlines for registration. Students have to register for the individual exams and exam retakes in accordance with the applicable regulations of the participating departments.
- (2) Only students can be admitted who are enrolled in the master's programme in Social and Economic Data Science at the University of Konstanz and have not lost the right to take examinations in this study programme. The Examination Board (StPA) may deny admission only if a student does not fulfil the admission requirements, for example, regular course attendance as per § 16a.
- (3) The *StPA* may admit students of the following bachelor's programme at the University of Konstanz to coursework and performance assessments of the master's programme in Social and Economic Data Science in line with the study and examination regulations of these bachelor's programmes: Economics, Mathematical Finance, Politics and Public Administration, Mathematics and Statistics, Information Engineering, Computer Science, Sociology and Psychology. The recognition of corresponding coursework and performance assessments by the *StPA* is defined in § 7 para. 1 of these examination regulations. The provisions of § 4 para. 1 remain unaffected.
- (4) Students can attend courses as per para. 3 earlier than scheduled only to the extent of maximal 16 ECTS credits, and only if they have already acquired 120 ECTS credits in the bachelor's programme.
- (5) How performance assessments as per para. 3 are completed and repeated earlier than scheduled is determined by § 13 and § 15 of these examination regulations. If a performance assessment is taken earlier and failed, this will count towards the master's programme in "Social and Economic Data Science". If the failed performance assessment can no longer be repeated, students lose the right to take examinations in the master's programme in "Social and Economic Data Science".

- (6) If the overall grade for a course is "sufficient (4.0)" or better, students cannot retake the examination in the same subject area.
- (7) Students do not have to register for course-related performance assessment components that take place before the end-of-semester exam of that course. The instructor will inform the students in writing about details on these performance assessments at the beginning of the course. The overall grade for this course is calculated from the grades for these performance assessments and the grade for the end-of-semester exam in accordance with the regulations of § 13 para. 2.
- (8) For seminars, the students receive records of academic achievement. The record of academic achievement for a seminar states the topic of the seminar paper / presentation and the achieved grade.
- (9) A data processing system may be used for administrative aspects of exam organization. Students are required to inform themselves about dates and information on examinations, at regular intervals and on specific occasions as needed. If they fail to do so they will have to bear the consequences.

#### **§ 15 Conducting and repeating course-related performance assessments, final failure**

- (1) Students can retake every failed course-related performance assessments once. Excluded from this regulation are performance assessment components as per § 13 para. 2 sentence 3 that cannot be retaken. In case of exam retakes on the dates mentioned in § 14 para. 1, the grade results from the exam retake only. If students cannot retake an examination on the dates mentioned in § 14 para. 1, they will take the examination in the context of the same course in the next academic year. In this case, completed exam components have to be performed anew. If the corresponding course-related performance assessment is not completed within the next academic year, the right to take these examinations expires, unless the reasons for not completing them in time were beyond the candidate's control.  
In every module, instead of completing the exam retake, students have the one-time right to attend another course in the same module instead and complete the corresponding examination, including exam retakes, there. The number of ECTS credits to be acquired in the relevant module remains unaffected.
- (2) If the student's performance in an exam retake is yet again graded "fail", the *StPA* may permit the student to retake the examination a second time if this is deemed justifiable in view of the student's overall performance.
- (3) Students can be admitted to a second retake no more than two times.
- (4) A performance assessment is finally failed if the maximum number of exam retakes was failed or the examination can no longer be retaken. If a performance assessment has finally been failed, the entire master's examination will be finally failed. If a student has finally failed the master's examination, the chairperson of the Examination Board (*StPA*), supported by the Central Examination Office, will issue a written confirmation containing information on the options available for legal recourse.
- (5) If a student has finally failed an examination or not completed the examination in time, he/she will lose the right to take examinations in this study programme (§ 32 para. 5, sentence 3 *LHG* (state law on higher education)).

- (6) In this case the student can, after presenting the certificate of exmatriculation, request a transcript providing details of completed performance assessments and corresponding grades, and information on performance assessments missing for the relevant part of the examination. It will also state that the student has finally failed that examination and/or the right to take examinations has expired.

### **§ 16 Course-related examinations in courses from other departments**

- (1) Details on the examinations for courses in required electives from other departments (registration for and admission to examinations, as well as the procedure, form, scope and evaluation of examinations) are governed by the examination regulations which apply to the curriculum for the study programme to which the course belongs.
- (2) Performance assessments in courses from other departments have to be documented with a course assessment stating a grade, the scope and the ECTS credits of that course.

