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**Organisation and basic structure of the Master's programme in Electrical Engineering and Information Technology** (not part of the Special Section of the Examination Regulations (BPO))

Elektrotechnik, Informationstechnik							Überfachliche Qualifikation
<b>Wahlbereiche</b>	Autonome intelligente Systeme	Energiesysteme & Antriebstechnik	Informationstechnische Systeme	Photonik & Quantentechnologien	Metrologie & Messtechnik	Microelectronics Engineering	Professionalisierung (5-9 LP) und Seminar (3 LP) Master-Teamprojekt / Industriefachpraktikum (8 -12 LP)
<b>Pflicht</b>	Anwendungsbereiche der elektromagnetischen Feldtheorie (5 LP) oder					Advanced Applications of Field Theory(5 LP)	
<b>Vertiefung</b>	Wahlpflichtmodule (min. zwei) aus einem der sechs Wahlbereiche (10-15 LP)						
	Wahlmodule (min. vier) aus einem der sechs Wahlbereiche (20-25 LP)						
	Labore und Praktika (8-10 LP)						
<b>Nebewahl</b>	Wahlmodule aus den verbleibenden fünf Wahlbereichen (20-25 LP)						
Abschlussmodul (Masterarbeit + Präsentation) (30 LP)							

Semester	Elektrotechnik, Informationstechnik (70 LP)					Überfachliche Qualifikation (20 LP)	
	Pflicht	Wahlbereiche			Praktika	Professionalisierung	Prakt. Anwendung
		Vertiefung	Nebewahl				
1	Anwendungsbereiche der elektromagnetischen Feldtheorie  oder Advanced Applications of Field Theory (5 LP)	Wahlpflichtmodule (mind. zwei Module mit 10-15 LP)	Wahlmodule (mind. vier Module mit 20-25 LP)	Wahlmodule (mind. vier Module mit 20-25 LP)	Labore und Praktika (min. 8, max. 10 LP)	Wahlmodule aus TU-Poolangebot überfachlicher Qualifikation (5 - 9 LP) und Seminar (3 LP)	Master-Teamprojekt / Industriefachpraktikum (8-12 LP)
2							
3							
4	Abschlussmodul (Masterarbeit + Präsentation) (30 LP)						

## **Special section of the examination regulations (BPO) for the Master's programme in Electrical Engineering and Information Technology at the Technical University of Braunschweig**

On 17 November 2025, the Faculty Council of the Faculty of Electrical Engineering, Information Technology and Physics (FK EITP) adopted the following Initial regulation amending the special section of the examination regulations for the Master's programme in Electrical Engineering and Information Technology.

### **§ 1 Subject matter and standard period of study**

- (1) These examination regulations govern, in particular, the examination procedure for the Master's programme in Electrical Engineering and Information Technology at the Faculty of Electrical Engineering, Information Technology and Physics.
- (2) The period of study in which the programme can be completed is 4 semesters (standard period of study).

### **§ 2 University degree and certificate**

- (1) After passing the Master's examination (cf. § 4), the TU Braunschweig awards the university degree "Master of Science" (abbreviated: "M.Sc."). The TU Braunschweig issues a certificate in German and English with the date of the certificate in accordance with the APO template.
- (2) In addition, a certificate and a diploma supplement are issued in German and English in accordance with the APO templates, taking into account the programme-specific components. The programme-specific components of the Diploma Supplement are listed in Appendix 1.
- (3) In addition to the overall grade in accordance with Section 16 (2) APO, the certificate lists the grades for the individual modules with their credit points (CP). The

distinction "passed with distinction" is awarded for a grade point average of less than 1.2 when calculating the overall grade. Ungraded modules (§ 4 (2)) are listed with their CP.

### **§ 3 Structure and scope of the programme**

- (1) The programme is organised in modules and comprises a total of 120 CP. The programme is structured as follows:
    - Compulsory area (5 CP)
    - Specialisation, subdivided into compulsory elective part (10–15 CP) and elective part (20–25 CP),
    - Minor elective area (20–25 CP),
    - Laboratories and internships (minimum 8 CP; maximum 10 CP),
    - Interdisciplinary qualification (20 CP) with the areas
      - Professionalisation (5 - 9 CP),
      - Industry internship or Master's team project (8 - 12 CP),
      - Seminar (3 CP),
    - Final module (30 CP).
  - (2) In the first semester, students must choose one of the following specialisations. The chosen specialisation (consisting of compulsory elective and elective courses) determines the thematic focus of the programme. The specialisations are:
    - Autonomous intelligent systems,
    - Energy systems and drive technology,
    - Information technology systems,
    - Photonics and quantum technologies,
    - Metrology and measurement technology
    - Microelectronics engineering
- In order to acquire basic knowledge of the main focus of the programme, at least two modules worth 10 to 15 CP must be completed from the corresponding compulsory elective section (Appendix 2). In addition, modules from the module lists specified for each specialisation (Appendix 3) must be

completed to acquire in-depth specialist knowledge and skills worth 20 to 25 CP (elective component). Compulsory elective modules from the specialisation that have not been taken can also be completed in the elective component.

