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Study regulations

for the degree programme Mechatronics and Robotics (Bachelor of Engineering) at the Faculties of Mechanical Engineering and Electrical Engineering at Schmalkalden University of Applied Sciences

dated 24 October 2023

In accordance with Sections 3 , subsection 1 and Section 38, subsection 3 of the Thuringian Higher Education Act (ThürHG) dated 10 May 2018 (GVBl. p. 149), last amended by article 1 of the Act of 7 December 2022 (GVBl. p. 483) in conjunction with Sections 16, subsection 1, sentence 2 no.1, 21 Para. 1 Sentence 4 No. 4, 22 Para. 3 of the Basic Regulations of Schmalkalden University of Applied Sciences dated 11 April 2019 (Thuringian State Gazette No. 18/2019, p. 807), Schmalkalden University of Applied Sciences issues the following on the basis of the examination regulations approved by the President on 24 October 2023 the following study regulations for the Bachelor's degree programme in Mechatronics and Robotics. The Council of the Faculty of Mechanical Engineering adopted the study regulations on 11 October 2023, the Council of the Faculty of Electrical Engineering adopted the study regulations on 11 October 2023; the Central Study Commission approved them on 18 October 2023. The President of Schmalkalden University of Applied Sciences approved the study regulations in a decree dated 24 October 2023.

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§ 1 Scope of application

These study regulations, in conjunction with the applicable examination regulations for the Mechatronics and Robotics (Bachelor of Engineering) degree programme, govern the objectives, content and structure of the Mechatronics and Robotics (Bachelor of Engineering) degree programme at Schmalkalden University of Applied Sciences.

§ 2 Study requirements and commencement of the programme

(1) Admission to the Mechatronics and Robotics (Bachelor of Engineering) degree programme at Schmalkalden University of Applied Sciences requires a general or subject-restricted higher education entrance qualification, an entrance qualification for universities of applied sciences or an entrance qualification recognised as equivalent by law or by the responsible state authority.

(2) Applicants from countries outside the area of application of the German constitution who do not have the higher education entrance requirements according to § 67, sub. 1 to 3 ThürHG, but who are entitled to study there after successfully attending an educational institution in their home country, can be admitted to the degree programme based on the higher education entrance examination statutes of Schmalkalden University of Applied Sciences.

(3) Proof of a ToEFL with at least 86 points (internet-based) or an IELTS with at least 6.5 points (overall score) is required for admission to the degree programme. Persons whose native language is English are exempt from this requirement. In cases of doubt, the examination board will decide.

(4) In general, first-semester studies can only be commenced at the beginning of the summer semester.

§ 3 Aims and contents of the degree programme

(1) The Bachelor's degree programme in Mechatronics and Robotics qualifies graduates to work as engineers. The degree programme combines training concepts of electrical engineering and information technology with the training concepts of mechanical engineering. Graduates of the Mechatronics and Robotics degree programme can work in product development, production and manufacturing technology, automation technology, quality and project management as well as in marketing and technical sales of mechatronic systems. Design and simulation as well as trials and testing are just as relevant as production and manufacturing, including recycling. Companies in the field of mechanical and plant engineering, but also in the automotive and supplier industry, consumer electronics, the aerospace industry, drive, automation and conveyor technology as well as machine tool construction are potential employers. There are also career prospects in the fields of robotics, medical technology, energy technology and environmental technology.

(2) The Mechatronics and Robotics degree programme enables students to develop their specialist knowledge through the following two specialisations:

- Mechanical Engineering (MB) and
- Electrical Engineering (ET).

In the first and second semesters, students are divided equally between the two faculties of Electrical Engineering and Mechanical Engineering. At the start of the third semester, students choose a specialisation.

Participation in the five modules "German Language (German as a foreign language)" from the first to the fifth semester is compulsory for students of the degree programme. The language lessons are intended to prepare them for a possible job in a company in Germany as well as for the engineering internship and the final internship. Students with German as their native language are exempt from participating in "German as a foreign language". For

them, the Examination Board will determine substitute modules from the German-language Bachelor's degree programmes of the faculties. For persons with a good knowledge of German whose native language is not German, the Examination Board can decide on the student's request whether the regulation can be applied accordingly.

