Study and Exam Regulations of the University of Stuttgart for the master's degree program in Computer Science

dated August 1, 2013

On the basis of § 34 Para 1 Sentence 3 of the Landeshochschulgesetz (law on higher education in Baden-Württemberg) dated January 1, 2005 (GBl. 2005 p. 1), last amended by the law dated July 14, 2012 (GBl. p. 457), the senate of the University of Stuttgart decided on February 20, 2013 on the study and exam regulations below for the master's degree program in Computer Science.

The Rector of the University of Stuttgart agreed on this statute on August 1, 2013 in accordance with § 34 Para 1 Sentence 3 of the Landeshochschulgesetz, reference number 7831.175-C-04.

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Preamble

The study and exam regulations for the master's degree program in Computer Science describes the structure of the university studies and the organization of examinations. It represents the regulatory framework and the legal basis for administering study courses consistently and evaluating academic achievements and examinations. It is therefore aimed both at students and examiners as well as the relevant organs of the University of Stuttgart.

I. General

§ 1 Purpose of the examination

The master's examination is an additional degree in a student's university studies which qualifies them for a profession. The master's examination should determine whether the student has acquired the ability to independently deal with and develop scientific issues in their master's subject using relevant methods, and to apply them in complex situations beyond the aims of their bachelor's degree program.

Furthermore, the aim of the international master's degree program in Computer Science is for students to acquire the subject knowledge in English and to prepare them for highly-skilled jobs in an international environment through a range of technically-oriented study profiles. All students must therefore have a thorough understanding of English.

The modules required to complete the course successfully are taught and examined in English.

§ 2 Master's degree

Upon passing the master's examination, the University of Stuttgart awards the academic title "Master of Science" ("M.Sc.").

§ 3 Credit point system and modules

(1) Students must earn credits during the course of their university studies. They are a quantitative measure of the amount of time students spend on their university studies. On average, 30 credits are to be earned per semester. This corresponds to about 900 hours of work. Earning credits requires successfully taking part in courses or completing certain academic achievements, and is subject to passing the respective module examinations or sub-module examinations.

(2) The university studies are divided into modules, for which a certain amount of credits are awarded after passing the module examinations or the sub-module examinations. The modules include related courses and generally last one, but sometimes a maximum of two semesters.

§ 4 Program structure, standard period of study, credits

(1) The standard period of study is four semesters. This includes the module examinations as well as the master's thesis.

(2) The total number of credits required to be awarded a master's degree is 120. Of this number, 30 credits are for the master's thesis and 90 for academic achievements and examinations throughout the university studies.

(3) Credits can only be earned through academic achievements and examinations which have been assessed as at least being "satisfactory" or "participated successfully". The distribution of credits to the individual modules and events in the compulsory elective and elective subject area is stipulated in the annex to this regulation.

§ 5 Program and exam structure

(1) The master's examination consists of module examinations throughout the course and a master's thesis. The courses cover three semesters and the master's thesis must be completed in the fourth semester.

Students must take compulsory modules worth a total of 9 credits and electives worth a total of 81 credits.

(2) The master's degree program in Computer Science covers three study profiles which differ from one another in terms of the range of compulsory modules and electives:

- Visual Computing (VC)
- Service Technology and Engineering (STE)
- Autonomous Systems in Computer Science (AUTCS)

(3) Compulsory modules and electives in the individual study profiles are stipulated in more detail in the annex on exam regulations. They are governed by a common framework, which is explained in more detail in the following paragraph.

(4) The compulsory modules of each study profile include a "Theoretical and Methodological Foundations" module for each respective study profile worth 6 credits as well as an "Advanced Seminar Computer Science" module worth 3 credits. The choice of electives is subject to the following restrictions. Four modules must be chosen worth a total of 24 credits from the CORE advanced catalogs in the respective study profile, two modules worth a total of 12 credits from the EXTENDED catalogs in the respective study profile, two modules worth a total of 12 credits from the BREADTH complementary catalogs as well as additional specialization modules worth a total of 30 credits from the ELECTIVE catalogs.

Modules worth a total of 12 credits from the EXTENDED catalog from the respective study profile as well as additional specialization modules worth a total of 30 credits can also be completed from other study programs at the University of Stuttgart. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the module handbook for the study program which the modules form part of. If the elective modules add up to more than 30 credits through a combination of different additional special modules, up to a maximum of 39 points can be gained here.

In the event that more than 30 credits are earned through a combination of modules, the overall grade is calculated based on the increased total number of credits. For example, if a student earns 36 credits from the complementary modules the final grade is based on a total of 126 credits.

Electives which are not chosen from the CORE, EXTENDED or BREADTH catalogs of the respective study profile or from the ELECTIVE catalogs must be referred to the Examination Committee for approval. Each student is assigned an advisor, who supports students in planning their university studies in order to ensure that their studies run smoothly. The student creates an individual study plan at the beginning of their university studies in consultation with their advisor, which sets out their study profile as well as the lectures for their first two semesters. Study profiles may only be changed at a later stage with approval from the Examination Committee. In the event of a change, the Examination Committee will provide a new advisor. The Examination Committee defines the rules about how a study plan should be structured and what it needs in order to be approved. After completing their second semester, the student shall create a study plan for the rest of their university studies together with their advisor.

§ 6 Examination deadlines

(1) The right to admission to examination for the master's degree program in Computer Science will lapse if the master's examination is not passed within nine semesters, unless the candidate is not responsible for the delay. The decision is made by the Examination Committee at the request of the candidate.

