This is a translation of the regulatory text as promulgated in the Official Announcements No. 19 dated June 28, 2011, p. 1655.
Only those regulations published by the Georg-August-Universität in its Official Announcements are legally binding. Any claims to rights or titles resulting from the English translation of these regulations are expressly excluded.

Faculty of Mathematics and Computer Science:

Pursuant to resolutions taken by the faculty councils of the Faculty of Mathematics/Computer Science and Mechanical Engineering of the Clausthal University of Technology dated 3 May 2011 and the Faculty of Mathematics and Computer Science of Georg-August-Universität Göttingen dated 24 March 2011 and pursuant to fast-track decisions made by the deans' offices of the Carl-Friedrich-Gauss Faculty of Technische Universität Braunschweig dated 24 March 2011 and of the Faculty of Electrical Engineering and Computer Science of Leibniz Universität Hannover dated 21 March 2011, the Presidential Board of Technische Universität Braunschweig on 24 March 2011, the Presidential Board of the Clausthal University of Technology on 19 May 2011, the Presidential Board of Leibniz Universität Hannover on 23 March 2011 and the Presidential Board of Georg-August-Universität Göttingen on 19 April 2011 approved the Examination Regulations for the jointly offered consecutive Master's Degree Programme in "Internet Technologies and Information Systems" (Section 44 para. 1 sentence 2 Lower Saxony Higher Education Act (NHG) in the version promulgated on 26 February 2007 (Lower Saxony Law and Ordinance Gazette [Nds. GVBl.] page 69), as amended by Article 1 of the law dated 10 June 2013 (Nds. GVBI. p. 242); Section 43 (1) sentence 5 NHG; Section 37 (1) No. 5 b) NHG).

Master's Examination Regulations for the International Master's Degree Programme in Internet Technologies and Information Systems

at the Technische Universität Braunschweig, Clausthal University of Technology, Georg-August-Universität Göttingen and Gottfried Wilhelm Leibniz Universität Hannover

Regulation 1
Responsible Institutions, Steering Committee

(1) The Master's Degree Programme "Internet Technologies and Information Systems" is jointly offered by the Technische Universität Braunschweig (Carl-Friedrich Gauß Faculty), the Clausthal University of Technology (Faculty of Mathematics/Computer Science and Mechanical Engineering), Georg-August-Universität Göttingen (Faculty of Mathematics and Computer Science), and Gottfried Wilhelm Leibniz Universität Hannover (Faculty of Electrical Engineering and Computer Science), referred to hereinafter as the "responsible institutions".

(2) [1]The responsible institutions appoint a joint Steering Committee. [2]This consists of two members from the professorial staff at each institution, one member of the non- professorial academic staff, as well as one member of the student body. [3]The representatives of the faculty

councils of each participating university elect the members of the Steering Committee, with a simple majority vote, from among their group. [4]These committee members are appointed for a two-year term. [5]Notwithstanding the aforementioned, the term for members from the student body is one year. [6]Should a member prematurely withdraw from office, a successor shall be appointed by the respective representatives of the faculty councils in accordance with the regular selection procedure. [7]Minutes of all meetings are taken.

Regulation 2

Purpose of the Comprehensive Master's Examination and Degree Award

(1) [1]The comprehensive Master's examination constitutes a further professional qualification building on a bachelor's degree. [2]The Master's examination is intended to determine whether the candidate has acquired the specialised knowledge and competencies necessary for professional practice, has a good understanding of how the various aspects of his/her discipline relate to each other, and is capable of working independently according to accepted scientific principles and of applying scientific findings.

(2) [1]After the successful completion of the Master's examination, the responsible institutions will award the academic degree of "Master of Science (M.Sc.)".

Regulation 3

Duration and Organisation of the Degree Programme

(1) [1]The official duration of the degree programme is four semesters. [2]The total time required for course attendance and individual study is 120 ECTS credits, each equivalent to 30 hours of classroom time or individual study.

(2) The programme consists of the following parts:

a) modules totalling at least 40 ECTS credits, including

(i) at least 10 credits each from theoretical, practical, and technical computer science and the key competency areas

(ii) a Soft Skills module worth 5 ECTS credits

(iii) a Business & Law module worth at least 5 ECTS credits

b) one or more research projects worth a total of 30 ECTS credits

c) field of specialisation: modules relevant to the research project that total at least 15 ECTS credits from the four key competency areas, with at least 10 credits in computer science

d) a Master's thesis module worth 30 ECTS credits

(3) [1]Each student enrolled in the Master's degree programme is assigned an examiner as a mentor according to Regulation 18(6), no later than the end of the first semester of study. [2]Whenever possible, that assignment shall comply with the student's request for a mentor. [3]The

student is integrated into the mentor's research group, where the student's research project or projects and, where appropriate, his/her Master's thesis, will generally be supervised.

(4) [1]The student prepares a study plan that will contain the selected modules necessary to acquire the required ECTS credits according to Regulation 3 (2). [2]The mentor advises the student on the development of the study plan and approves the study plan. [3]The study plan may be amended during the degree programme with prior approval of the mentor.

(5) The degree programme ends with the completion of the semester during which the last required exam is successfully completed.

Regulation 4

Structure and Contents of the Master's Examination

(1) [1]The Master's examination consists of partial exams taken throughout the entire programme of study. [2]It covers the key competency areas with their related modules, as well as the "Master's thesis" module (see Appendix 1). [3]The courses related to the modules are listed in the module catalogue.

Regulation 5

Master's Thesis

(1) [1]The Master's thesis module consists of a Master's thesis and a colloquium that serves as an oral defence (viva voce) of the Master's thesis. Thirty credits will be awarded upon successful completion of this module. [2]The Master's thesis should take approximately 870 hours and must be written in English. [3]If approval is granted by the primary examiner and the Examinations Board, it may be written in another language. The thesis should demonstrate the candidate's ability to work independently through a research problem within a specified period of time, using accepted scientific methods. [4]The type of problem and scope of work must be agreed by the time the thesis topic is set. The topic of the Master's thesis will be set by the primary examiner following a consultation with the candidate. [5]The topic and scope of work of the Master's thesis must comply with the purpose of the examination according to Regulation 2(1) and with the allotted time frame according to Regulation 25(3). [6]The colloquium totals approximately 30 hours.

(2) [1]Candidates must apply in writing to the Examinations Board for admission to the Master's thesis module. [2]The written application must be accompanied by the following documents:

a) proof of successful completion of programme modules equivalent to 60 ECTS credits according to Regulation 3(2),

b) a proposal for the primary examiner as well as the topic set by the primary examiner,

c) written confirmation thereof by the primary examiner,

d) a declaration stating that the candidate has neither received a final failing grade on the Master's examination nor is considered to have irrevocably failed the Master's examina-

tion in the same or any comparable Master's degree programme at a university in Germany or abroad.

[3]The proposal in point b) above as well as the confirmation in point c) are not mandatory if the student declares that he/she has not found a primary examiner. [4]Where this is the case, the Examinations Board shall appoint the primary examiner and set the topic of the Master's thesis.

(3) [1]The Master's thesis must be submitted to the primary examiner in triplicate as well as in electronic format within 6 months of declaring the topic.

(4) [1]The list of primary examiners is determined by the Examinations Board. [2]A primary examiner shall be an examiner, as described in Regulation 18(6), who is qualified to conduct the exam in key competencies limited exclusively to the subject matter of computer science. [3]In individual cases and subject to approval by the Examinations Board, the topic may be set by another member of the professorial staff as primary examiner. [4]In any case, one or both examiners must be on the list according to clause 1.

