



**Subject-specific Study and Examination Regulations for the English-language
Master Programme in Communications Technology
offered by the Faculty of Engineering and Computer Science of Ulm University
of 23 December 2011**

The Senate of Ulm University, in its meeting of 8 December 2011, adopted the following statutes pursuant to § 34 (1) in conjunction with § 19 (1) sentence 2 no. 9 of the Law on Higher Education of the Land of Baden-Württemberg (LHG="Landeshochschulgesetz") in the version of 1 January 2005 (Law Gazette p. 1ff), last amended by article 32 of the Law on the Reform of University Medicine and the Amendment of the Law on Higher Education of the Land of Baden-Württemberg and further laws (Universitätsmedizinengesetz - UniMedG) of 7 February 2011 (Law Gazette p. 47, 64). The President of Ulm University approved these on 23 December 2011 pursuant to § 34 (1) sentence 3 LHG.

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Preliminary remarks on language use

According to Article 3 (2) Basic Law men and women have equal rights; all male designations of persons and positions used in these Regulations apply equally to men and women.

I. General provisions

§ 1 Scope of Application

- (1) These Subject-Specific Study and Examination Regulations contain specific regulations for the master programme in communications technology.
- (2) The Subject-Specific Study and Examination Regulations supplement the General Provisions for Study and Examination Regulations regarding Bachelor and Master Programmes at Ulm University (General Framework) in the applicable version. In case of doubt, the General Framework shall have priority.

§ 2 Academic degrees, study courses (General Framework, § 2)

The Faculty of Engineering and Computer Science of Ulm University offers the master programme in communications technology leading to the academic degree “Master of Science” (“M.Sc.”) with the two specialty areas “microelectronics” and “communications engineering”. Students must decide on one of the two specialty areas when registering for the first exam that is specific to one of the specialty areas. It is possible to change the specialty area once.

§ 3 Beginning of the programme (General Framework, § 3)

The master programme in communications technology begins in the summer semester.

§ 4 Standard period of study (General Framework, § 5)

The standard period of study is 4 semesters.

§ 5 Deadlines (General Framework, § 6 (8,9))

Master students shall complete the modules indicated in the corresponding curriculum by the end of the examination period of the fourth subject-specific semester. They shall lose their right to be examined if they do not successfully complete the modules indicated in the corresponding curriculum –and thus pass the master programme- by the end of the examination period of the seventh subject-specific semester unless they are not responsible for exceeding this deadline.

§ 6 Courses and examinations in English (General Framework, § 7)

- (1) The courses of the compulsory and the elective modules (except language courses) are held in English. It is possible to select modules held in German.
- (2) As a rule, examinations are conducted in the language of the course.

§ 7 Internships (General Framework, § 8)

In the master programme in communications technology students may complete an internship with a minimum duration of 9 weeks; this can be recognized as an ungraded elective module

according to § 17 (2) no. 3. Successful completion of this module requires the submission of an internship report written by the student and a certificate of completion of the internship by the employer (proof of completion of internship). The requirements for such an internship are established in the instruction sheet "Industriepraxis" [internship]. A successfully completed internship corresponds to 9 CP.

§ 8 Subject-specific board of examiners (General Framework, § 10)

- (1) A subject-specific board of examiners shall be formed for the master programme in communications technology.
- (2) The subject-specific board of examiners decides in cases of doubt not covered by these Subject-Specific Study and Examination Regulations or the General Framework.
- (3) The subject-specific board of examiners shall consist of seven members. It shall be composed of four full-time university lecturers or assistant professors from the Faculty of Engineering and Computer Science of Ulm University, two scientific staff members from the Faculty of Engineering and Computer Science of Ulm University and one student of communications technology in an advisory capacity. The term of office of the members with voting rights is two years; that of the student member is one year. It is possible to re-elect members.