### **§ 16a Regular attendance as a special form of coursework**

- (1) The corresponding Study Commission of a certain course type or the course instructor may request regular attendance in seminars, tutorial groups and other dialogue-oriented courses as a pre-requisite for completing coursework and performance assessments and/or acquiring credits. In this case it must be announced, in writing or electronically and at the beginning of the course, that regular attendance is an admission requirement for course-related achievements and/or a pre-requisite for acquiring credits.
- (2) Regular attendance means that not more than one fifth of course time or course dates was missed. Otherwise admission to coursework and performance assessments in that course will be denied, irrespective of whether or not the student is responsible for the absences. In this case, no ECTS credits can be acquired. In justified cases<sup>1</sup> it is possible to deviate from these regulations in favour of the students; corresponding requests have to be submitted to the Examination Board (StPA) via its secretary.

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<sup>1</sup> Cases, for which exceptions may be granted are, in particular: 1. Students with a medically certified chronic or longer-term illness who may request academic adjustments in line with these examination regulations and who cannot participate in all dates of the course for health reasons; 2. Student-parents whose child is ill as well as students with relatives in need of care if they submit corresponding documentation that the care is necessary; 3. Students who are members of a university body or the Students' Union in the current semester and consequently miss individual course dates if they submit documentation of their participation in the committee meeting; 4. Top athletes in the sense of the university's cooperation agreement for supporting top-class sports if they can document that they were required to participate in competitions or training camps; 5. Study abroad stays during the ongoing semester with corresponding documentation; 6. Startup founders with corresponding documentation.

### III. Master's examination

#### § 17 Type and scope of the master's examination

The master's examination consists of:

- a) the course-related performance assessments as per § 3 paras. 4 to 6 as well as
- b) the master's thesis as per § 3 para. 7

#### § 18 Registration for and admission to the master's thesis

- (1) The admission procedure and admission requirements for course-related performance assessments as part of the master's examination are determined in § 14.
- (2) As a rule, candidates have to apply for admission to the master's thesis at the beginning of the fourth semester of the master's programme. The Examination Board (*StPA*) announces the registration date for the master's thesis. Students have to apply for admission in writing to the chairperson of the *StPA*. The application should include a suggestion of a topic for the master's thesis and the two reviewers. There is no guarantee that the suggestions will be considered.
- (3) Students can only be admitted to the master's thesis if they
  1. are enrolled in the master's programme in Social and Economic Data Science at the University of Konstanz,
  2. have not lost the right to take examinations in this master's programme,
  3. and have acquired a minimum of 60 ECTS credits in the master's programme.
- (4) If a student does not apply for admission to the master's thesis within three months after passing the last course-related performance assessment, the *StPA* assigns a topic and the reviewers; one of these reviewers will also be the supervisor of the thesis. The *StPA* decides on exceptions upon written request.
- (5) Admission is granted on the condition that the student remains enrolled at the University of Konstanz until all required performance assessments have been completed, including any exam retakes. On request, students must produce a valid certificate of enrolment.
- (6) The *StPA* decides about admissions. Admission must be denied if a student does not fulfil the requirements stated in para. 3, or the application is incomplete, or the student has finally failed a master's or *Diplom* examination in "Social and Economic Data Science" or has lost the right to take examinations in this study programme.