(2) Expectant mothers may exempt themselves from examinations in the last six weeks of their pregnancy unless they have explicitly declared themselves to be fit. This declaration must be submitted to the Head of Examination Committee in writing and can be revoked at any time. New mothers may not sit examinations until eight weeks after giving birth. This period shall be extended to twelve weeks for mothers having given birth prematurely or in the case of multiple births, or in the event of giving birth prematurely also by the period which could not be used according to Sentence 1. In the event of the death of a child, the mother can take examinations before the end of this period if she explicitly requests to do so providing this is not contradicted by the medical certificate. She is entitled to withdraw this declaration to the Head of Examination Committee at any time.

(3) Students with dependent children under eight years old living in the same household are entitled to complete certain academic achievements and examinations after the relevant deadlines. The decision to extend the deadline is made by the chair of the Examination Committee at the request of the candidate. Deadlines for retaking examinations can only be extended by a maximum of two semesters. The period of time for completing a master's thesis can only be extended within the framework of the deadline in accordance with § 22 Para 5. The authorization expires with the end of the semester in which the requirements named in Sentence 1 were waived. The deadline in Para 1 may be extended by a maximum of six semesters per child, providing the requirements listed in Sentence 1 have been present throughout this period. Otherwise, the authorization shall expire no later than the end of the semester in which the child turns eight years old. Students must provide the relevant evidence. Students are also obliged to disclose any changes to the requirements at the first opportunity.

(4) A student who is still able to study but who is not in a position to regularly attend classes or complete their academic work as expected due to a long-term illness or a permanent physical disability is entitled to complete certain academic achievements and examinations after the deadlines set. The decision to extend the deadline is made by the chair of the Examination Committee at the request of the candidate. Deadlines for retaking examinations can only be extended by a maximum of two semesters; otherwise the extension is a maximum of two years. The candidate must provide the relevant evidence, in particular medical certificates. If there is any doubt, it is possible to ask a doctor nominated by the university to submit a certificate. Changes to the requirements must be disclosed at the first opportunity.

(5) One job as an elected member of committees which are prescribed by law or the statutory organs of the university or Student Services for at least a year can remain uncompleted for at least one academic year when calculating the examination deadlines. A decision on this shall be made by the Rector if requested by the candidate.

§ 7 Examination Committee

(1) Faculty 5: Computer Science, Electrical Engineering and Information Technology forms an examination committee for organizing examinations and performing all other tasks assigned to it by this regulation. The chair of the Examination Committee, the member representing him or her in the event of his/her absence as well as its representatives are appointed by the faculty board of Faculty 5: Computer Science, Electrical Engineering and Information Technology. The Examination Committee is made up of the following:
   1. three university professors or adjunct professors, providing that they are employed at the University of Stuttgart in a full-time capacity,
   2. a member of the scientific service,
   3. a student (in an advisory capacity).
Only a university professor or adjunct professor in the sense of no. 1 may lead the Examination Committee, even in a representative capacity. The business of the Examination Committee is generally conducted by the chair. Furthermore, the board can delegate certain tasks to the chair on a revocable basis.

(2) The members serve a two-year term in office, while the student members serve for one year.

(3) The Examination Committee ensures that the provisions of this regulation are observed. It reports regularly to the faculty regarding the development of examination and study periods as well as about the allocation of overall grades. The Examination Committee must ensure that academic achievements and examinations can be carried out during the periods specified in the regulation. For this purpose, students should be informed at the appropriate time about the type and number of academic achievements and examinations to be carried out as well as the relevant deadlines to be met.

(4) The members of the Examination Committee have the right to be present when the exams are being taken.

(5) The members of the Examination Committee and their representatives are subject to official secrecy. If they are not public sector employees they must be sworn to secrecy by the chair.

(6) Negative decisions by the Examination Committee or its chair must be notified to the candidate in writing with an explanation without delay, stating the legal basis and including information on the right to appeal. Appeals against this decision must be submitted to the Examination Committee in writing within a month after the decision has been announced. If the Examination Committee does not redress the appeal, it must be submitted to the Vice Rector for Teaching and Advanced Education for a decision to be made.

§ 8 Examiners and assessors

(1) The examiners are appointed by the Examination Committee. It can delegate this job to the chair. The assessors are appointed by the examiners.

(2) As a general rule, only university professors, honorary professors, university staff or Privatdozenten are authorized to hold examinations which are not related to a course, as well as such academic staff and teaching staff who have been given permission in accordance with the legal regulations. Senior assistants, senior engineers, research assistants, academic staff or teaching staff with special tasks can only then be appointed as examiners in exceptional cases when university teachers and university lecturers or Privatdozenten are not available to serve as examiners in sufficient numbers.

(3) The member of the teaching staff who gave the course is usually appointed as an examiner for academic achievements and course-related examinations.

(4) The assessor must have at least passed a master's examination in Computer Science, Informatics, Software Engineering or an exam of the same value.

(5) § 7 Para 5 shall apply for examiners and assessors accordingly.

(6) The examination date and the names of the examiners must be given to the persons to be examined at an appropriate time by posting it on a noticeboard or by other means. There is no legal right to be allocated a specific examiner.

§ 9 General admission requirements

(1) A student can only be admitted to a module examination or a master's thesis if they

1. have enrolled on the master's degree program in Computer Science at the University of Stuttgart at the time of registering for the examination,
2. fulfill the subject-specific admission requirements for the specific examination,
3. have presented the approved study plan according to § 5 Para 4 for admission to the modules of the compulsory elective subject area,
4. can demonstrate that they have fulfilled the requirements for admission to the master's thesis, providing that they have fulfilled the requirements, and
5. have not lost the right to admission to examination in the master's degree program in Computer Science or a study program with related content at a university or equivalent higher education institution in Germany. In a related study program this only applies to the loss of right to admission to examination in examinations or modules which are also required in the master's degree program in Computer Science. Related study programs include in particular Computer Science, Software Engineering, Information Systems, Medical Informatics, Media Informatics as well as Bioinformatics. The Examination Committee shall decide about which other study programs are considered to be related.