- (3) In addition, modules (secondary elective area) worth 20 to 25 CP must be selected from the five specialisations not chosen (compulsory elective and elective modules according to Appendices 2 and 3).
- (4) In addition, elective modules worth 5 to 9 CP must be taken in the area of interdisciplinary qualifications, which primarily serve to acquire methodological and social skills (key qualifications). These consist of corresponding modules with interdisciplinary and action-oriented offerings for teaching interdisciplinary and practical professional qualifications or skills (Appendix 2). In addition, a seminar presentation must be given at one of the institutes participating in the programme, which is weighted at 3 CP (Appendix 2). The interdisciplinary qualification/professionalisation is an ungraded academic achievement in accordance with § 4 (2).
- (5) Furthermore, an industrial internship (Appendix 2) must be completed during the course of study, in which the knowledge and skills acquired are applied in practice in engineering-related activities. Further details are regulated in § 4 (7). The industrial internship can be replaced by a Master's team project, which corresponds to the examination requirements of the draft according to § 9 (6) APO. It should be carried out in groups of at least 3 students who work on a higher-level topic to design, analyse or simulate an electrical or information technology system. The Master's team project should be carried out during the semester and is usually limited to one semester. The results shall be summarised in a report in which the individual contributions of the project participants shall be

identified. Furthermore, the results shall be presented in accordance with § 4 (13).

- (6) A total of 70 CP shall be earned from the compulsory area, the specialisation, the minor elective area, laboratories and practical training, and 20 CP shall be earned from the interdisciplinary qualification.
- (7) The final module comprises 30 CP. Further details are regulated in § 5.
- (8) In addition to the Master's thesis, graded modules comprising at least 60 CP must be completed. A course may not be included in different modules. Modules or courses that have already been completed in a Bachelor's programme and certified on the relevant certificate may not be included. Section 6 (3) APO applies to the recognition of corresponding additional examinations.
- (9) In the chosen specialisation, laboratories and/or practical courses totalling at least 8 CP must be completed from the laboratory/practical modules. Modules from the specialisation and a maximum of one module from the minor subject area, each worth 2 or 3 CP, which include a laboratory or internship and are marked accordingly as "with internship" or "with practical experience" are eligible for credit. Modules worth up to 6 CP are credited with 2 CP and modules worth 7 CP or more are credited with 3 CP. Laboratory/practical modules are modules that predominantly or exclusively include laboratory and practical courses. Laboratory/practical modules are permitted up to a maximum of 10 CP. Of these, a maximum of 5 CP may be selected from the minor elective area. The courses listed in Appendix 4 may be selected from the laboratory/practical modules.
- (10) In the specialisation and minor elective area, a maximum of 3 Bachelor's modules from the module handbook of this Master's programme may be selected, which are marked as such in the handbook.

#### **§ 4 Examinations and coursework**

- (1) The Master's examination consists of the subject examinations of the modules and the Master's thesis.
- (2) A module is usually completed with an examination. The possible forms of examination are set out in § 9 APO. Instead of an examination, a module can also be completed by a graded or ungraded study achievement (performance record).
- (3) The modules, qualification objectives, type and scope of the assigned examination or study achievements and the number of assigned credit points are specified in Appendices 2 and 3. The examination content is based on the qualification objectives of the modules. Professional requirements may also be used as an aid in interpreting these objectives.
- (4) Upon request, the Examination Board may approve additional modules in the compulsory elective, elective or professionalisation areas that are not yet included in Appendices 2 to 4.
- (5) In the case of modules with partial examinations in which graded performance assessments can also be obtained, the grades of the performance assessments are not included in the grading of the module.
- (6) The Master's examinations are taken during the course of study. With the exception of the examinations and coursework specified in paragraph 13, the examinations are offered every semester.
- (7) The 10-week industrial internship, which counts towards the degree, must be completed in accordance with the relevant internship guidelines of the FK EITP (guidelines) in their currently valid version. The internship is an ungraded academic achievement in accordance with § 4 (2).
- (8) A change of specialisation or a change of examination subject or examination subjects in the specialisation (compulsory elective and elective) as well as in the minor elective area is possible throughout the entire course of study. It is permissible to repeat a maximum of three examinations that were not passed in the first attempt outside the standard period of study examinations in the specialisation or minor elective area outside the standard period of study on the first attempt, provided that alternative options (Appendices 2 and 3) are available. In accordance with the provisions of § 18 (1) APO, a maximum of three passed examinations in the specialisation or minor elective area may be replaced by additional examinations from the same area.
- (9) If more modules are completed than specified in these examination regulations, the passed examinations from compulsory elective and elective modules with the best grades will be used to calculate the overall grade, unless the student has requested otherwise. The remaining passed compulsory elective and elective modules will be treated as additional examinations in accordance with § 18 APO. The upper limit pursuant to § 16 (2) sentence 5 APO does not apply.
- (10) Notwithstanding § 6 (6) APO, recognition for an examination performance may also be requested if an examination attempt has already been made at TU Braunschweig for this examination performance.
- (11) Notwithstanding § 6 (9) APO, modules that are creditable under these examination regulations and that have been or are to be completed at other universities will also be credited by the examination board if the application for recognition is submitted to the examination board after the start of the stay at the other university. Failed attempts within the framework of

recognised modules at other universities will not be taken into account.