(4) The degree programme includes two practical phases: the engineering internship and the thesis phase. Both are preferably completed in industrial companies. This ensures a high level of practical relevance in the engineering work, consolidation of German language skills, and intensive preparation for professional practice in a corporate environment.

(5) An individual profile is created through the composition of the compulsory elective modules in the field of mechanical engineering or electrical engineering/electronics, as well as through the formulation of the tasks for the engineering internship and the final thesis in one of these directions.

§ 4 Structure of the degree programme

(1) The degree programme comprises seven semesters. The modules up to the fifth semester generally have a workload of 5 ECTS credit points, and the modules of the sixth semester have a workload of 2.5 ECTS credit points.

(2) In the sixth and seventh semesters, students must complete an engineering internship with a duration of at least 25 weeks in total across all semesters. The scope of work equals 35 ECTS credit points. Further details can be found in the work placement regulations (appendix).

(3) The second half of the seventh semester is used to complete the final thesis (Bachelor's thesis). If the Bachelor's thesis is completed in a company, §§ 4 to 6 of the work placement regulations apply.

(4) The courses are divided into compulsory and compulsory elective modules. The module designations, the timing, the ECTS credit points and the type of examination performance can be found in Table 1 of the appendix to the examination regulations. The faculty councils may determine a different sequence of modules for individual year groups. The courses are held in English; this does not apply to the modules "German Language I to V".

(5) There is no legal entitlement to all compulsory elective modules being offered in every semester. The faculty councils decide in good time before the start of the semester which compulsory elective modules will be offered. Compulsory elective modules chosen by fewer than five students may be suspended.

(6) A legal entitlement to a place on the list for laboratory practicals in the compulsory and compulsory elective modules only exists if they are completed in the regular semester of study unless the candidate can credibly demonstrate that they were unable to do so due to a long-term or permanent physical disability or illness. A medical certificate may be required for this purpose.

§ 5 Types of courses

In the Mechatronics and Robotics (Bachelor of Engineering) degree programme, courses can be held in the following form:

Lecture

Coherent presentation and teaching of basic and specialised knowledge as well as scientific methods; the course content is developed by closely linking the lecture with its exemplary consolidation. The lecturer conveys and develops the subject matter with the participation of the students.

Seminar lecture

The course content is developed by closely linking the lecture with its exemplary deepening. The lecturer teaches and develops the subject matter with the participation of the students.

Seminar

Preparation of scientific knowledge or assessment of predominantly new problems using scientific methods through contributions prepared mainly by students.

Exercise

Application-related reflection on subject matter; consolidation of methodological knowledge by solving exemplary tasks, which are solved in individual or group work.

Laboratory practical

Promotion of experience in handling devices and systems through the practical application of methodological knowledge, including the evaluation and assessment of the results obtained.

Project work

Independent solution of a complex task using scientific methods; a whole range of methods can be applied; the tasks set are solved in project groups or as individual work.

§ 6 Cases of hardship

Should the provisions of these study regulations unreasonably affect the interests of students with childcare and caring responsibilities as well as students with disabilities or chronic illnesses, the Examination Board shall, upon request, examine ways to remedy the situation.

§ 7 Equal Opportunities clause

Status and function designations in these regulations apply to all genders.

§ 8 Entry into force

These study regulations apply for the first time to students commencing their studies on the Bachelor's degree programme in Mechatronics and Robotics in the first semester in the summer semester 2024.

Schmalkalden, 24 October 2023

The President Professor Dr Gundolf Baier

Appendix

Work placement regulations for the degree programme Mechatronics and Robotics (Bachelor of Engineering) at the Faculties of Mechanical Engineering and Electrical Engineering at Schmalkalden University of Applied Sciences

§ 1 Engineering internship

- (1) Future mechatronics and robotics engineers should become familiar with modern production methods, gain an insight into the organisation and social structure of a company and be introduced to the professional activities of a mechatronics and robotics engineer. Students should receive practical training on clearly defined projects.
- (2) If possible, the engineering internship should take place in a company where the corporate language is German to expand and consolidate students' language skills.
- (3) The engineering internship is supervised by Schmalkalden University of Applied Sciences and is part of the degree programme.
- (4) The engineering internship is regulated based on a training contract between the student and the internship location.