(2) The application for admission must be submitted to the Examination Office in the required form for each module examination. Providing they are not already in the possession of the university, the following documents must be attached to the application:

    1. evidence of the admission requirements named in Para 1 No. 1 to 5, and
    2. an explanation of whether the candidate has already failed a master's examination or an examination in a study program with related content in accordance with Para 1 No. 5 or whether they are currently being examined in such a course.

(3) If it is not possible for the candidate to attach the documents in the required manner, the Examination Committee can allow for the proof to be provided in a different way on a case-by-case basis.

(4) If not all documentary evidence can be supplied when registering for examinations, the admission for examination can be granted on condition that the missing evidence is submitted after the examination date. The candidate must make sure that the missing evidence is submitted no later than when the examination is being graded.

(5) The Examination Committee shall decide on the admission to examination. A candidate shall be considered as having been admitted to examination providing their application has not been denied within a month of submission.

(6) Admission may only be denied when

    1. the requirements listed in Para 1 have not been met, or
    2. the documentation in accordance with Para 2 is incomplete, or
    3. the candidate has lost the right to admission to examination in the master's degree program in Computer Science or a study program with related content as per Para 1 No. 5 at a university or equivalent higher education institution in Germany or they are currently being examined in such a course.

(7) The reporting deadlines for the examinations are announced by the Examination Office of the University of Stuttgart.

§ 10 Module examinations, academic achievements and examinations

(1) The module examination is made up of one or many academic achievements and/or examinations.

(2) Academic achievements include
    1. preliminary requirements,
    2. non-graded proofs of achievement,
    3. graded proofs of achievement

(3) Examinations include
    1. written examinations,
    2. oral examinations,
    3. course-related examinations.

(4) While examinations which do not form part of a course can be completed during a leave of absence, academic achievements and course-related examinations however cannot.

(5) If a candidate demonstrates that they are not in a position to complete their examinations in the originally planned form, either in whole or in part, due to a long-term illness or a chronic health condition by presenting a medical certificate, the person representing the Examination Committee shall permit him or her to complete the examinations within an extended period of time or to complete examinations of the same value in a different form. The same applies for academic achievements.

§ 11 Course language

Courses are always held in English. Courses can also be given in another language subject to giving prior notice. In this case, the academic achievements and/or examinations are always completed in the language in question.

§ 12 Academic achievements and course-related examinations

(1) Academic achievements and course-related examinations are completed throughout the study program. They are completed either via written or oral examinations (e.g. term papers, presentations) or by successfully completing an internship.

(2) At the beginning of the semester the course lecturer must announce the expected time, form and scale of the studies or the course-related examination to all students taking the course.

§ 13 Oral examinations

(1) In the oral examinations, the candidate should demonstrate that they have understood the fundamentals and contexts of the area to be examined and can put specific issues into a wider context.

(2) Oral examinations which are not related to a course are held before an examiner in the presence of a suitably qualified assessor either as a group examination or an individual examination.

(3) An oral examination lasts between a minimum of 20 and a maximum of 60 minutes. Providing the exact length of the examination is not stipulated in the annex to these exam regulations, it is set by the Examination Committee on the suggestion of the examiner and must be stated in the module handbook. It must be announced to the students at the beginning of each semester.

(4) The main subject matters of the oral examinations as well as the results have to be recorded in the form of a protocol, which must be signed by the examiner and the assessor. The result of the oral examination is determined by the respective examiner after consulting with the assessor, and communicated to the candidate directly after the examination.

(5) Students of the same study program can take part in the oral examinations as listeners on request according to the number of places available. This participation does not cover the discussion and notification of the examination result. The public can be excluded for important reasons or if it is requested by the candidate.

§ 14 Written examinations

(1) In written examinations, the candidate should demonstrate that they can recognize a problem and find ways to solve it using the methods of their subject in a limited time and with limited access to resources.

(2) Written examinations which are not related to a course must be assessed by at least one examiner. They must be assessed by two examiners if the first examiner suggests a candidate be given the grade "unsatisfactory" in the event of a retake. In this case, one of the examiners must be either a university professor or an adjunct professor. The grade here is calculated using the mean of the individual assessments (§ 15 Para 2 Sentence 3). The methods of assessment should be completed within four weeks.

(3) Written examinations last a minimum of 60 and a maximum of 180 minutes. Providing the exact length of the examination is not stipulated in the annex to these exam regulations, it is set by the Examination Committee on the suggestion of the examiner and must be stated in the module handbook. It must be announced to the students at the beginning of each semester. A 60-minute written exam can be replaced by a 15-minute oral examination if this is announced on a noticeboard at the relevant institute no more than four weeks before the examination date.

(4) Written examinations can be carried out in multiple choice format in part or in full. The respective examiners are responsible for defining and assessing the tasks. The examination tasks must make it possible to produce reliable results.

§ 15 Assessment of academic achievements and examinations, module grades

(1) Academic achievements in accordance with § 10 Para 2 No. 1 and 2 (preliminary requirements and non-graded proofs of achievement) are assessed as either "participated successfully" or "participated but without success". The former corresponds to at least a "sufficient" grade (4.0).

(2) Examinations and graded proofs of achievement as per § 10 Para 2 No. 3 are assessed by the respective examiner using the following grading system:

1 = very good	=	an outstanding performance;
2 = good	=	a performance which is significantly above the average requirements;
3 = satisfactory	=	a performance which meets the average requirements;
4 = sufficient	=	a performance which despite its faults still meets the requirements;
5 = insufficient	=	a performance which does not meet the requirements due to significant faults.

The grades can be increased or reduced by 0.3 to enable a more differentiated assessment of the academic achievements and examinations. Grades 0.7, 4.3, 4.7 and 5.3 are not awarded.
Providing that academic achievements or examinations are assessed by multiple examiners independently of one another, the grade is made up of the mean of the individual assessments; Para 3 Sentence 3 applies here accordingly.