(5) [1]After receiving a request, the Examinations Board ensures that the exam candidate receives his/her topic in good time. [2]The setting of the topic must be officially recorded. [3]At the time the topic is set, the primary and secondary examiners are appointed. [4]While writing the thesis, the exam candidate is supervised by the primary examiner or a representative appointed by the primary examiner.

(6) [1]The topic may be changed only once and only within the first four weeks of the period allowed for the thesis. [2]A change of topic according to clause 1 is only possible if the exam candidate has not already availed him/herself of this opportunity during the first exam attempt. [3]As an exception, the Examinations Board may extend the time allowed for the preparation of the thesis by up to 50% upon the student's written request, which must document reasonable grounds for the request not attributable to any action by the student. [4]Where illness is cited as reasonable cause, the university must be notified without delay and a medical certificate must be provided. [5]Where time frames are exceeded without reasonable cause, the Master's thesis shall be given a failing grade (5.0); where the maximum time frame including extension is exceeded with reasonable cause, a new topic shall be set.

(7) [1]The Master's thesis may also be prepared by a group of exam candidates. [2]The contribution of the individual student, which is to be assessed as his/her exam work, must fulfil the requirements applicable to the exam and be clearly distinguishable as individual work, and thus separately assessable. [3]Regulation 8(8) applies accordingly.

(8) Upon submission of the Master's thesis, the exam candidate must declare in writing that the thesis represents the student's own original work and has been prepared without using any sources or aids other than those referenced, that all incidences within the thesis which quote or paraphrase other sources are identified as such, and that the thesis has not been submitted in

identical or similar format to another examining body.

(9) [1]During the colloquium for the oral defence of their Master's thesis, candidates must prove that they are able to independently and scientifically address questions and issues from the academic field of the Master's thesis and to expand on conclusions drawn within the thesis in the context of an expert discussion. [2]The oral defence consists of a presentation of approximately 30 minutes, followed by a discussion. [3]It should generally take place within four weeks of submission of the written Master's thesis.

(10) [1]The Master's thesis module, including the colloquium, is assessed by both examiners. [2]The grade for the Master's thesis module is determined according to Regulation 13. [3]The Master's thesis should generally be assessed within six weeks of submission.

Regulation 6
Pass and Fail

(1) The Master's examination is considered to have been passed if the candidate has fulfilled the requirements defined for the key competency areas and passed the required modules, including the Master's thesis (see Appendix 1), and has obtained a minimum of 120 ECTS credits.

(2) The Master's examination is considered to have received a final failing grade if, during the programme of study,

a) a module selected as part of the study plan is considered irrevocably failed or has received a final failing grade after the third attempt, or

b) the Master's thesis, after the second attempt, has received a final failing grade or is considered failed.

Regulation 7
Admission to the Master's Examination

(1) Students enrolled on the international Master's degree programme "Internet Technologies and Information Systems" are admitted to the Master's examination.

(2) Exam admission is denied to students who have received a final failing grade on any exam in a comparable programme of study, especially a programme of study in computer science at a university in Germany.

Regulation 8
Coursework Credits and Examination Results

(1) Credits given for examination results include those for the Master's thesis, written exams, oral exams, projects, tutorials, and seminar work.

(2) Coursework credits are given for work within tutorials as well as project and seminar assign-

ments that serve as the basis for the ongoing assessment of students' progress.

(3) [1]A written exam is a supervised written test. [2]In a written exam, students should prove that they are able to recognise a problem and find ways to solve it within a limited time, with limited resources, under supervision, and with the commonly used methods of the discipline. [3]The time available for a written exam is usually equivalent to 12 to 25 minutes per ECTS credit. [4]Written exams must be graded. [5]Notwithstanding Appendix 1, a written exam may be replaced by an oral exam at the request of the examiner; the type of exam must be finalised no later than the start of the lecture period.

(4) [1]A supplementary oral exam may be arranged upon the request of the student in case of failure in a written exam; the application must be submitted within one month of the announcement of the exam results. [2]This supplementary oral exam is conducted by one examiner and one observer; Regulation 8(5) applies accordingly. [3]After such a supplementary oral exam, the highest grade achievable is "adequate" (4.0). [4]The supplementary oral exam usually takes 15 minutes. [5]A supplementary oral exam is not permitted if Regulation 11(2) or Regulation 12 have been applied in assessing the written exam.

(5) [1]An oral examination is conducted as an individual exam or as a group exam of up to five students. It is conducted before two examiners, or before one examiner and one observer, who shall hold at least the same or an equivalent qualification as that being assessed in the exam. [2]The observer must be allowed to make comments before the grade is determined. The time allocated for the oral exam is 20 to 30 minutes for each candidate. The main points of the exam are recorded in the minutes. [3]Students intending to take the same exam at a later period and other university members who can prove a vested interest may be admitted as onlookers, provided space allows it the candidate has given permission. [4]This does not extend to the consultation or to the announcement of the exam results either.

(6) [1]Projects allow students – largely independently, but also under supervision – to apply specialised skills and knowledge gained from lectures to specific problem-based tasks. [2]Projects are also intended to foster students' ability to work as part of a team, and especially to improve the ability to develop and present academic ideas and theories. [3]The work is conducted individually or in groups. Projects include the preparation of written reports.

(7) [1]A tutorial is a module component which facilitates the reinforcement and application of material from a specific academic field. [2]Tutorials provide students the opportunity to conduct practical experiments and to solve problems such as programming tasks.

(8) Seminar work consists of an independently prepared subject-specific or interdisciplinary assignment, as well as a written report on the topic and a 30-45 minute oral presentation and discussion of the work conclusions drawn.

(9) Exam and course credits may be earned through group work provided that it is possible to

clearly distinguish and separately assess the individual contributions on the basis of objective criteria.

(10) [1]Upon submission of any written assignment, the student must declare in writing that the assignment represents the student's own individual work and has been prepared without using any sources or aids other than those referenced and that all incidences within the assignment which quote or paraphrase other sources are identified as such. [2]All written assignments must also be submitted in electronic format.

(11) All module components and their related exams are conducted in English.

Regulation 9
Registration

(1) [1]Each examination assessment and each re-sit of an exam requires separate registration within the time period set by the Examinations Board. [2]Admission to the Master's thesis may be permitted outside the registration period.

(2) [1]The registration for an examination consists of the simultaneous selection of the related module and the corresponding key competency areas according to the study plan. [2]The selection of a module or an area of key competencies can only be cancelled if all related registered examinations according to Regulation 11(1) (permissible withdrawal) or Regulation 11(2) clause 2 (withdrawal on reasonable grounds) below are considered null and void. [3]Cancellation can only be initiated by changing the study plan according to Regulation 3(4).

Regulation 10
Re-sitting of Exams

(1) In case of failure in an assessment by exam, the exam may be re-sat twice.

(2) [1]In case of failure in the Master's thesis, only one further re-sit is permitted. [2]The new topic of the Master's thesis will be announced within an appropriate time frame – normally within 3 months of assessment of the first thesis. [3]An unsuccessful attempt at a degree programme according to Regulation 7(2) is counted toward the permitted number of re-sits.