§ 9 Types of courses, examination achievements (General Framework, § 16)

- (1) Study objectives and contents are conveyed, in particular, by the following types of courses:
 - lectures
 - exercises
 - tutorials
 - practical courses
 - projects
 - seminars
- (2) The master examination consists of the master thesis and a concluding presentation and discussion thereof as well as written and/or oral examinations according to the modules listed in the curriculum.
- (3) The master programme may require study achievements in a different written or oral form. These may be, in particular, active participation in exercises or accompanying practical courses conducted within the framework of the respective courses of a (partial) module. Achieving a certain number of points or certain grades, e.g. in exercises or accompanying practical courses, may be established as a requirement for admission to the final examination of a (partial) module. Details regarding type, scope and content of such achievements are determined by the person responsible for the respective course. Such requirements must be published in the module handbook no later than two weeks before the beginning of the course.
- (4) Furthermore, written examination achievements such as
 - design work, presentations and implementations, as well as

- written elaborations on a topic (seminar paper, internship report, assignment) may be required.

- (5) Examinations may be –fully or partially– conducted via a computer programme; however, confidentiality of data and integrity of results must be guaranteed.

§ 10 Organisation of module examinations (General Framework, §§ 13 and 16)

- (1) As a rule, written module examinations in the master programme are conducted in the four weeks following the lecture period; retakes take place in the three weeks preceding and the first week of the lecture period of the following semester (examination periods). The subject-specific board of examiners may approve exceptions. The period between the publication of examination results and corresponding retakes may not be less than two weeks.
- (2) Written examinations may not have more than 50% multiple choice questions.
- (3) Admission to concluding module examinations may, according to § 9 (3), be made subject to certain study achievements to be completed during a course.
- (4) Regarding place and time, oral examinations are organised by the examiners themselves. The duration of oral examinations is between 30 and 50 minutes per student. Dates for oral examinations are offered, as a rule, first in the lecture-free period following the module and then, in the two subsequent semesters, at least once per semester.

§ 11 Recognition of study achievements (General Framework, § 12)

- (1) Study achievements completed outside the programme may be recognised up to a limit of 30 CP. The subject-specific board of examiners decides on recognition thereof. Regulations on the recognition of study and examination achievements completed outside Ulm University within the framework of double degree programmes offered by Ulm University remain unaffected.
- (2) Study courses related to communications technology according to § 12 (7) of the General Framework are, in particular, courses in electrical engineering, communications technology, telecommunications and media technology, communications systems technology and computer engineering. The subject-specific board of examiners shall decide on courses not mentioned in sentence 1.

§ 12 Provisions regarding the module master thesis (General Framework, § 16c)

- (1) The master thesis corresponds to 30 CP. Students have six months to complete the master thesis.
- (2) The module master thesis comprises a presentation of about 45 minutes before the examiners including a discussion of the topic of the master thesis or a colloquium on the topic of the thesis.
- (3) The master thesis must be submitted in due time to the student administration office (“Studiensekretariat”) in two bound copies (DIN A 4). Furthermore, electronic copies in the form of PDF files must be submitted, one to the first examiner and one to the student administration office. The date of submission must be recorded.
- (4) As a rule, the master thesis is written in English; however, with the consent of the first examiner it may be written in German.

- (5) If a master thesis is prepared outside the institutes involved in the programme, a thesis project plan must be submitted to the subject-specific board of examiners for approval. The subject-specific board of examiners must check, in particular, whether the planned external thesis project complies with the scientific principles of the study course in communications technology. This approval must be submitted to the student administration office when registering the master thesis.

§ 13 Technical requirements for admission to the master thesis

- (1) Admission to the module master thesis is subject to students having obtained a minimum of 80 CP. All general and specialty area-specific compulsory modules according to the curriculum must have been passed.
- (2) Should one of the requirements under paragraph 1 above not have been complied with, the subject-specific board of examiners may, at the student's request, authorise admission to the master thesis.