(3) If a module is made up of several graded academic achievements and/or examinations, the grade shall be calculated using the weighted average of the grades from the individual academic achievements and/or examinations. The weighting of the individual academic achievements and/or examinations is stipulated in the module handbook. Only one place after the decimal is taken into account when calculating a grade; all other places are deleted without rounding.

(4) The module grades are as follows:

(on average) below 1.5	=	very good,
(on average) between 1.6 and 2.5	=	good,
(on average) between 2.6 and 3.5	=	satisfactory,
(on average) between 3.6 and 4.0	=	sufficient,
(on average) above 4.0	=	insufficient.

The module grade calculated as per Para 3 is added in parentheses.

§ 16 Absence, withdrawal, deception, breach of regulations

(1) An examination performance is considered to have been assessed as "insufficient" if the candidate misses an examination without good reason or if he or she withdraws from the examination after the beginning of the examination without good reason. The same applies when a written examination performance is not completed within the given period of time. It is possible for a candidate to withdraw from an examination for which they have already registered without giving a reason up to 7 days before the set examination date. This does not apply to course-related academic achievements or to retakes, which must be taken on the next examination date.

(2) The reasons for withdrawing from an examination or for being absent must be provided to the chair of the Examination Committee and the examiner in writing before the examination date. In case of illness, a medical certificate must be submitted to the chair of the Examination Committee (as a general rule within 3 working days) stating that the candidate is not fit to sit an examination. This certificate should state the expected length of time that the person will be unfit to sit the examination. The illness of the candidate is considered the same as the illness of a child for whom the person is overwhelmingly responsible for providing or caring for a close relative when it concerns meeting the deadlines for first registering for an examination, retaking examinations, the reasons for being absent from examinations and complying with processing times for examinations. If the chair acknowledges the reasons for being absent, the candidate must take the exam on the next examination date providing no separate deadline has been set; in this case credit must be given for module achievements which have already been completed. Otherwise, it is considered to be assessed as "insufficient" (5.0).

(3) If a candidate has taken an examination knowing of or negligently not knowing of a valid reason to withdraw from the examination, it is not possible to withdraw retrospectively for this reason. A negligent lack of knowledge shall particularly be considered to exist if the candidate has not immediately clarified the situation if there are any indications of health problems.

(4) If a candidate tries to influence the result of their academic achievements or examinations by cheating or by using inadmissible aids, the corresponding academic or examination performance or master's thesis is assessed as "insufficient". The sanction provided for in Sentence 1 can also be implemented if a candidate uses inadmissible aids after the task has been issued. A candidate who disrupts the orderly conduct of the examination may be excluded from continuing the academic achievement or examination by the examiner or the supervisor; in such cases the relevant academic or examination performance is assessed as "insufficient". In serious cases, the Examination Committee can exclude the candidate from completing further academic achievements or examinations.

§ 17 Passing and failing

(1) A module examination is considered to have been passed if all examinations and graded proofs of achievement as per § 10 Para 2 No. 3 have been assessed as being at least "sufficient" (4.0) and all preliminary requirements and non-graded proofs of achievement as per § 10 Para 2 No. 1 and 2 have been passed.

(2) The master's examination is considered to be passed if the master's thesis has been given a grade of at least "sufficient" (4.0) and the related module examinations have been passed.

(3) If the candidate has not passed a module examination or the master's thesis, a written assessment on the matter is given with information on the right to appeal, which also gives information about whether, and if so to what extent, the module examination or the master's thesis can be repeated. With module exams, candidates can also be informed about their results in a different way.

(4) If a candidate has not passed their master's examination at the final attempt, a certificate is issued upon request to the Examination Office and presentation of the relevant evidence containing the academic achievements and examinations completed, along with the grades achieved as well as the academic achievements and examinations which are still missing in order to pass the master's examination, and acknowledging that the person has not passed the examination.

§ 18 Repeating examinations

(1) Academic achievements and examinations which have been passed cannot be retaken.

(2) Examinations which have not been passed or which are considered to not have been passed can be retaken once.

(3) An exam may only be retaken for a second time for one of **three** reasons. It is not permitted to retake the master's thesis twice.

(4) If the second retake of a written examination is assessed as being "insufficient" (5.0), it is followed by an oral extension shortly afterwards of 20-30 minutes in length. This does not apply in the cases of § 16 Para 1 Sentence 1 as well as Para 4 § 18 Para 5 Sentence 2. In this instance, the result of the retake, including the oral review, can only be "sufficient" (4.0) or "insufficient" (5.0). § 13 shall apply when conducting the oral review.

(5) Retakes must be completed no later than the next examination date. Otherwise, it must be given the grade "insufficient" (5.0). This does not apply in the event of a leave of absence. The chair of the Examination Committee can approve a withdrawal from an examination as per § 16 Para 2 if there are valid reasons for doing so.

§ 19 Recognition of periods of study, academic achievements and examinations

(1) The representative of the Examination Committee is responsible for recognizing academic achievements and examinations. He or she can refer doubtful cases to the Examination Committee for a decision to be made.

(2) Academic achievements and examinations which are completed in study programs at the University of Stuttgart or at other state or state-recognized universities and vocational universities in Germany or in study programs at state or state-recognized universities overseas are recognized, providing that they do not significantly differ from the achievements they replace in terms of the skills acquired. There is in any event no significant difference if the content, learning objectives and scope essentially correspond with the requirements of the module at the University of Stuttgart. If individual achievements required for certain academic achievements and examinations to be recognized are lacking, the Examination Committee can specify additional achievements to be completed. The help of the relevant professor may be called upon in examining the requirements mentioned above. Providing agreements and conventions between the Federal Republic of Germany and other countries on the equivalence of degrees in higher education (equivalency agreements) encourage overseas students contrary to Sentence 1, the regulations of the equivalency agreement shall apply. The recognition can be withheld if more than half of the credits to be earned are due to be recognized from the master's examination or the master's thesis.