Regulation 11
Absence, Withdrawal

(1) [1]The withdrawal from an oral exam must be declared a minimum of three days before the start of that exam. [2]The withdrawal from a written exam is possible until the start of that exam. [3]In such a case, absence from the scheduled exam is taken as a withdrawal. [4]Withdrawal according to clauses 1 through 3 without statement of reasons is permissible and will not be counted toward the permitted number of re-sits according to Regulation 10(1).

(2) [1]In case of absence from a scheduled exam without formal withdrawal within the prescribed period or in the case of withdrawal after the start of the exam, the exam is considered taken and "failed". [2]Notwithstanding the aforementioned, the exam is deemed to have been missed if reasonable and probable cause for the absence or withdrawal is given in writing and without delay. [3]In cases where there is reasonable cause for missing the scheduled date of submission, the Examinations Board can decide that the date of submission or the date of the exam will be postponed by a maximum of two weeks without deeming the exam missed. [4]Regulation 5(6) applies with regard to the Master's thesis. [5]In the case of illness, a medical certificate must be provided; in individual cases especially of long- term or repeated illness, a medical certificate from a specialist or public medical officer may be required. [6]The decision regarding determination of reasonable cause is taken by the Examinations Board.

Regulation 12

Cheating, Breach of Regulations

(1) [1]Where an attempt is made to influence the exam result by cheating, the relevant exam is considered "failed". [2]Every case of unauthorised possession of aids after the start of the exam is considered an attempt to cheat. [3]In particularly serious cases – especially of plagiarism or repeated breach of regulations according to clause 2 – the Examinations Board may exclude the exam candidate from any further exams or studies.

(2) An exam candidate found guilty of a breach of regulations may be excluded from continuing the exam in question; in this case the exam is considered "failed".

Regulation 13

Assessment and Determination of Grade

(1) [1]Performance in oral exams is assessed immediately following the exam itself; performance in other exams is generally assessed within four weeks of the respective exam. [2]Exams are assigned grades unless otherwise specified in Appendix 3. [3]Ungraded exams are assessed as "passed" or "failed". [4]The following grades are applied:

- 1.0; 1.3 = excellent = an especially exceptional performance,
- 1.7; 2.0; 2.3 = good = performance well above average requirements,
- 2.7; 3.0; 3.3 = satisfactory = performance fully meeting standard requirements,

- 3.7; 4.0 = adequate = performance which, despite flaws, is equivalent to minimum requirements,
- 5.0 = insufficient = performance which does not meet requirements due to substantial flaws.

[5]An exam graded “insufficient” constitutes a failed exam.

(2) [1]Where exam performance is assessed by two examiners, the grade is calculated from the average of the individual grades awarded by the examiners. [2]An ungraded exam is considered passed if both examiners determine that the exam was passed.

(3) [1]The final overall grade for the Master’s examination is the arithmetic mean of grades achieved in all graded exams, [2]weighted according to the ECTS credits listed in Appendix 3. [3]The final grade is

- excellent for an average grade up to and including 1.5
- good for an average grade above 1.5 and up to and including 2.5
- satisfactory for an average grade above 2.5 and up to and including 3.5
- adequate for an average grade above 3.5 and up to and including 4.0
- insufficient for an average grade above 4.0.

[4]Grades which are calculated according to "Regulation 13(2) and Regulation 13(3) only include the first digit after the decimal point; all further digits are deleted without rounding.

(4) [1]A module is considered passed upon achievement of the ECTS credits required for that module as per Appendix 3. [2]The module grade is calculated according to Regulation 13(3) from the grades achieved in graded exams within the scope of that module.

Regulation 14
ECTS Credits and Modules

(1) [1]The ECTS credits listed in the appendices of these examination regulations are awarded if the required exams have been passed and the relevant courses are complete. [2]No further ECTS credits can be gained by undertaking exams equivalent in content; the same applies in the case of credits as per Regulation 15. [3]The Examinations Board determines the equivalency of exams. [4]Where a specific course is assigned to several modules, an exam completed as part of that course may only be counted toward the performance within one module.

(2) [1]The module catalogue identifies the valid courses and exams available at any particular time. [2]The module catalogue contains information about the key competencies, modules, courses, and related course credits or exams respectively, as listed in the appendices. [3]The module catalogue is agreed by the Joint Programme Committee of the Master’s degree programme “Internet Technologies and Information Systems”. [4]The module catalogue effective at any particular time will be published no later than the beginning of the relevant semester. [5]The module catalogue definitively sets out the courses and exams available for selection.

(3) [1]The Joint Programme Committee may decide to include further modules in the module catalogue. [2]Such modules must be included in Appendix 3 of the examinations regulations after no more than three semesters.

(4) [1]Exams for modules that are not included in the study plan and are not required for the completion of the degree programme may be taken voluntarily as additional exams. [2]Upon request, the results of any additional exams will be excluded from the degree certificate (*Zeugnis*). [3]Results of additional exams will not be included in the calculation of the final overall grade. [4]By changing the study plan according to Regulation 3(4), a module completed successfully by way of an optional additional exam may be converted into a regular credited module, and a completed module into an optional additional exam.

Regulation 15
Credit Recognition

(1) [1]Credits for successfully completed courses and exams undertaken in Germany or abroad in an identical or similar programme of study are usually recognised and transferrable if the institution at which the exam or course was taken is acknowledged as equivalent to a German university. [2]The decision regarding credit recognition lies with the Examinations Board. [3]If need be, the Central Office for Foreign Education (*Zentralstelle für ausländisches Bildungswesen*) or the examiners should be consulted before a decision is made. [4]Practical professional experience gained outside university will be counted toward credits as industrial placements, provided they are deemed equivalent.

(2) [1]For transferred coursework and exam credits, the appropriate number of ECTS credits will be awarded according to the guidelines in Appendix 3, and the appropriate period of study will be counted toward degree requirements. [2]In the case of a different grading system, the grades for graded exams are transferred or converted according to the guidelines in Appendix 3; where there is a difference in grading systems or in scope, the Examinations Board decides on the conversion scale. [3]If a grade cannot be converted, the exam remains ungraded; the same applies especially in the case of Regulation 15(1) clause 3. [4]The transfer of credit is noted in the degree certificate.

(3) Credits cannot be transferred and counted toward the Master's thesis.

(4) The transfer of credit for courses or exam results from other programmes of study is subject to application. This is to be submitted no later than the time of the next exam registration, following the completion of the external courses or exams.

Regulation 16
Access to Examination Records

[1]Following the completion of every exam, and subject to application, the exam candidate is allowed access to the complete exam records. [2]The application must be submitted no later than one year after publication of the exam result.

Regulation 17
Degree Certificates and Reports

(1) [1]Shortly after the completion of the Master's examination, a degree certificate about the successfully completed Master's examination is prepared; this contains the modules with grades assigned, the Master's thesis with its grade, the final overall grade of the Master's examination, and the acquired ECTS credits (Appendix 2a). [2]Along with the degree certificate, a certified schedule of successfully completed modules (including the Master's thesis) is issued. [3]The schedule contains the relevant courses and ECTS credits as well as the grading and assessment of exams. [4]All grades are also shown as decimal numbers. [5]The date of the degree certificate is the day on which the last exam has been successfully completed. [6]Also issued – with the same date – is an award certificate showing the academic degree conferred (Appendix 2b) as well as a Diploma Supplement (Appendix 2c). [7]Moreover, the date of issue is noted on the degree certificate.

(2) Written notification is issued regarding exams failed and the final failure of the Master's examination.