§ 14 Assessment of module examinations (General Framework, § 17)

- (1) All examination results according to § 17 (2) no. 1, 2, 6 and 7 –weighted relative to their corresponding credit points– count towards the final mark of the master programme .
- (2) If, within a module, one or more ungraded achievements ("Scheine") are required without constituting admission requirements for the (partial) module examination and if the student meets the defined minimum requirements, such achievement shall be deemed to have been passed. If the student passes the (partial) module examination, he or she may, due to such achievements, be granted an improvement of their module result by 0.3 or 0.4 to attain the next higher intermediate grade. The module handbook indicates which modules allow study achievements according to sentence 1 and a resulting improvement of results according to sentence 2. It is not possible to improve from 5.0 to 4.0. Sentences 1 and 2 are not applicable to seminars, projects and practical courses as these are ungraded achievements.

§ 15 Retake of module examinations (General Framework, § 20)

- (1) Module examinations that were marked as "fail" (5.0) or are deemed not to have been passed may be retaken once.
- (2) Up to two failed (partial) module examinations may be retaken twice.

II. Master programme in communications technology

§ 16 Study objectives of the programme in communications technology

- (1) The objective of the master programme is to qualify students to work independently as engineers. The master programme deepens and complements the scientific and methodological qualifications acquired during undergraduate studies. The master degree is an advanced academic degree in the field of electrical engineering. The master examination leading to the award of the master degree establishes whether a student is capable of independently investigating problems in the field of engineering applying scientific principles, relevant methods and the acquired knowledge. The master degree is a requirement for admission to doctoral studies in the field of electrical engineering.

§ 17 Study contents, admission to (partial) module examinations in the master programme in communications technology

- (1) All modules conclude with a module or partial module examination.
- (2) Module and partial module examinations corresponding to the curriculum of communications technology must be done in the following module groups:
 1. General compulsory modules, 26 CP.
 2. Compulsory modules in specialty areas:
 - in the specialty area “communications engineering”, a volume of 16 CP
 - in the specialty area “microelectronics”, a volume of 14 CP
 3. Compulsory modules German, a volume of 8 CP
 4. Practical courses and projects, a volume of between 10 and 20 CP
 5. Non-technical elective modules, a volume of between 2 and 4 CP
 6. Technical-scientific elective modules, a minimum volume of 16 CP in the specialty area “communications engineering” and a minimum volume of 18 CP in the specialty area “microelectronics”
 7. Master thesis, 30 CPCompulsory, compulsory elective and elective modules as well as non-technical modules and their respective volumes are indicated in the curriculum.
- (3) The modules completed according to paragraph 2 no. 4, 5 and 6 above must total a minimum volume of 40 CP in the specialty area “communications engineering” and a minimum volume of 42 CP in the specialty area “microelectronics”.
- (4) Students whose native language is German and foreign nationals with a German university entrance qualification (“Bildungsinländer”) as well as students who are proficient in German (level corresponding to DSH-1) must choose modules from the language centre or the Humboldt study centre instead of the compulsory modules in German.
- (5) Technical-scientific modules and exams –up to a volume of 10 CP– may be completed outside the field of engineering.
- (6) Modules are listed in the curriculum and requirements are described in the module handbook. Curriculum and module handbook must be kept up to date.

III. Final provisions

§ 18 Effective date and transitional provisions

- (1) These Subject-Specific Study and Examination Regulations shall take effect in the summer semester 2012. They shall be published in the Official Bulletin (“Amtlichen Bekanntmachungen”) of Ulm University. At the same time, the subject-specific study and examination regulations for the master programme in communications technology offered by the Faculty of Engineering and Computer Science of Ulm University of 23 July 2004, published in the Official Bulletin no. 12 on 4 August 2004, p. 82-96, shall cease to have effect subject to paragraph 2 below.
- (2) Paragraph 1 above is not applicable to students enrolled in the second or a higher subject-specific semester of the master programme in communications technology at the effective date of these regulations. Such students complete their studies under the subject-specific

study and examination regulations for the master programme in communications technology offered by the Faculty of Engineering and Computer Science of Ulm University of 23 July 2004.

The above regulations have been agreed upon. They are hereby executed and shall be published.

Ulm, 23 December 2011

Prof. Dr. Karl-Joachim Ebeling
- President -

Courtesy translation