(3) Para 2 shall apply accordingly for periods of study, academic achievements and examinations in state-recognized distance learning courses; Para 2 shall likewise apply for periods of study, academic achievements and examinations at other educational facilities, in particular at technical colleges and schools of engineering and officer schools in the former German Democratic Republic.

(4) If academic achievements and examinations are recognized, the grades, providing the grading system is comparable, must be accepted and included in the evaluation matrix specified in § 16 when calculating the overall grade. If the grading system is not comparable, the word "passed" is entered. In this case, it is not included when calculating the module grades and the overall grade. Recognition of the achievement may be marked on the certificate.

(5) If the requirements of Paras 2 and 3 are met, there is a legal entitlement to recognition. Academic achievements and examinations are recognized on request. The application must be made within two semesters of enrolling in a study program or after returning from studying abroad; applications made at a later stage are excluded. It is the responsibility of the person submitting the application to provide the required information and documents relating to the performances to be recognized. The burden of proof that an application does not meet the requirements for recognition lies with the office as per Para 1 which carries out the recognition process.

(6) Periods of study from previous university studies are accredited according to the performances recognized. This means that placement into a certain semester is based on the extent of the performances recognized.

II. Master's examination

§ 20 Purpose of the master's examination

The master's examination should determine whether the students have acquired the ability beyond the aims of their bachelor's degree program to independently deal with and develop scientific issues in their master's subject using relevant methods.

§ 21 Type and scope of master's examination

(1) The master's examination consists of

    1. the modules listed in the annex to these exam regulations,
    2. the master's thesis.

§ 22 Master's thesis

(1) The master's thesis should demonstrate that the candidate is able to perform a task in the field of Computer Science independently using scientific methods within a set period of time and to present the results in an appropriate manner. The master's thesis is worth 30 credits.

(2) The master's thesis can only be released and assessed by professors, university lecturers or Privatdozenten from the master's degree program in Computer Science who are part of the Department of Computer Science. In justified exceptional cases, the Examination Committee can also allow the topic of the master's thesis to be issued by a professor, university lecturer or Privatdozent from the same faculty, a different faculty or another university.

(3) The topic of the master's thesis cannot be issued before the student has earned at least 60 credits, and providing the student has demonstrated that they have fulfilled the requirements for admission to the master's thesis. After the topic has been assigned by the examiner or the chair of the Examination Committee, the candidate must register the master's thesis with the Examination Office at the first opportunity. The topic and the time when the topic was released must be recorded. The topic can only be returned once and only within the first three months of the processing time.

(4) The master's thesis may also be submitted in the form of a piece of group work if the contribution from the candidate can be unambiguously demarcated based on sections, page numbers or other objective criteria, if it is clearly distinguishable and can be assessed and if it meets the requirements of Para 1.

(5) The time limit for the master's thesis is six months. The type and scope of the task must be limited by the examiner so that the intended deadline for processing can be met. The time limit can be extended by the Examination Committee by a maximum of three months on request by the person to be examined for reasons which are beyond his or her control.

(6) As a general rule, the master's thesis should be written in English. The examiner can also allow the master's thesis to be written in another language if requested by the candidate. In this case, the piece of work must have a summary written in English attached as an annex. The master's thesis can also include multimedia components on electronic data carriers alongside a printed text, providing the topic requires it and the examiners have given their consent.

(7) The finished master's thesis must be submitted to the Examination Committee in four bound copies within the time limit as per Para 5. A copy in electronic form must also be submitted. The time of submission must be recorded. When submitting the research project, the candidate must ensure in writing
　　1. that he or she has completed the work or the part of the group work marked as such independently,
　　2. that he or she has not used any sources other than those stated, and has marked all parts of the text taken either verbatim or in spirit from other pieces of work accordingly,
　　3. that the piece of work submitted has not been the subject of another examination procedure, either in full or to a significant extent,
　　4. that the work has not been published either in part or in full, and
　　5. that the electronic version corresponds with other versions.

(8) Part of the master's thesis is a presentation about its content.

(9) The master's thesis is assessed by two examiners, of whom one is the person who assigned the topic in accordance with Para 2. One of the examiners must be a university professor or adjunct professor at the University of Stuttgart. He or she assesses the master's thesis using one of the grades listed in § 15. The grade for the master's thesis is formed from the average of the two individual assessments. The assessment process should be completed after no more than two months.

(10) The master's thesis can be repeated once if it is given a grade of "insufficient" (5.0). If the candidate is repeating his or her master's thesis, he or she is only allowed to return the topic of the master's thesis within the period of time specified in Para 3 if the candidate has not used this option when producing their first master's thesis. A wish to retake the master's thesis must be registered with the Examination Office within six months of the result of the examination being announced. Otherwise, the retake is assessed as being "insufficient" (5.0), unless the candidate is not responsible for the missed deadline. The decision is made by the Examination Committee at the request of the candidate.

§ 23 Calculation of overall grade and certificate

(1) The overall grade of the master's examination is made up of the average of the grades for the modules which make up the master's examination as well as the grade from the master's thesis, weighted according to the number of credits for the module or the master's thesis respectively. § 15 Para 3 and 4 shall apply to the calculation accordingly.

(2) Outstanding performances (overall grade up to 1.2) are assessed with "Very good, with distinction".

(3) If the candidate has passed the master's examination, he or she receives a certificate. Alongside the overall grade, the certificate also includes the individual module grades and the grade for the master's thesis. The overall grade is given to one decimal place. The study profile chosen is also stated on the certificate, which is signed by the chair of the Examination Committee. It bears the date when the last exam was taken. A translation of the certificate in English is issued.