(3) [1]Where Regulation 6(2) applies, as well as in other instances of withdrawal from the programme of study and subject to application, a certificate is issued, which lists the exams passed, their grades and related ECTS credits awarded. [2]Where Regulation 6(2) applies, the certificate will indicate that the Master's examination has ultimately not been passed successfully.

(4) [1]Degree certificates, award certificates, and other certified documents are issued both in English and in German (Appendix 2a-e).

Regulation 18
Examinations Board, Examiners

(1) [1]An Examinations Board is appointed by the Steering Committee to organise the exams and to assume the responsibilities according to these examinations regulations. [2]The Examinations Board consists of seven members: four members from the professorial staff, one member representing non-professorial academic staff, as well as two members representing the student body. [3]The roles of Chair and Deputy Chair must be held by members of the professorial staff; they and the other members of the Examinations Board as well as their substitutes are appointed by

the Steering Committee. [4]In matters of evaluation and awarding of credit for exam performances, the student members contribute in an advisory capacity only. [5]The term for members of the Examinations Board is two years; that of the student members is one year.

(2) [1]The Examinations Board takes decisions based on the majority of valid votes cast; abstentions are considered votes not cast. [2]The Examinations Board is competent to take decisions provided it is represented by a quorum consisting of the majority of voting members, including the Chair or Deputy Chair and one other member of the academic teaching staff.

(3) [1]The Examinations Board may establish its own procedural regulations. Minutes are taken for all meetings of the Examinations Board. [2]Meeting minutes record the significant items of discussion and decisions taken by the Examinations Board.

(4) [1]The meetings of the Examinations Board are not public. [2]The members of the Examinations Board and their deputies and substitutes are subject to the rules of confidentiality. [3]Insofar as they are not civil servants, they are to be sworn to preserve confidentiality by the Chair.

(5) [1]The Examinations Board may, from time to time, transfer powers to the Chair and the Deputy Chair. [2]The Examination Board may designate a body and commission said designated body to fulfil its duties. [3]The Chair prepares decisions and resolutions of the Examinations Board, presents them, and regularly reports to the Examinations Board about these activities.

(6) [1]The Examinations Board shall appoint the examiners. [2]In order to conduct an exam, the Examinations Board appoints members and employees from participating or other universities who are qualified to undertake independent teaching in the relevant field. [3]Lecturers with special responsibilities as well as persons experienced in professional practice and training may be appointed as examiners in relevant exam areas. [4]Only persons who themselves hold, at a minimum, the relevant or an equivalent qualification as the one being assessed by the exam may be appointed as examiners.

(7) The members of the Examinations Board are entitled to be present at examinations as observers.

(8) Provided the submission of written justification from a doctor or medical specialist, the Examinations Board shall allow students who suffer from a long-term illness or disability to take exams in an equivalent other format, on other dates, or within other time frames.

Regulation 19

Procedural Provisions

(1) [1]The general provisions of administrative law as well as statutory regulations regarding maternity leave and parents' leave apply to exam procedures with the necessary modifications. [2]Any incriminatory administrative measures taken must be explained in writing – including information about legal recourse – and must be made public. [3]Decisions based on the assessment of

an exam may be appealed within one month of receipt of the notice.

(2) [1]Where an appeal lodged by an exam candidate contains specific and substantiated objections against the specialised evaluation of an examiner, the Examinations Board shall forward the appeal to the examiner for investigation. [2]If the examiner changes his/her evaluation according to the application, the Examinations Board shall grant the appeal. [3]Alternatively, the Examinations Board shall review the decision taken based on the comments of the examiner, especially with regard to whether

a) the exam has been conducted properly according to prescribed procedures
b) the evaluation has been based on incorrect facts
c) generally applicable assessment criteria have been ignored
d) a justifiable solution logically substantiated with significant arguments has been assessed as incorrect, or whether
e) the examiner has allowed him/herself to be led by irrelevant considerations.

[4]The same procedure shall apply where an appeal addresses the evaluation by several examiners.

(3) The appeal must be decided by the Examinations Board within one month.

(4) The appeals procedure must not lead to a lower exam grade.

Regulation 20
Amendments

[1]Amendments to these regulations shall be made by resolution of the Steering Committee upon proposal by the Joint Programme Committee. [2]The Faculty Councils shall have the opportunity to be heard before any particular resolution. [3]The Faculty Councils shall be informed immediately about resolutions by the Steering Committee. [4]They are entitled to submit reasoned objections to the resolutions of the Steering Committee within eight weeks of receipt of notice of the resolutions. [5]On submission of objections, the relevant resolution is suspended. [6]If no agreement can be reached by the Steering Committee and the objecting Faculty Council within one additional month, then the final decision shall be taken by the Faculty Councils of the participating faculties.

Regulation 21
Effective Date

These examinations regulations come into effect starting from the 2011 summer semester, subject to agreement by the Executive Committee of the Technische Universität Braunschweig, the Executive Committee of the Clausthal University of Technology, the Executive Committee of the Georg-August-Universität Göttingen, and the Executive Committee of the Gottfried Wilhelm Leibniz Universität Hannover.

Appendix 1: Key Competency Areas and Modules of the Master's Degree Programme

Key Competency Areas

Within the Master's degree programme, the following key competency areas may be selected as specified below:

Key Competency Areas		**II. ECTS Credits**	**III. Further Requirements**
Theoretical Computer Science		min. 10	total min. 40
Practical Computer Science		min. 10	
Technical Computer Science		min. 10	
Business & Law		min. 5	
Soft Skills		5	
Research project	Project	30	total min. 45
	Modules relating to research topic	min. 15	
Master's thesis		30	
Total requirement:		min. 120	

Within the key competencies of theoretical, practical, and technical computer science as well as Business & Law and Soft Skills, the following modules are available:

Module	**ECTS Credits**	**Course Requirements**	**Examination Type**
Lecture module (2 lectures + 1 tutorial)	5	-	written or oral exam
Major lecture module (3 lectures + 1 tutorial)	6	-	written or oral exam
Seminar	5	presentation and written assignment	
Project module	5	project	-
Major project module	6	project	-

Modules relating to the research topic totalling at least 15 ECTS credits may be selected from the key competency areas of theoretical, practical, and technical computer science.

Exam assessments may be related to two key competencies. Each exam, however, may only be selected once. The related key competencies to be assessed must be stated when the exam selection is made.

A total maximum of 20 credit points can be awarded from seminars and projects. At least one seminar module must be completed successfully.

All selected key competency areas, as well as the Master's thesis, must be completed successfully with the specified number of credit points and a total of at least 120 credit points. All written exams, oral exams, and seminar work, as well as the Master's thesis, are graded. All other assessments remain ungraded.

Anlage 2a (Zeugnis über die Master-Prüfung)

Technische Universität Braunschweig
Technische Universität Clausthal
Georg-August-Universität Göttingen
Gottfried Wilhelm Leibniz Universität Hannover

Zeugnis über die Master-Prüfung
Frau/Herr *) .....,
geboren am .....,
hat die Master-Prüfung im Studiengang Internet Technologies and Information Systems
mit der Gesamtnote ..... bestanden.
Der Master-Abschluss ist äquivalent zum Diplom.
ECTS-Grad:***) .....

Modulnummer	Modulname	Leistungspunkte	Note
...	...	...	...