(12) The language of instruction and examinations is generally German. If the course, along with the language of instruction and examination modalities, is marked as an English-language course in the course catalogue and module handbook and is described in English, the language of instruction and examination is English. Students in English-language courses have the option of submitting an informal application to the examination board for a German-language examination by the deadline set by the examination board.

(13) In addition to § 9 (1) of the APO, the following examination and coursework requirements are included:

- a. Project work, design project: methodical and practical design of an electrical or information technology system, circuit, structure or similar using engineering methods, design software, etc. The results are presented in a written paper and/or a presentation or a colloquium.
- b. Advanced seminar: one or more presentations on current topics in accordance with § 9 (7) APO. The focus here is on preparatory exercises for scientific writing and publishing.
- c. Laboratory internship: a series of experimental tasks (§ 9 APO), which are to be completed in the form of laboratory experiments, each involving independent preparation, experiment execution, oral explanation (colloquium) and protocol.
- d. Software internship: a series of programming tasks in the form of

the creation and documentation of computer programmes (§ 9 APO) in the form of the creation and documentation of computer programmes (§ 9 APO), each of which requires independent preparation, implementation, testing, documentation and oral explanation (colloquium).

- e. Presentation: A presentation comprises a lecture of at least 20 minutes and no more than 30 minutes on the topic to be covered, as well as a discussion of the content of the lecture. In all other respects, § 9 (4) APO applies accordingly.

#### **§ 5 Final module**

- (1) The final module consists of the Master's thesis (28 CP) and a presentation (2 CP). Both parts must be passed separately. If the Master's thesis is not passed, the entire final module is failed and can be repeated in accordance with the provisions of § 14 APO.
- (2) Upon application, students who have completed at least 60 CP of examinations and have been definitively admitted to the Master's programme may be admitted to the Master's thesis. Upon admission, students must submit the declaration on plagiarism control in accordance with Appendix 4 of the APO. The declaration shall be attached to the examination files.
- (3) The period from the assignment of the topic to the submission of the Master's thesis shall not exceed six months. The topic may only be returned once and only within two months of its assignment. In individual cases, the examination board may, upon justified request, extend the processing time by up to one third as an exception.
- (4) The presentation referred to in paragraph 1 shall generally be held before the first

examiner and the second examiner of the Master's thesis. Instead of the second examiner, the first examiner may appoint an assessor in accordance with § 5 (1) APO.

- (5) The presentation may be held up to four weeks before the set submission date of the Master's thesis.
- (6) The assessment of the Master's thesis and the presentation shall generally be carried out within six weeks of the submission of the Master's thesis.

### **§ 6 Mentoring and counselling sessions**

- (1) Each student is assigned a professor as a mentor at the beginning of their studies. It is possible to change mentors at the request of one of the parties involved.
- (2) During the course of their Master's studies, preferably in the first semester, each student must have at least one counselling session with their mentor. The mentor shall issue a certificate of participation in the respective counselling session, which must be submitted to the examination board by the end of the semester in question.
- (3) If fewer than 30 LP have been achieved by the end of the second semester, a further mentoring meeting will take place as a mandatory counselling meeting within the meaning of § 8 (2) APO. Notwithstanding § 8 (2) sentence 2 APO, proof of participation is not a prerequisite for admission to further study and examination achievements.

### **§ 7 Registration and admission to examinations**

- (1) The provisions of the APO (Examination Regulations) in their currently valid version shall apply to the registration, admission and repetition of examinations.
- (2) The Examination Office shall notify the candidate in writing of the date of the

supplementary oral examination. In consultation with the examiners and the candidate, this date shall be set no later than one month after the written examination results have been announced. The supplementary oral examination may not take place later than the end of the third month after the written examination results have been announced. In the event of sick leave, a medical certificate must be submitted immediately. From the second sick leave onwards, a certificate from a public health officer must be submitted.

- (3) § 5 (4) APO applies accordingly to the last repeat attempt for oral examinations.

### **§ 8 Entry into force and transitional provisions**

This amendment to the Special Examination Regulations shall enter into force on 1 April 2026. At the same time, the parts of the previous Special Examination Regulations – university public notice of 6 June 2025 (TU Gazette No. 1636) – replaced by these regulations shall cease to be in force.