

This translation is only for general information and must not be used in connection with any legal proceedings. Only the original German version is legally binding.

TECHNISCHE UNIVERSITÄT ILMENAU

Academic regulations for the Major in Communications and Signal Processing with the degree "Master of Science"

According to § 3 par. 1 in conjunction with § 34 par. 3 of the Thüringer Hochschulgesetz (Thuringian University Act, ThürHG) dated 21 December 2006 (GVBl, page 601) last amended by Art. 16 of the Act dated 21 December 2011 (GVBl, page 531) and based on the Examination Regulations – General Provisions – for study courses in Bachelor's and Master's degrees (PO-AB) as published in Verkündungsblatt (Official Journal) of the university No. 115/2013, in the respective current version, and the Examination Regulations – Special Provisions – (PO-BB) for the major in Communications and Signal Processing with the degree "Master of Science" as published in Verkündungsblatt (Official Journal) of the university No.124/2013, in the respective current version, the Technische Universität Ilmenau (hereinafter referred to as "university") has enacted the following Academic Regulations for the major in Communications and Signal Processing with the final degree "Master of Science".

The Council of the Department of Electrical Engineering and Information Technology adopted these Regulations on 5th June 2012 and on 11th December 2012. The Senate of the TU Ilmenau supported these Regulations on 25th September 2012 and 19th March 2013. The President of the University authorized the Regulations on 23rd April 2013. These Regulations were submitted to the Ministry for Education, Science and Culture of the Free State of Thuringia in a letter dated 23rd April 2013.

Table of contents

- § 1 Scope of the Regulations
- § 2 Standard length of study, profile type
- § 3 Admission requirements
- § 4 Content and aims of the program, occupational areas
- § 5 Structure and content of the program, curricula
- § 6 Teaching and learning methods
- § 7 Counselling and academic advice
- § 8 Effective date of Regulations

Appendix 1: Curriculum

Appendix 2: Admission requirements

§ 1 Scope of Regulations

(1) Based on the Examination Regulations – General Provisions – for majors with the final degree "Bachelor" or "Master" (PO-AB), published in Verkündungsblatt (Official Journal)

No. 115/2013 and the respective current version of the Examination Regulations – Special Provisions – (PO-BB) for the major “Master of Science in Communications and Signal Processing”, the Academic Regulations (StO) lay down the content, aims, structure and organization of this course.

(2) All references to people and roles in these regulations apply equally to men and women.

§ 2 Standard length of study, profile type

(1) The curriculum provided in the appendix is part of these regulations and arranged in such a way that the degree course, with all its examinations, pass-fail certificates and the master thesis required, can be completed in the standard course length of four semesters.

(2) According to the criteria set by the Accreditation Council, the profile type of this major is “more research oriented”.

§ 3 Admission requirements

Apart from the general admission requirements for a Master’s program according to the Thuringian University Act, the special admission requirements for this major mentioned in appendix 2 also apply.

§ 4 Content and aims of the program, occupational areas

(1) This program aims at a research-oriented elaboration and extension of pre-existing fundamental scientific training and expertise gained in the fields of communications engineering and signal processing. The focus is on communication networks, mobile communications and array signal processing, especially relating to future communications systems. In addition to imparting knowledge in lectures and seminars, students are able to develop academic skills independently while working on scientific projects. The results achieved are presented to fellow students in presentations.

(2) Occupational opportunities and fields of specialization are offered to graduates of this major in the following areas of activity:

1. Research and development in international groups and research centers
2. Project planning
3. Technical advice and consultation
4. Teaching and training
5. Management

§ 5 Structure and content of the program, curricula

(1) The course program covers a total of 120 ETCS and consists of modules. A module consists of one or more lecturing assignments which are coordinated in terms of content and time and which are to be understood as a single teaching unit. Each individual module contains the mediation and development of the subject areas and the appropriate competences. The program contains 14 obligatory modules, one optional module and the Master’s thesis. All modules are described and explained in the module handbook. A module can cover the contents of a single semester, an entire academic year or even several semesters. It is recommended to follow the suggested sequence of modules in the curriculum.

(2) Based on the university's current range of non-technical modules, the student selects an optional module worth at least 5 ECTS in the second semester according to his/her special interests.

(3) In order to acquire basic knowledge, specific expertise, to extend and deepen the teaching content presented in lectures and seminars, studying scientific literature is essential. Therefore, students should refer to literature relevant to their course right from the beginning of the program. The students can use the facilities offered by the university library.

(4) The students are invited to support and contribute to the university's autonomous committees.

§ 6 Teaching and learning methods

The major organizational forms of the program are lectures, tutorials, and seminars. This list of organizational forms does not exclude other types of teaching.