(4) The university issues a Diploma Supplement (DS), corresponding to the "Diploma Supplement Model" of the European Union/Council of Europe/UNESCO, which outlines the study program.

§ 24 Higher-education degree and master's degree certificate

(1) The title of "Master of Science" (M.Sc.) is awarded upon passing the master's degree examination.

(2) At the same time as receiving the master's examination certificate, the candidate also receives a master's degree certificate bearing the same date as the examination certificate. This certifies that the degree has been awarded in accordance with Para 1. A translation of the certificate in English is also issued.

(3) The master's degree certificate is signed by the Office of the Dean of Faculty 5: Computer Science, Electrical Engineering and Information Technology and the Rector of the University of Stuttgart, and furnished with the seal of the university.

III. Final provisions

§ 25 Inspection of examination files

(1) Within a year of concluding an examination procedure, the candidate can, on request and with reasonable notice, inspect their written examinations, the reviews made on them by the examiners, and the official examination minutes.

(2) An application to this effect must be submitted in writing to the chair of the Examination Committee.

§ 26 Invalidity of an examination

(1) If the candidate has cheated in an academic or examination performance and if this only comes to light after the certificate has been issued, the grade for the academic or examination performance in which the candidate has cheated can be amended. If necessary, the module examination can be declared to be "insufficient" and the master's examination to be "not passed".

(2) If the requirements for admission to an examination had not been met without the candidate intending to cheat in this respect, and this only comes to light after the certificate has been issued, this situation can be remedied by passing this examination. If the candidate has deliberately gained fraudulent admission to the exam, the module examination can be declared to be "insufficient" and the master's examination to be "not passed".

(3) The candidate must be granted the opportunity to make a statement before the decision is reached.

(4) The incorrect examination certificate must be withdrawn and a new certificate issued if appropriate. The master's degree certificate must also be withdrawn if the examination has been declared to be "not passed" due to an act of deception in the sense of Para 1. A decision pursuant to Para 1 and Para 2 Sentence 2 is excluded after a period of five years from the date on the examination certificate.

§ 27 Entry into force and interim regulations

(1) These exam regulations shall enter into force on October 1, 2013.

Stuttgart, August 1, 2013

Prof. Wolfram Ressel
(Rector)

**Annex: Overview of module examinations
(study profile: Visual Computing)**

No.	Module	Compulsory/ elective	Semester 1	Semester 2	Semester 3	Semester 4	Academic achievement	Examination/ duration	Credits
1	Theoretical and Methodological Foundations of Visual Computing	C	x				P	EP	6
2	Key Qualifications	E		x			NGC		3
	Specialization modules (No. 3-16):								
3	Advanced Seminar Computer Science	C	x	x			GC		3
	Catalog worth 6 credits:								
4	CORE-VC 1	E	x	x			P	EP	6
5	CORE-VC 2	E	x	x				EP	6
6	CORE-VC 3	E	x	x			GC	EP	6
7	CORE-VC 4	E	x	x				CRE	6
8	EXTENDED-VC 1	E	x	x			P	EP	6
9	EXTENDED-VC 2	E	x	x				EP	6
10	EXTENDED-VC 3	E	x	x			GC	EP	6
11	EXTENDED-VC 4	E	x	x				CRE	6
12	BREADTH-VC 1	E	x	x			P	EP	6
13	BREADTH-VC 2	E	x	x				EP	6
14	BREADTH-VC 3	E	x	x			GC	EP	6
15	BREADTH-VC 4	E	x	x				CRE	6
16	ELECTIVE 1	E			x	x	P	EP	6
17	ELECTIVE 2	E			x	x		EP	6
18	ELECTIVE 3	E			x	x	GC	EP	6
19	ELECTIVE 4	E			x	x		CRE	6
20	ELECTIVE 5	E			x	x		CRE	12
17	Master's thesis	C				x		EP	30

(For implementing provisions see next page)

Explanations:

1. Explanation of abbreviations:
   - C = compulsory module; E = elective
   - P = preliminary requirement; NGC = non-graded coursework; GC = graded coursework
   - EP = examination performance; W = written examination; O/45 = oral examination 45 minutes in length; CRE = course-related examination

2. The semesters in which the module should be taken are marked by an "x".
3. If only "EP" is stated in the "examination/duration" column or the duration of the examination is not specified, the type and scope of the examination must be specified in the module handbook.

4. If "CRE" or "CRE", "EP" is stated in the "examination/duration" column, the type and scope of the examination is disclosed by the teachers at the start of the semester.

Implementing provisions:

No. 2: A module worth 3 credits from the University of Stuttgart's catalog for interdisciplinary key competencies or the key competencies module "Key Qualifications in Tutoring Computer Science" (3 CP) must be completed successfully. Alternatively, the module can be completed by successfully participating in a language course (German/English). Language courses taken outside the University of Stuttgart (meaning not IA or SZ), can be recognized by the Examination Committee.

No. 3-16: Specialization modules

No. 3: One module worth 3 credits must be chosen from the "Advanced Seminar Computer Science" catalog. The list of seminars on offer is announced on a noticeboard before the beginning of the semester.

No. 4-7: Four advanced modules worth 6 credits each from the CORE-VC 1-4 catalogs must be completed, meaning modules worth a total of 24 credits. The advanced modules which may be chosen are stipulated in the module handbook.

No. 8-11: Modules worth a total of 12 credits from the EXTENDED-VC 1-4 catalog must be completed successfully. The modules which may be chosen are stipulated in the module handbook. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the module handbook for the study program which the modules form part of.

No. 12-15: Modules worth a total of 12 credits from the BREADTH-VC 1-4 catalog must be completed successfully. The modules which may be chosen are stipulated in the module handbook. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the module handbook for the study program which the modules form part of.