Master-Arbeit über das Thema *) . . . . . (30 Leistungspunkte): . . . . . (Note)
Hannover, den ..... (Datum)
.....
(Siegel der Hochschule) Vorsitzende/r *) des Prüfungsausschusses

Ausgestellt am ……. (Datum)

*) Zutreffendes einsetzen, ***) falls anwendbar

Anlage 2b (Master-Urkunde)

Technische Universität Braunschweig
Technische Universität Clausthal
Georg-August-Universität Göttingen
Gottfried Wilhelm Leibniz Universität Hannover

Master-Urkunde

Die Technische Universität Braunschweig, Technische Universität Clausthal, Georg-August-Universität Göttingen und Gottfried Wilhelm Leibniz Universität Hannover verleihen gemeinsam mit dieser Urkunde Frau/Herrn *)

.....,

geb. am ..... in .....,

den Hochschulgrad Master of Science (abgekürzt : M.Sc.),

nachdem sie/er *) die Master-Prüfung im Studiengang Internet Technologies and Information Systems am ..... bestanden hat.

(Siegel der Hochschule) Hannover , den ..... (Datum)

....

Vorsitzende/r *) des Prüfungsausschusses

*) Zutreffendes einsetzen

Appendix 2c (Diploma Supplement)

Diploma Supplement

This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international "transparency" and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

1. HOLDER OF THE QUALIFICATION

1.1 Family Name

«nachname»

1.2 First Name

«vorname»

1.3 Date, Place

«Gebdat_englisch», «gebort»

1.4 Student ID Number or Code

«mtknr»

2. QUALIFICATION

2.1 Name of Qualification (full, abbreviated; in original language)

Master of Science (M.Sc.)

Title Conferred (full, abbreviated; in original language)

-

2.2 Main Field(s) of Study

Computer Science – Information Systems and Internet Technologies

2.3 Institution Awarding the Qualification (in original language)

Technische Universität Braunschweig

Clausthal University of Technology

Leibniz Universität Hannover

Georg-August-Universität Göttingen

Status (Type / Control)

University / State Institution

2.4 Institution Administering Studies (in original language)

Technische Universität Braunschweig

Clausthal University of Technology

Leibniz Universität Hannover

Universität Göttingen

Status (Type / Control)

University / State Institution

2.5 Language(s) of Instruction/Examination

English

3. LEVEL OF THE QUALIFICATION

3.1 Level

Graduate/second degree (two years)

Research-oriented with thesis

3.2 Official Length of Programme

Two years (120 ECTS credits)

3.3 Access Requirements

Qualified Bachelor's degree (three years) in Computer Science or an equivalent degree.

4. CONTENTS AND RESULTS GAINED

4.1 Mode of Study

Full-Time

4.2 Programme Requirements/Qualification Profile of the Graduate

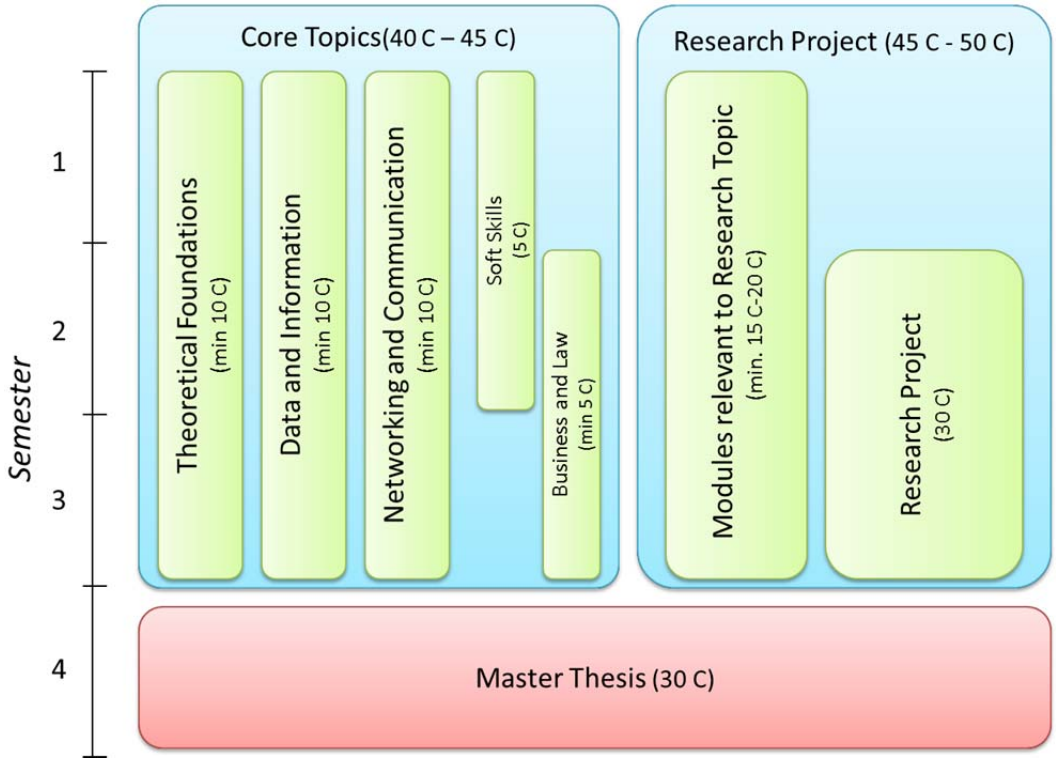
This programme focuses on teaching a deep understanding of selected advanced topics in Information and Internet Science and the ability to apply this knowledge in a research-oriented as well as in a professional environment. In particular, the students will have learned all required skills to develop complex solutions in this area in a scientific manner.

The students are allowed to choose their particular area of interest (information systems, networks & communications, or distributed systems and algorithms). As one of the main building blocks of the curriculum, the students performed their own research project in that chosen area of interest (supervised independent scientific research in small teams in addition to the final Master's thesis, accompanied by additional relevant lectures). Furthermore, all students are required to acquire the according theoretical foundations, soft-skills, and related subjects (e.g. law or business).

4.3 Programme Details

See table of exams for a list of courses and grades, and see Master of Science Examination Certificate for a list of aggregated examination subjects and grades, including the topic and evaluation of the thesis.

For the successful completion of the programme, 120 ECTS credit points (C) in total must be earned. The mandatory part covering the fundamental topics compromises a minimum of 10 C each. Additional courses in business and law, as well as soft skills for a minimum of 5 C, are mandatory. The research project is performed over the course of a year (30 C) with additional courses for a minimum of 15 C. The Master's thesis (30 C) is completed over the course of 6 months. For a graphical overview, see the following diagram:



4.4 Grading Scheme

General grading scheme cf. sec. 8.6.

4.5 Overall Classification (in original language)

GRADE

Based on weighted average of grades.

5. FUNCTION OF THE QUALIFICATION

5.1 Access to Further Study

Qualifies to apply for admission to a doctoral thesis (research thesis).

5.2 Professional Status

The M. Sc. degree is the second degree in computer science which qualifies for a professional and scientific career.

6. ADDITIONAL INFORMATION

6.1 Additional Information

This study programme “Internet Technologies and Information Systems” with the degree Master of Science has been accredited by the German Accreditation Agency ASIIN e.V., http://www.asiin.de/ in 2011.

6.2 Further Information Sources

on the programme: http://www.itis-graduateschool.de

For national information sources cf. Sect. 8.8.