### **§ 19 Master's thesis**

- (1) By completing the master's thesis, students have to demonstrate that they are able to work independently and according to scientific principles on a problem in the areas of economics, social science and statistics within a certain period of time.
- (2) The master's thesis has to be written in English.
- (3) Students will present the research design of their master's thesis in a master's colloquium worth 3 ECTS at the corresponding department.
- (4) The time period allotted for the master's thesis is four months. Topic, scope and task must be determined in such a way that the deadline to complete the thesis can be met. The *StPA* can extend the deadline by up to one month upon justified request of the student. The information about the *StPA*'s assignment of the topic and appointment of the reviewers is kept on file.
- (5) If an obstacle arises during the time the thesis is written due to circumstances beyond the student's control that makes the completion of the thesis questionable, or if the student still claims such an obstacle beyond his/her control after the extension period as per para. 4 sentence 3 has expired, the topic will be revoked and the student will be assigned a new topic.
- (6) Students may return a topic only once and only within one week after it was assigned. In this case the student will immediately be assigned a new topic. The *StPA* assigns the topic of the master's thesis, appoints the examiners and documents this information.
- (7) Three bound copies of the master's thesis (format DIN A4) as well as an electronic copy have to be submitted to the examination office of the Department of Economics within the prescribed time limit. One copy will remain at the examination office until the conclusion of the examination procedure.
- (8) Upon submission, students must provide written confirmation of being the sole author of the master's thesis and of not having used any sources or aids other than the ones stated. Students must retain any materials that can prove their sole authorship until the examination procedure has been concluded.
- (9) Two reviewers will assess the master's thesis. The reviewers must be university teachers, or *Privatdozenten* (lecturers), or authorized academic staff as per § 6 para. 1. At least one reviewer must be a principal investigator or an associated professor of the Graduate School of Decision Sciences. The reviewers usually submit their review, including a grade, to the examination office of the Department of Economics within six weeks of submission of the master's thesis.
- (10) A master's thesis is passed if the grade is "sufficient" or better. It is not passed if the grade is "fail". The master's thesis is worth 27 ECTS credits.
- (11) If one reviewer grades the thesis "sufficient" or better, and the other "fail", the *StPA* will appoint a third reviewer. If the third reviewer grades the thesis "sufficient" or better, the master's thesis is passed. In this case, the grade will be 4.0, or will be calculated from all three individual grades if that value is lower. If the third reviewer grades the thesis "fail", the master's thesis will have failed.
- (12) If the master's thesis is graded "fail", it can be repeated once. The provisions of § 9 para. 8 remain unaffected. A new topic will be assigned within three months after notification of the first result was given. A third attempt is not permitted. The second top-

ic can only be given back within the time limit mentioned in para. 6 if the student did not use this option during his/her first attempt.

### **§ 20 Results of the master's examination**

- (1) The master's examination is passed if all performance assessments mentioned in § 17 are graded "sufficient" or better.
- (2) The overall grade for the master's examination is calculated as per § 11 para. 3.

## **IV. Final provisions**

### **§ 21 Invalidation of the master's examination**

- (1) If a student has cheated on an examination and this fact is discovered after the certificate has been issued, the Examination Board (*StPA*) may subsequently correct the corresponding grades and may declare all or part of the examination failed.
- (2) If the prerequisites for admission to an examination were not met, and this fact is discovered after the certificate was issued, the deficit will be deemed to have been rectified by the passing of the examination, provided the student had no intent to deceive. If the student intentionally practised deceit to obtain admission to the examination, the Examination Board (*StPA*) will decide.
- (3) Before a decision goes into effect, the student will be given opportunity to make a statement.
- (4) The incorrect examination certificate will be revoked and, if appropriate, a new certificate issued. If the master's examination is declared "fail" due to deceitful practices, the examination certificate as well as the degree certificate will be revoked.
- (5) Revocation of the academic degree will be handled in accordance with statutory provisions.

### **§ 22 Inspection of examination records**

On request and within one year of the conclusion of the examination procedure, students are permitted to inspect their written examination records, the examiners' evaluations as well as the examination minutes.

### **§ 23 Legal recourse**

The student can object to decisions in the examination procedure that constitute an administrative act (§§ 68 et. seq. *VwGO*). The Vice-rector for Academic Affairs will issue a ruling on the matter following a recommendation of the Central Examination Board, which will hear the Examination Board *StPA* on that matter.

### **§ 24 Effective date and transitional provisions**

- (1) These examination regulations come into effect on 01 October 2018.
- (2) At the same time, the previously valid version of the study and examination regulations dated 08 November 2013 (*Amtliche Bekanntmachungen* no. 86/2013), as amended 22 April 2014 (*Amtliche Bekanntmachungen*. no. 19/2014), subject to para. 3, becomes invalid.
- (3) Students who began their study programme before these new examination regulations became effective, continue their studies in accordance with the regulations that have applied so far. Upon request, they can continue their studies in accordance with the new regulations.

### **Attachment**

Study plan

### **Note:**

The modules that can be selected are described in the module guide of the master's programme in Social and Economic Data Science.

### **Note:**

These examination regulations as of 26 February 2018 were published in the *Amtlichen Bekanntmachungen* (official announcements) of the University of Konstanz no. 10/2018.

The amendment to these examination regulations as of 28 November 2019 was published in the *Amtliche Bekanntmachungen* of the University of Konstanz no. 51/2019.