No. 16-20: Additional specialization modules worth a total of 30 credits from the ELECTIVE 1-5 catalogs must be completed successfully. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. If modules from other study programs are chosen, the type and scope of the academic achievements and examinations to be completed must comply with the exam regulations and the module handbook of the study program which the modules form part of. If the combination of different complementary modules add up to more than 30 credits, up to a maximum of 39 credits can be gained here. In the event that more than 30 credits are earned through a combination of modules, the overall grade is calculated based on the increased total number of credits. For example, if a student earns 36 credits from the complementary modules, the final grade is based on a total of 126 credits. Subject to the requirements of § 19, the additional specialization modules can also be earned while studying abroad.
Regardless of this, all additional specialization modules must be approved by the Examination Committee.

Other notes on No. 8-20: The Examination Committee can approve a request for replacing 6 credits from one of the EXTENDED-VC 1-4 catalogs, one of the BREADTH-VC 1-4 catalogs, as well as from the ELECTIVE 1-5 catalogs with modules from the bachelor's degree program in Computer Science, Software Engineering or other information technology-related study programs. This therefore refers to modules worth up to 18 credits. Only modules which can be considered as direct introductions to the modules contained in the CORE-VC 1-4 catalogs may be chosen. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the module handbook for the respective study program. Modules which have already been completed successfully in the bachelor's degree program may not be chosen.

Annex: Overview of module examinations
(study profile: Technology and Engineering)

No.	Module	Compulsory/ elective	Semester				Academic achievement	Examination/ duration	Credits
			1	2	3	4			
1	Theoretical and Methodological Foundations of Services Technology and Engineering	C	x				P	EP	6
2	Key Qualifications	E		x			NGC		3
	Specialization modules (No. 3-16):								
3	Advanced Seminar Computer Science	C	x	x			GC		3
	Catalog worth 6 credits:								
4	CORE-STE 1	E	x	x			P	EP	6
5	CORE-STE 2	E	x	x				EP	6
6	CORE-STE 3	E	x	x			GC	EP	6
7	CORE-STE 4	E	x	x				CRE	6
8	EXTENDED-STE 1	E	x	x			P	EP	6
9	EXTENDED-STE 2	E	x	x				EP	6
10	EXTENDED-STE 3	E	x	x			GC	EP	6
11	EXTENDED-STE 4	E	x	x				CRE	6
12	BREADTH-STE 1	E	x	x			P	EP	6
13	BREADTH-STE 2	E	x	x				EP	6
14	BREADTH-STE 3	E	x	x			GC	EP	6
15	BREADTH-STE 4	E	x	x				CRE	6
16	ELECTIVE 1	E		x	x		P	EP	6
17	ELECTIVE 2	E		x	x			EP	6
18	ELECTIVE 3	E		x	x		GC	EP	6
19	ELECTIVE 4	E		x	x			CRE	6
20	ELECTIVE 5	E		x	x			CRE	12
17	Master's thesis	C				x		EP	30

(For implementing provisions see next page)

Explanations:

5. Explanation of abbreviations:
   - C = compulsory module; E = elective
   - P = preliminary requirement; NGC = non-graded coursework; GC = graded coursework
   - EP = examination performance; W = written examination; O/45 = oral examination 45 minutes in length; CRE = course-related examination

6. The semesters in which the module should be taken are marked by an "x".
7. If only "EP" is stated in the "examination/duration" column or the duration of the examination is not specified, the type and scope of the examination must be specified in the module handbook.
8. If "CRE" or "CRE", "EP" is stated in the "examination/duration" column, the type and scope of the examination is disclosed by the teachers at the start of the semester.

Implementing provisions:

No. 2: A module worth 3 credits from the University of Stuttgart's catalog for interdisciplinary key competencies or the key competencies module "Key Qualifications in Tutoring Computer Science" (3 CP) must be completed successfully. Alternatively, the module can be completed by successfully participating in a language course (German/English).

Language courses taken outside the University of Stuttgart (meaning not IA or SZ), can be recognized by the Examination Committee.

No. 3-16: Specialization modules

No. 3: One module worth 3 credits must be chosen from the "Advanced Seminar Computer Science" catalog. The list of seminars on offer is announced on a noticeboard before the beginning of the semester.

No. 4-7: Four advanced modules worth 6 credits each from the CORE-STE 1-4 catalogs must be completed, meaning modules worth a total of 24 credits. The advanced modules which may be chosen are stipulated in the module handbook.

No. 8-11: Modules worth a total of 12 credits from the EXTENDED-STE 1-4 catalog must be completed successfully. The modules which may be chosen are stipulated in the module handbook. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the module handbook for the study program which the modules form part of.

No. 12-15: Modules worth a total of 12 credits from the BREADTH-STE 1-4 catalog must be completed successfully. The modules which may be chosen are stipulated in the module handbook. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the module handbook for the study program which the modules form part of.

No. 16-20: Additional specialization modules worth a total of 30 credits from the ELECTIVE 1-5 catalogs must be completed successfully. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. If modules from other study programs are chosen, the type and scope of the academic achievements and examinations to be completed must comply with the exam regulations and the module handbook of the study program which the modules form part of. If the combination of different complementary modules add up to more than 30 credits, up to a maximum of 39 credits can be gained here. In the event that more than 30 credits are earned through a combination of modules, the overall grade is calculated based on the increased total number of credits. For example, if a student earns 36 credits from the complementary modules, the final grade is based on a total of 126 credits. Subject to the requirements of § 19, the additional specialization modules can also be earned while studying abroad.
Regardless of this, all additional specialization modules must be approved by the Examination Committee.