Contact: Univ.-Prof. Dr. rer. nat. Wolf-Tilo Balke

balke@ifis.cs.tu-bs.de Mühlen-

pfordtstraße 23

38106 Braunschweig

+49 (531) 391 3271

7. CERTIFICATION

This Diploma Supplement refers to the following original documents:

Master of Science Examination Certificate «pdatum_englisch»

Master Certificate «datum_lang_englisch»

Table of passed exams «pdatum_englisch»

Certification Date: «datum_lang_englisch»

Official Stamp/Seal

8. NATIONAL HIGHER EDUCATION SYSTEM

The information on the national higher education system on the following pages provides a context for the qualification and the type of higher education institution that awarded it.

This is a translation of the regulatory text as promulgated in the Official Announcements No. 19 dated June 28, 2011, p. 1655.
Only those regulations published by the Georg-August-Universität in its Official Announcements are legally binding. Any claims to rights or titles resulting from the English translation of these regulations are expressly excluded.

8. INFORMATION ON THE GERMAN HIGHER EDUCATION SYSTEM[I]

8.1 Types of Institutions and Institutional Status

Higher education (HE) studies in Germany are offered at three types of Higher Education Institutions (HEI).[II]

- *Universitäten* (Universities) including various specialized institutions, offer the whole range of academic disciplines. In the German tradition, universities focus in particular on basic research so that advanced stages of study have mainly theoretical orientation and research-oriented components.

- *Fachhochschulen* (Universities of Applied Sciences) concentrate their study programmes in engineering and other technical disciplines, business-related studies, social work, and design areas. The common mission of applied research and development implies a distinct application-oriented focus and professional character of studies, which include integrated and supervised work assignments in industry, enterprises or other relevant institutions.

- *Kunst- und Musikhochschulen* (Universities of Art/Music) offer studies for artistic careers in fine arts, performing arts and music; in such fields as directing, production, writing in theatre, film, and other media; and in a variety of design areas, architecture, media and communication.

Higher Education Institutions are either state or state-recognized institutions. In their operations, including the organization of studies and the designation and award of degrees, they are both subject to higher education legislation.

8.2 Types of Programmes and Degrees Awarded

Studies in all three types of institutions have traditionally been offered in integrated "long" (one-tier) programmes leading to *Diplom-* or *Magister Artium* degrees or completed by a *Staatsprüfung* (State Examination).

Within the framework of the Bologna-Process one-tier study programmes are successively being replaced by a two-tier study system. In 1998, a scheme of first- and second-level degree programmes (Bachelor and Master) was introduced to be offered parallel to or instead of integrated "long" programmes. While these programmes are designed to provide enlarged variety and flexibility to students in planning and pursuing educational objectives, they also enhance international compatibility of studies.

For details cf. Sec. 8.4.1, 8.4.2, and 8.4.3 respectively. Table 1 provides a synoptic summary.

8.3 Approval/Accreditation of Programmes and Degrees

To ensure quality and comparability of qualifications, the organization of studies and general degree requirements have to conform to principles and regulations established by the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany (KMK).[III] In 1999, a system of accreditation for programmes of study became operational under the control of an Accreditation Council at national level. All new programmes have to be accredited under this scheme; after successful accreditation, they receive the quality-label of the Accreditation Council.[IV]

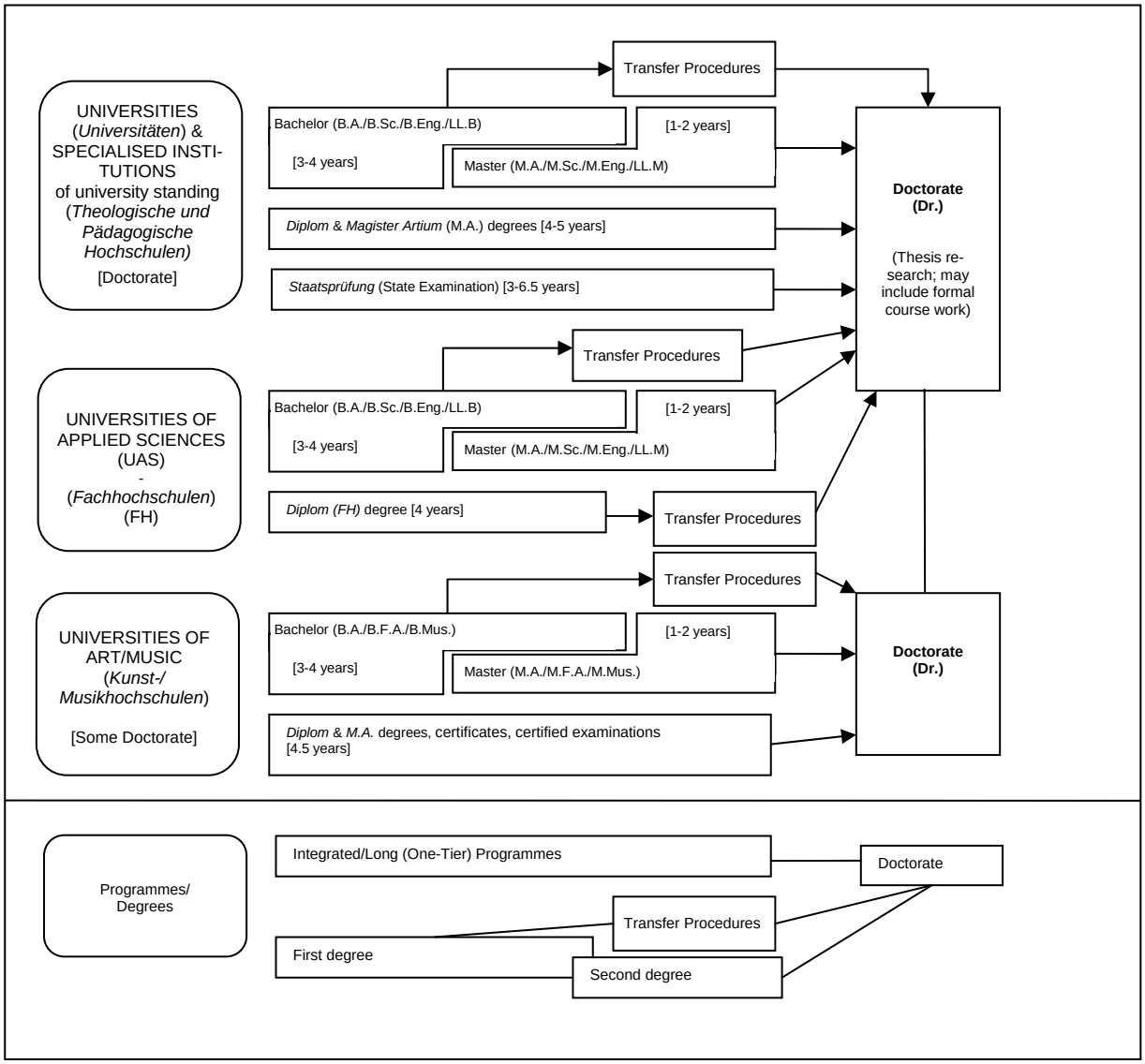
[I] The information covers only aspects directly relevant to purposes of the Diploma Supplement. All information as of 1 July 2005.

[II] *Berufsakademien* are not considered Higher Education Institutions; they only exist in some of the *Länder*. They offer educational programmes in close cooperation with private companies. Students receive a formal degree and carry out an apprenticeship at the company. Some *Berufsakademien* offer Bachelor courses which are recognized as an academic degree if they are accredited by a German accreditation agency.