§ 7 Counselling and academic advice

(1) The Department of Electrical Engineering and Information Technology appoints an academic advisor.

(2) The academic advisor and the Division for Education of the Department of Electrical Engineering and Information Technology advise students individually.

§ 8 Effective date of Regulations

The Academic Regulations come into force on the day they are published in the Verkündungsblatt (Official Journal) of the university. These Regulations are valid for all students starting their major in the winter semester 2013/14.

Ilmenau, 23 April 2013

Signed by

Univ.-Prof. Dr. rer. nat. habil.

Dr. h. c. Prof. h. c. mult. Peter Scharff

President

Anlage 1: Curriculum – no translation

Anlage 2: Admission requirements for the major Communications and Signal Processing

§ 1 Admission to the program

A person is entitled to study when he/she has achieved 180 ECTS in a subject-relevant major of at least six semesters, has passed the aptitude test according to § 2 and has met the language requirements according to § 3.

§ 2 Aptitude test

(1) Without prejudice to the general admission requirements, admission to the major Communications and Signal Processing depends on passing the aptitude test successfully. The aptitude test serves the purpose of determining the candidate's skills and knowledge and whether he/she meets the specific subject-related requirements for the major.

(2) The goal of the aptitude test is to prove the subject-specific suitability of a candidate in form of a combination of weighted characteristics according to paragraphs 3 to 5 and according to the overall score. To pass the aptitude test, the candidate must achieve a minimum total score of 85 points.

(3) According to § 60 para.1 Nr. 4 ThürHG, degrees in the following majors are worth 40 points:

- Electrical engineering and information technology with a focus on information and communications technology
- Computer and systems engineering with a focus on telecommunications technology and measurement

The following, closely-related majors are worth 30 points:

- Electrical engineering and information technology with focus on
 - Biomedical engineering.
 - Micro-, Nano-electronics and electro-technology or
 - Automation technology / Energy technology
- Media technology
- Computer and systems engineering with focus on
 - Applied computer science in technology and environment
 - Integrated hardware and software systems
 - Medical informatics
 - Systems technology
 - Multimedia information and communication systems

The following, non-related majors are worth 20 points:

- Engineering sciences or natural sciences.

Additionally, the level of qualification is evaluated according to the final grade:

- a) very good = 30 points
- b) good = 20 points
- c) satisfactory = 10 points

(4) If a final grade of "good" or "very good" has been achieved in the following major-related subjects or subject groups:

- Communications engineering
 - Digital signal processing
 - in a subject, which is considered an essential component of the desired major
- or
- in the final grade of the Bachelor thesis or an equivalent final paper with at least the grade "good"
- or
- when providing proof of verifiable qualified work experience of at least one year, an additional 5 points each, up to a maximum of 20 points is awarded.

(5) The applicant has the opportunity of achieving a maximum of 30 points in an interview, which will take 20 minutes. Within an appropriate period of time, the Technische Universität Ilmenau will inform the candidate about the precise date and place of the

interview. The interview is conducted by a commissioned staff member appointed by the major studies committee. In the interview, the following aspects are evaluated:

a. Language skills (communication behavior, ability to answer questions referring to typical topics in the subject field; the ability to communicate well with different conversation partners, and to ability to express oneself in the English language, using common technical terms relating to the subject)

b. Expertise and professional competence (especially referring to professional qualifications gained when studying in a Bachelor program and beyond the program; areas of focus and prioritization or specializations and projects with reference to the Master's major based on the Bachelor major and the Bachelor thesis; internships during the Master program; specific professional skills or internships abroad with reference to the Master's major)

During the interview, written record will be taken of the names of the participants, the length of time of the interview and the questions raised and answers given, as well as the general progression of the interview. If a candidate cancels the interview without informing the Group or Board or without stating good reasons or if the candidate terminates the interview outright, no points will be awarded.

(6) The University Admissions Office is responsible for the decision on the candidate's suitability according to par. 3.

The Examination Board decides on the candidate's suitability in the course of the other appropriate test and in case of doubt.

§ 3 Language requirements

Concerning language requirements, the following skills must be certified:

For English native speakers:

- university entrance qualification issued in English and/or
- first academic university degree issued in English.

For non-native English speakers:

Proof of English language skills is to be certified by:

TOEFL, Test of English as a Foreign Language, minimum score:

- 79 IBT (Internet-Based Test)
- or 213 CBT (Computer-Based Test)
- or 550 ITP (Institutional Testing Program)

or IELTS, International English Language Testing System

- Minimum score: 6.5

or CEFR, Common European Framework of Reference for Languages

- level: C1

or Cambridge Exam

- level: CAE (Certificate of Advanced English)

or APIEL, Advanced Placement International English Language Test

- level: 3