§ 2 Admission and duration of the engineering internship

- (1) Students can only be admitted to the engineering internship if they provide proof of 100 ECTS credit points to the Internship Office of the Faculty at the beginning of the engineering internship as well as a company to intern at.
- (2) An engineering internship completed without admission will not be recognised.
- (3) Students must select a professor or another person at Schmalkalden University of Applied Sciences who is authorised to conduct examinations per § 54, sub. 2 ThürHG as their supervisor before the start of the engineering internship. The supervisor confirms the internship topic. If necessary, further supervisors can be appointed.
- (4) The engineering internship comprises a total of at least 25 weeks across all semesters. There is no holiday entitlement. The weekly working hours are based on the regulations of the company.

§ 3 Bachelor's thesis as practical work

If the Bachelor's thesis is completed in a company, sections 4, 5 and 6 of these work placement regulations shall apply. The term engineering internship is then synonymous with Bachelor's thesis internship.

§ 4 Work placement location, contracts

- (1) The engineering internship is carried out in close cooperation between Schmalkalden University of Applied Sciences and the companies. Training in one's own or parents' company or in a spouse's company is generally not possible. The Internship Office of the faculty decides on exceptions.

(2) The content of the contract between the internship company and the student shall be drawn up by the student together with the internship company. A copy of the contract must be sent to the Internship Office of the Faculty.

The contract regulates in particular

1. the obligations of the placement company

a) to engage the student for the duration of the engineering internship in accordance with the specified areas of responsibility in the internship,

b) to issue the student with a certificate containing details of the time spent on the work placement, including details of absences and the content of the practical activities, and confirming the success of the training,

c) to appoint a supervisor for the students.

2. students' obligations:

a) to take advantage of the training opportunities offered and to carry out the assigned tasks carefully,

b) to observe the regulations applicable to the internship, in particular work regulations and accident prevention regulations as well as regulations on confidentiality.

(3) The student is required to notify the Faculty's Internship Office immediately if they are absent from the internship placement.

§ 5 Status of students at the practical training centre

During the engineering internship, which is part of the degree programme, students remain enrolled at Schmalkalden University of Applied Sciences with all rights and obligations. The students are not interns within the meaning of the Vocational Training Act and are not subject to the Works Constitution Act or the Staff Representation Act at the internship company. On the other hand, students are bound by the regulations of their work placement location.

§ 6 Liability

(1) Students are legally insured against accidents during the engineering internship following § 2, sub. 1 SGB VII. In the event of an insured event, the internship company shall send a copy of the accident report to Schmalkalden University of Applied Sciences.

(2) The student's liability risk at the work placement location is covered by the general business liability insurance of the work placement centre for the duration of the contract.

§ 7 Report on the internship activity

The placement company shall issue the trainee with a certificate for the work completed, the content of which should correspond to the model in Annex A.

§ 8 Recognition of the engineering internship

(1) During the engineering internship, a project paper on the task completed must be prepared and submitted to the Faculty's Internship Office together with the completed internship certificate (Appendix A) no later than four weeks after the end of the engineering internship. The usual rules for a scientific paper must be observed.

(2) The results of the project work must be presented in a colloquium. The engineering internship is graded at the colloquium. The assessment of a company supervisor shall be included in the grade. The trainee receives confirmation of successful completion of the engineering internship (Annex B).

§ 9 Recognition of practical activities

Upon application, students who have completed a vocational training programme and have completed at least one year of professional engineering work in the field of mechatronics and robotics and have provided evidence in a report per § 8 that the training content of the engineering internship has been imparted through this professional work can be exempted from the engineering internship by way of exception. The Examination Board will decide on the recognition upon application.

Internship Certificate
(Engineering Internship)

Mr/Ms

born _____ in

was employed from _____ to

for practical training as follows:

Type of activity

duration

Type of activity	duration

In total _____ weeks

Days absent during the period of employment:

The regular weekly working hours were:

_____ hours

Additional remarks:

(Place): _____, (date) _____

(Company stamp)

(Signature)

Confirmation
on the successful completion of the engineering internship

Mr / Ms _____

Matriculation
number _____

has completed all the work required for recognition of the engineering internship in accordance with the internship regulations for the Mechatronics and Robotics (Bachelor of Engineering) degree programme at Schmalkalden University of Applied Sciences.

1. completion of practical in-company training:

participated with success

Schmalkalden, (date) _____

(Internship Office)

2. Project work and colloquium:

on the topic of

Grade _____

Schmalkalden, (date) _____

(University Advisor)