[III] Common structural guidelines of the *Länder* as set out in Article 9 Clause 2 of the Framework Act for Higher Education (HRG) for the accreditation of Bachelor's and Master's study courses (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 10 October 2003, as amended on 21 April 2005).

[IV] "Law establishing a 'Foundation for the Accreditation of Study Programmes in Germany'", entered into force as of 26 February 2005, GV. NRW. 2005, No. 5, p. 45 in connection with the Declaration of the *Länder* to the "Foundation

Table 1: Institutions, Programmes and Degrees in German Higher Education



for the Accreditation of Study Programmes in Germany" (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of

16 December 2004.

8.4 Organization and Structure of Studies

The following programmes apply to all three types of institutions. Bachelor's and Master's study courses may be studied consecutively at various or different types of higher education institutions and with phases of professional work between the first and the second qualification. The organization of the study programmes makes use of modular components and of the European Credit Transfer and Accumulation System (ECTS) with 30 credits corresponding to one semester.

8.4.1 Bachelor's Degree

Bachelor degree study programmes lay the academic foundations, provide methodological skills and lead to qualifications related to the professional field. The Bachelor degree is awarded after 3 to 4 years.

The Bachelor degree programme includes a thesis requirement. Study courses leading to the Bachelor degree must be accredited according to the Law establishing a Foundation for the Accreditation of Study Programmes in Germany.[V]

First degree programmes (Bachelor) lead to Bachelor of Arts (B.A.), Bachelor of Science (B.Sc.), Bachelor of Engineering (B.Eng.), Bachelor of Laws (LL.B.), Bachelor of Fine Arts (B.F.A.) or Bachelor of Music (B.Mus.).

8.4.2 Master's Degree

A Master's degree is the second degree after another 1 to 2 years of study. Master's degree programmes must be differentiated by the profile types "more practice-oriented" and "more research-oriented". Higher Education Institutions define the profile of each Master's degree programme.

The Master's degree programme includes a thesis requirement. Study programmes leading to the Master's degree must be accredited according to the Law establishing a Foundation for the Accreditation of Study Programmes in Germany.[VI]

Second degree programmes (Master's) lead to a Master of Arts (M.A.), Master of Science (M.Sc.), Master of Engineering (M.Eng.), Master of Laws (L.L.M), Master of Fine Arts (M.F.A.) or Master of Music (M.Mus.).

Master's degree programmes, which are designed for continuing education or which do not build on the preceding Bachelor's degree programmes in terms of their content, may carry other designations (e.g. MBA).

[V] See note No. 4.

[VI] See note No. 4.

8.4.3 Integrated "Long" Programmes (One-Tier): "*Diplom*" degrees, Magister Artium, Staatsprüfung

An integrated study programme is either mono-disciplinary (*Diplom* degrees, most programmes completed with a *Staatsprüfung*) or comprises a combination of either two major or one major and two minor fields (*Magister Artium*). The first stage (1.5 to 2 years) focuses on broad orientations and foundations of the field(s) of study. An Intermediate Examination (*Diplom-Vorprüfung* for *Diplom* degrees; *Zwischenprüfung* or credit requirements for the *Magister Artium*) is prerequisite to enter the second stage of advanced studies and specializations. Degree requirements include submission of a thesis (up to 6 months duration) and comprehensive final written and oral examinations. Similar regulations apply to studies leading to a *Staatsprüfung*. The level of qualification is equivalent to the Master's degree level.

- Integrated studies at *Universitäten (U)* last 4 to 5 years (*Diplom* degree, *Magister Artium*) or 3 to 6.5 years (*Staatsprüfung*). The *Diplom* degree is awarded in engineering disciplines, the natural sciences as well as economics and business. In the humanities, the corresponding degree is usually the *Magister Artium* (M.A.). In the social sciences, the practice varies as a matter of institutional traditions. Studies preparing for the legal, medical, pharmaceutical and teaching professions are completed by a *Staatsprüfung*.
The three qualifications (*Diplom*, *Magister Artium* and *Staatsprüfung*) are academically equivalent. They qualify students to apply for admission to doctoral studies. Further prerequisites for admission may be defined by the Higher Education Institution, cf. Sec. 8.5.

- Integrated studies at *Fachhochschulen (FH)*/Universities of Applied Sciences (UAS) last 4 years and lead to a *Diplom (FH)* degree. While the *FH*/UAS are non-doctorate granting institutions, qualified graduates may apply for admission to doctoral studies at doctorate-granting institutions, cf. Sec. 8.5.

- Studies at *Kunst- and Musikhochschulen* (Universities of Art/Music etc.) are more diverse in their organization, depending on the field and individual objectives. In addition to *Diplom/Magister* degrees, the integrated study programme awards include certificates and certified examinations for specialized areas and professional purposes.

8.5 Doctorate

Universities as well as specialized institutions of university standing and some Universities of Art/Music are doctorate-granting institutions. A formal prerequisite for admission to doctoral work is a qualified Master's degree (UAS and U), a *Magister* degree, a *Diplom*, a *Staatsprüfung*, or a foreign equivalent. Particularly qualified holders of a Bachelor's degree or a *Diplom (FH)* degree may also be admitted to doctoral studies without acquisition of a further degree by means of a procedure to determine their aptitude. The universities, especially the doctorate-granting institutions, regulate entry to a doctorate as well as the structure of the procedure to determine aptitude. Admission further requires the acceptance of the Dissertation research project by a professor as a supervisor.

8.6 Grading Scheme

The grading scheme in Germany usually comprises five levels (with numerical equivalents; intermediate grades may be given): "*Sehr Gut*" (1) = Very Good; "*Gut*" (2) = Good; "*Befriedigend*" (3) = Satisfactory; "*Ausreichend*" (4) = Sufficient; "*Nicht ausreichend*" (5) = Non-Sufficient/Fail. The minimum passing grade is "*Ausreichend*" (4). Verbal designations of grades may vary in some cases and for doctoral degrees.
In addition, institutions may already use the ECTS grading scheme, which operates using the levels A (best 10 %), B (next 25 %), C (next 30 %), D (next 25 %), and E (next 10 %).

8.7 Access to Higher Education

The General Higher Education Entrance Qualification (*Allgemeine Hochschulreife*, *Abitur*) after 12 to 13 years of schooling allows for admission to all higher educational studies. Specialized variants (*Fachgebundende Hochschulreife*) allow for admission to particular disciplines. Access to *Fachhochschulen* (UAS) is also possible with a *Fachhochschulreife*, which can usually be acquired after 12 years of schooling. Admission to Universities of Art/Music may be based on other prerequisites or require additional evidence demonstrating individual aptitude.
Higher Education Institutions may, in certain cases, require additional admission procedures.

8.8 National Sources of Information

- *Kultusministerkonferenz (KMK)* [Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany]; Lennéstrasse 6, D-53113 Bonn; Fax: +49[0]228/501-

229; Phone: +49[0]228/501-0

- Central Office for Foreign Education (ZaB) as the German equivalent of NARIC; p www.kmk.org; E-Mail: zab@kmk.org
- "Documentation and Educational Information Service" as the German equivalent of the EURYDICE Network, providing the national dossier on the education system (www.kmk.org/doku/bildungswesen.htm; E-Mail: eurydice@kmk.org)
- *Hochschulrektorenkonferenz (HRK)* [German Rectors' Conference]; Ahrstrasse 39, D-53175 Bonn; Fax: +49[0]228/887-110; Phone: +49[0]228/887-0; www.hrk.de; E-Mail: sekr@hrk.de
- "Higher Education Compass" of the German Rectors' Conference features comprehensive information on institutions, programmes of study, etc. (www.higher-education-compass.de)

Appendix 2d (Certificate in English)

Technische Universität Braunschweig
Clausthal University of Technology
Georg-August-Universität Göttingen
Gottfried Wilhelm Leibniz Universität Hannover

Statement of results of the Master's degree examination (name *)
.....,
born .....,
has passed the Master's degree examination in Internet Technologies and Information Systems with the grade .....
This Master's degree is equivalent to a Diploma in Computer Science. ECTS grade:***) .....