# UNIVERSITÄT KONSTANZ

Study and examination regulations for the Master's Programme

SOCIAL AND ECONOMIC DATA SCIENCE

B 30.0

Attachment: Study plan

Semester	Module	ECTS	Course (type)	Department	WS/SS	DE/EN	ECTS	
1+2	Introduction to Computational Methods for the Social Sciences	9	Introduction to Computational Methods for the Social Sciences (L+T)	POL	WS	EN	9	
	Foundations of Data Science	18	<i>Focus Area Computer Science:</i> Data Visualization (L)	INF	WS	EN	6	
			Konzepte der Informatik und Programmierkurs I (L+T)	INF	SS	GER	6+6	
			<i>Focus Area Mathematics</i> Diskrete Mathematik und Logik	INF/MAT	WS	DE	9	
			Analysis und Lineare Algebra	INF/MAT	SS	DE	9	
			Datenmathematik	INF/MAT	WS	DE	9	
			Mathematik für Wirtschaftswissenschaftler (L+T)	MAT	WS	DE	9	
			Lineare Algebra I (L+T)	MAT	WS	DE	9	
			<i>Focus Area Social-scientific Methods:</i> Econometrics I (L+T)					
			Introduction to Survey Methodology (L+T)	OEK POL	SS WS	EN EN	8 9	
			Research Design I: Research Design and Causal Inference (VL)	POL	WS	EN	9	
			Methoden der empirischen Politik & Verwaltungsforschung (VL)	POL	WS	DE	9	
			Empirie: Quantitative Methoden Methoden I (VL)	SOZ	WS	DE	5	
			Methoden II (VL)	PSY PSY	WS SS	DE/EN DE/EN	5 5	
<i>Focus Area Statistics:</i> Statistics I (L+T)	OEK	SS	EN	6				
Statistik I (L+T)	PSY	WS	DE/EN	6				

<b>UNIVERSITY OF KONSTANZ</b> <b>Study and examination regulations for the Master's Programme</b> <b>SOCIAL AND ECONOMIC DATA SCIENCE</b>	<b>B 30.0</b>
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- 18 -

Semester	Module	ECTS	Course (type)	Department	WS/SS	DE/EN	ECTS
			Statistik (L+T)	POL	SS	DE	9
			Statistik I (L+T)	SOZ	SS	DE	7
2+3	Advanced Methods: Computer Science	18	Big Data (VL)	INF	SS	EN	6
			Algorithmen und Datenstrukturen und Programmierkurs II (L+T)	INF	SS	DE	9+3
			Datenbanksysteme (VL)	INF	SS	DE	9
			Konzepte der Programmierung und Programmierkurs III (L+T)	INF	WS	DE	6+6
	Advanced Methods: Statistics	18	Probability Theory and Statistical Inference (VL)	MAT	SS	EN	8
			Advanced Econometrics (VL)	OEK	WS	EN	10
			Microeconometrics (VL)	OEK	SS	EN	8
			Research Design II: Statistical Modelling and Inference (VL)	POL	SS	EN	9
			Applied Time Series Analysis (VL)	OEK	SS	EN	8
			Advanced Time Series Analysis (VL)	OEK	WS	EN	8
	Programming and Scripting	12	Data Analysis with R (S)	POL	WS/SS	EN	7
			Datenanalyse mit R (S)	POL	WS/SS	DE	7
			Programmierkurs I (Ü)	INF	WS	DE	6
			Programmierkurs II (Ü)	INF	SS	DE	3
			Programmierkurs III (Ü)	INF	WS	DE	6
	Social Science Applications	18	Computational Social Science Seminar (S)	POL			7
Using Digital Trace Data in the Social Sciences (S)			POL			7	
Advanced Data Challenge (S)			INF			6	
Data Science Project from the Social and Economic Science internship portal						6	
Internship						6	

<b>UNIVERSITY OF KONSTANZ</b> <b>Study and examination regulations for the Master's Programme</b> <b>SOCIAL AND ECONOMIC DATA SCIENCE</b>	<b>B 30.0</b>
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- 19 -

Semester	Module	ECTS	Course (type)	Department	WS/SS	DE/EN	ECTS
4	Master's Thesis	27	MA Colloquium Master's thesis		WS/SS	DE/EN	3 24

*Abbreviations:* L: Lecture; T: Tutorial; INF: Computer and Information Science; MAT: Mathematics and Statistics; OEK: Economics; POL: Politics and Public Administration; PSY: Psychology; SOZ: Sociology. WS: Winter semester; SS: Summer semester. DE: German; EN: English; DE/EN: German or English, depending on the situation.