Other notes on No. 8-20: The Examination Committee can approve a request for replacing 6 credits from one of the EXTENDED-STE 1-4 catalogs, one of the BREADTH-STE 1-4 catalogs, as well as from the ELECTIVE 1-5 catalogs with modules from the bachelor's degree program in Computer Science, Software Engineering or other information technology-related study programs. This therefore refers to modules worth up to 18 credits. Only modules which can be considered as direct introductions to the modules contained in the CORE-STE 1-4 catalogs may be chosen. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the

module handbook for the respective study program. Modules which have already been completed successfully in the bachelor's degree program may not be chosen.

Annex: Overview of module examinations
(Study profile: Autonomous Systems in Computer Science)

No.	Module	Compulsory/ elective	Semester 1	2	3	4	Academic achievement	Examination/ duration	Credits
1	Theoretical and Methodological Foundations of Autonomous Systems	C	x				P	EP	6
2	Key Qualifications	E		x			NGC		3
	Specialization modules (No. 3-16):								
3	Advanced Seminar Computer Science	C	x	x			GC		3
	Catalog worth 6 credits:								
4	CORE-AUTCS 1	E	x	x			P	EP	6
5	CORE-AUTCS 2	E	x	x				EP	6
6	CORE-AUTCS 3	E	x	x			GC	EP	6
7	CORE-AUTCS 4	E	x	x				CRE	6
8	EXTENDED-AUTCS 1	E	x	x			P	EP	6
9	EXTENDED-AUTCS 2	E	x	x				EP	6
10	EXTENDED-AUTCS 3	E	x	x			GC	EP	6
11	EXTENDED-AUTCS 4	E	x	x				CRE	6
12	BREADTH-AUTCS 1	E	x	x			P	EP	6
13	BREADTH-AUTCS 2	E	x	x				EP	6
14	BREADTH-AUTCS 3	E	x	x			GC	EP	6
15	BREADTH-AUTCS 4	E	x	x				CRE	6
16	ELECTIVE 1	E		x	x		P	EP	6
17	ELECTIVE 2	E		x	x			EP	6
18	ELECTIVE 3	E		x	x		GC	EP	6
19	ELECTIVE 4	E		x	x			CRE	6
20	ELECTIVE 5	E		x	x			CRE	12
17	Master's thesis	C				x		EP	30

(For implementing provisions see next page)

Explanations:

9. Explanation of abbreviations:
   - C = compulsory module; E = elective
   - P = preliminary requirement; NGC = non-graded coursework; GC = graded coursework

- EP = examination performance; W = written examination; O/45 = oral examination 45 minutes in length; CRE = course-related examination

10. The semesters in which the module should be taken are marked by an "x".
11. If only "EP" is stated in the "examination/duration" column or the duration of the examination is not specified, the type and scope of the examination must be specified in the module handbook.
12. If "CRE" or "CRE", "EP" is stated in the "examination/duration" column, the type and scope of the examination is disclosed by the teachers at the start of the semester.

Implementing provisions:

No. 2: A module worth 3 credits from the University of Stuttgart's catalog for interdisciplinary key competencies or the key competencies module "Key Qualifications in Tutoring Computer Science" (3 CP) must be completed successfully. Alternatively,

the module can be completed by successfully participating in a language course (German/ English). Language courses taken outside the University of Stuttgart (meaning not IA or SZ), can be recognized by the Examination Committee.

<u>No. 3-16: Specialization modules</u>

No. 3: One module worth 3 credits must be chosen from the "Advanced Seminar Computer Science" catalog. The list of seminars on offer is announced on a noticeboard before the beginning of the semester.

No. 4-7: Four advanced modules worth 6 credits each from the CORE-AUTCS 1-4 catalogs must be completed, meaning modules worth a total of 24 credits. The advanced modules which may be chosen are stipulated in the module handbook.

No. 8-11: Modules worth a total of 12 credits from the EXTENDED-AUTCS 1-4 catalog must be completed successfully. The modules which may be chosen are stipulated in the module handbook. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the module handbook for the study program which the modules form part of.

No. 12-15: Modules worth a total of 12 credits from the BREADTH-AUTCS 1-4 catalog must be completed successfully. The modules which may be chosen are stipulated in the module handbook. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. The type and scope of the academic achievements and examinations to be completed in this instance conform with the exam regulations and the module handbook for the study program which the modules form part of.

No. 16-20: Additional specialization modules worth a total of 30 credits from the ELECTIVE 1-5 catalogs must be completed successfully. The Examination Committee can approve complementary modules which can also be taken from other study programs at the University of Stuttgart. If modules from other study programs are chosen, the type and scope of the academic achievements and examinations to be completed must comply with the exam regulations and the module handbook of the study program which the modules form part of. If the combination of different complementary modules add up to more than 30 credits, up to a maximum of 39 credits can be gained here. In the event that more than 30 credits are earned through a combination of modules, the overall grade is calculated based on the increased total number of credits. For example, if a student earns 36 credits from the complementary modules, the final grade is based on a total of 126 credits. Subject to the requirements of § 19, the additional specialization modules can also be earned while studying abroad.
Regardless of this, all additional specialization modules must be approved by the Examination Committee.

Other notes on No. 8-20: The Examination Committee can approve a request for replacing 6 credits from one of the EXTENDED-AUTCS 1-4 catalogs, one of the BREADTH-AUTCS 1-4 catalogs, as well as from the ELECTIVE 1-5 catalogs with modules from the bachelor's degree program in Computer Science, Software Engineering or other information technology-related study programs. This therefore refers to modules worth up to 18 credits. Only modules which can be considered as direct introductions to the modules contained in the CORE-AUTCS 1-4 catalogs may be chosen. The type and scope of the academic achievements and examinations to be completed in this instance

conform with the exam regulations and the module handbook for the respective study program. Modules which have already been completed successfully in the bachelor's degree program may not be chosen.