Module number	Module name	Credit points	Grade
...	...	...	...

Subject of the Master's thesis *) . . . . . (30 credit points): . . . . . (grade)
(Seal of the university) Hannover , ... (date)
.....
Chairman of the examining board

Issued at …… (date)

*) fill in as appropriate, ***) if applicable

Appendix 2e (Certificate in English)

Technische Universität Braunschweig
Clausthal University of Technology
Georg-August-Universität Göttingen
Gottfried Wilhelm Leibniz Universität Hannover

Master's Certificate
Through this certificate, issued jointly by Technische Universität Braunschweig, Clausthal University of Technology, Georg-August-Universität Göttingen und Gottfried Wilhelm Leibniz Universität Hannover,

(name*) .....,
born ..... in .....,
is awarded the degree of a Master of Science
(abbr.: M.Sc.),
after having passed
the Master's degree examination in Internet Technologies and Information Systems on
..... .
(Seal of the university) Hanover , ... (date)
....
Chairman of the examining board
*) fill in as appropriate

Appendix 3 (Module Overview)

Type	Nr	Name	Credits	Type	Exam Type
Theoretical Foundations	1.01	Distributed Algorithms	5	Lecture	Written (120 min) or Oral (25 min)
	1.02	Online Algorithms	5	Lecture	Written (120 min) or Oral (25 min)
	1.03	Modal Logic	6	Lecture	Written (120 min)
	1.04	Complexity Theory	6	Lecture	Written (120 min)
	1.05	Multi Agent Systems II	6	Lecture	Written (120 min)
	1.06	Advanced Logics	5	Lecture	Written (120 min) or Oral (25 min)
	1.07	Algorithms and Complexity	5	Lecture	Written (120 min) or Oral (25 min)
	1.08	Efficient Algorithms	5	Lecture	Written (120 min) or Oral (25 min)
	1.09	Formal Languages	5	Lecture	Written (120 min) or Oral (25 min)
	1.10	Information and Coding	6	Lecture	Written (120 min) or Oral (25 min)
Data & Information	2.01	Multimedia Database Retrieval	5	Lecture	Written (120 min) or Oral (25 min)
	2.02	Foundations of Information Retrieval	5	Lecture	Written (90 min) or Oral (25 min)
	2.03	Cooperative Systems Technologies	6	Lecture	Written (120 min) or Oral (25 min)
	2.04	Computer-Supported Cooperative Work	6	Lecture	Written (120 min) or Oral (25 min)
	2.05	XML Databases and Semantic Web	6	Lecture	Written (120 min) or Oral (25 min)
	2.06	Software Architectures of Distributed Systems	6	Lecture	Written (120 min) or Oral (25 min)
	2.07	Web Information Systems and Services	6	Lecture	Written (120 min) or Oral (25 min)
	2.08	Testing of Distributed Systems	5	Lecture	Written (120 min) or Oral (25 min)
	2.09	Foundations of Grid- and Cloud-Computing	5	Lecture	Written (120 min) or Oral (25 min)
	2.10	Advanced Software Engineering for Distributed Systems	6	Lecture	Written (120 min) or Oral (25 min)
	2.12	Application Development with Web Services	6	Project	Oral (25 min)
	2.13	Semantic Web	5	Lecture	Written (60 min) or Oral (30 min)
	2.14	Web Science	5	Lecture	Written (120 min) or Oral (25 min)
	2.15	Advanced Topics in Web Science	5	Seminar	Presentation (30-90 min)
	2.17	Data Warehousing and Data Mining Techniques	5	Lecture	Written (120 min) or Oral (25 min)
	2.18	Advanced Topics in Information Systems	5	Seminar	Oral (25 min)
	2.19	Personalization and User	5	Lecture	Written (120 min) or

Type	Nr	Name	Credits	Type	Exam Type
		Modelling			Oral (25 min)
	2.20	Advanced Topics in Databases	5	Seminar	Oral (25 min)
Networking & Communication	3.01	Advanced Networking I	5	Integrated Course	Oral (25 min)
	3.02	Multimedia Networking	5	Lecture	Written (120 min) or Oral (25 min)
	3.03	Advanced Networking II	5	Integrated Course	Oral (25 min)
	3.05	Foundations of Mobile Communications	5	Lecture	Written (120 min) or Oral (25 min)
	3.06	Advanced Topics in Computer Networking I	5	Seminar	Presentation (45-90 min) and written report
	3.07	Advanced Topics in Network Security	5	Seminar	Presentation (45-90 min) and written report
	3.09	Advanced Topics in Internet Research (I)	6	Seminar	Presentation (45-90 min) and written report
	3.10	Advanced Topics in Internet Research (II)	6	Seminar	Presentation (45-90 min) and written report
	3.11	Advanced Topics in Mobile Communications II	5	Seminar	Presentation (45-90 min) and written report
	3.12	Network Security	5	Lecture	Written (120 min) or Oral (25 min)
	3.13	Advanced Topics in Mobile Communications I	5	Lecture	Written (120 min) or Oral (25 min)
	3.14	Practical Course on Advanced Networking	6	Lab	written report (12-14 pages) + presentation incl. discussion (40 min)
	3.15	Peer-to-Peer Networks	5	Lecture	Written (120 min) or Oral (25 min)
	3.16	Selected Topics in Internet Technologies	5	Seminar	Presentation (45-90 min) and written report
	3.17	Selected Topics in Advanced Networking	5	Integrated Course	Written (120 min) or Oral (25 min)
	3.18	Practical Course in Advanced Topics in Mobile Communication	5	Lab	Written (120 min) or Oral (25 min)
Business & Law	4.01	Electronic Business and Operations Research, case study based	6	Lecture	Written (120 min) or Oral (25 min)
	4.02	Multimedia and Telecommunications Law	5	Lecture	Written (120 min) or Oral (25 min)
	4.03	Information and Communication Management	5	Lecture	Written (120 min) or Oral (25 min)
	4.04	Cooperate Communications 2.0	5	Lecture	Written (120 min) or Oral (25 min)
	4.05	Business Intelligence	6	Lecture	Written (120 min)
Soft skills	5.01	Presenting and Discussing Scientific Results	5	Seminar	Written (120 min) or Oral (25 min)
	5.02	Communication Skills for International Conferences and Meetings	5	Integrated Course	Written (120 min) or Oral (25 min)

Type	Nr	Name	Credits	Type	Exam Type
	5.03	German as a Foreign Language for Scientists	5	Seminar	Written (120 min) or Oral (25 min)
	5.04	Web 2.0	5	Project	Oral (25 min)
	5.05	German as a Foreign Language	5	Seminar	Written (120 min) or Oral (25 min)
Research	6.01	Research Project	30	Project	Written report (15-20 pages) + presentation incl. discussion (40 min)
	6.02	Master Thesis	30	Thesis	n.a.