

**Study and Examination Regulations for the
Bachelor's Degree Programme
Electrical Engineering and Information Technology International at
Deggendorf Institute of Technology**

dated 08 May 2024

Based on Art. 9, 80 para. 1, 84 para. 2 (1) of the Bavarian Higher Education Innovation Act (BayHIG) of 5 August 2022 (GVBl. p. 414, BayRS 2210-1-3-WK), last amended by Section 3 of the Act dated 23 June 2023 (GVBl. p. 251) and by Section 2 of the Act of 24 July 2023 (GVBl. p. 455), Deggendorf Institute of Technology enacts the following by-laws:

**Section 1
Aim of the degree programme**

- (1) This international bachelor's degree programme is primarily aimed at foreign students who, alongside receiving professional education and training, are expected to acquire sound knowledge of the German language as early as in the first three semesters. Doing so should not only enable them to hear lectures in German as of the fourth semester but also open the door to successful entry into the German labour market. Knowledge of German is furthermore a fundamental pre-requisite for long-term integration into German society.

Through practice-based instruction founded on scientific findings and methods, the Electrical Engineering degree programme aims to enable students to pursue a career as an electrical/electronic engineer in the mobility applications field in which they can act on their own responsibility. Comprehensive training in the basic subjects aims to enable students to recognise the essential interrelationships and to acquire the flexibility needed to cope with the rapidly advancing technical development. Training in the relevant subjects also aims to qualify students to recognise the effects of electrical engineering on the environment and to avoid adverse effects as far as possible.

- (2) Following their collective studies, students can then opt for one of three fields of specialisation depending on their personal preference. Irrespective of the field of specialisation chosen, the degree programme aims to qualify students to perform engineering activities in the following fields of work:
- Development (conceptualisation, design, calculation, simulation and construction) of hardware and software,
 - Manufacturing (work preparation, production);
 - Quality assurance,
 - Project planning (designing of systems used in electrical energy technology and in automation and communication technology),

- sales (customer service and project handling),
- installation, commissioning and service,
- Operation and maintenance;
- Monitoring and assessment.

Career opportunities are available not only in commercial and utility companies, but also in public sector administrations and in private practice. Care will be taken to deliver broad-ranging, qualified training that will enable successful graduates to work in a variety of professions. In addition, students acquire in-depth knowledge in a current area of professional practice in the field of electrical engineering.

Section 2

Structure of the programme, standard period of study

- (1) The degree programme comprises a standard period of study of eight semesters with seven theoretical and one internship semester. The sixth semester is the practical study semester.
- (2) The lectures in the first three semesters are held entirely in English. As of the fourth semester, the language of tuition and that applied in the corresponding examinations will be German, the only exceptions being the Physics 2 lecture.
- (3) German courses in the first three semesters enable international students to acquire level B2 in German according to the Common European Framework of Reference for Languages. German students will be required to attend other foreign language courses.
- (4) A total of 240 ECTS credits must be attained.
- (5) As of the seventh semester, the degree programme is split to offer the following specialisations:
 - Automation Engineering (AUT)
 - Communications Engineering and Electronics (NTE)
 - General Electrical Engineering (AET)
- (6) One of the fields of specialisation, either AUT, NTE or AET, is to be selected. Students will make their selection during the fifth semester of the programme. Students not making a choice will be assigned to a field of specialisation.

Section 3

Proof of language proficiency

The following language proficiency must be proven in order to be admitted to this degree programme:

- German: If German is not the native language, proof of German language skills of level A1 as per the Common European Framework of Reference for Languages must be provided.
- English: If English is not the native language, proof of English language skills of level B2 as per the Common European Framework of Reference for Languages must be provided.

Regarding the proof, the regulations in section 3 of the Framework Examination Regulations for additional training in foreign languages and compulsory elective subjects of a general academic nature at Deggendorf Institute of Technology shall apply in the currently valid version.

Section 4 Modules and courses

- (1) The degree programme comprises modules that may consist of thematically related courses. ECTS credits are allotted to each module in keeping with the amount of time students are required to invest.
- (2) The compulsory and elective modules, the lectures, their number of hours, the type of courses, the examinations and the ECTS credits are specified in the Appendix to these by-laws. The regulations of subject-specific compulsory elective modules and compulsory elective subjects of general academic nature are supplemented by the curriculum.
- (3) All modules comprise compulsory modules, compulsory elective modules or optional modules:
 1. Compulsory modules are those modules held during the degree programme which are binding for all students.
 2. Compulsory elective modules are the modules that are offered as alternatives, either individually or in groups. Students must select certain modules from these in accordance with these study and examination regulations. The selected modules will be treated as compulsory modules.
 3. Optional modules are modules that are not mandatory for the achievement of the study objective. They may be additionally selected from the courses offered by the Institute.
- (4) No rights or entitlement exist to all of the envisaged specialisations, compulsory elective modules or elective modules actually being offered. Similarly, no rights or entitlement exist to the accompanying courses of instruction taking place in the event of insufficient student numbers. There is limited freedom of choice within the specialisation. In the specialisation AUT, the "Sensor-Actuator Networks" module can be replaced by any module from the other two specialisations. In the specialisation NTE, the "Communication Technology and Network Engineering" module can be replaced by any module from the other two specialisations. In the specialisation AET, one of the seven compulsory modules can be replaced by any module from the other two specialisations.

Section 5 Curriculum

The responsible faculty, currently the Faculty of Electrical Engineering and Media Technology (EMT), will prepare a curriculum that ensures the relevant courses are offered and provides detailed information on the course of the programme to students. The curriculum is approved by the Faculty Council and announced to the public before the start of the semester. The announcement of changes and/or new regulations must be made no later than at the beginning of the lecture period of the semester in which these changes are to be applied for the first time.

In particular, the curriculum will contain regulations and information regarding:

1. the time allocated for the weekly hours per semester, the time allocated per module and semester, including the attainable ECTS credits;
2. the names of the compulsory and compulsory elective modules as well as their respective number of weekly semester hours;
3. the subject-related compulsory elective modules, including the number of hours involved;
4. the teaching format in the individual modules, provided this has not been conclusively defined in Appendix 1,
5. the type of examination and its duration,
6. the lectures accompanying the internship during the practical semester as well as their form of instruction and organisation
7. detailed provisions for proofs of performance and attendance.

Section 6 Basic Modules

Study and examination achievements up to a scope of 60 ECTS credits, which were acquired in a similarly named or related bachelor's degree programme at a state or state-recognised university of applied sciences in Bavaria in basic modules of the degree programme, shall be credited upon application without further examination to the basic modules in a bachelor's degree programme at the admitting university. The basic modules of this degree programme are marked with a 1) in the curriculum (Appendix 1).

Section 7 Minimum ECTS score requirement (GOP)

By the end of the second semester, students must have taken examinations in the following modules for the first time:

- Mathematics 1,
- Basics of Electrical Engineering and Information Technology 1

for the first time. Past this deadline, the missing examination performance in any examinations of the above-mentioned minimum ECTS score requirement not yet taken will be rated "failed".

Section 8 Entry to various stages of the degree programme

- (1) Admission to the B1 German course and the examination is only permissible if the A2 German course and examination have been passed.
- (2) Admission to the B2 German course and the examination is only permissible if the B1 German course and examination have been passed.

- (3) Only those who have passed the German B2 course and examinations will be admitted to the examinations from the fourth semester onwards.
- (4) Admission to the internship in the fourth semester (for the modules Digital Technology, Electronic Components, Electrical Metrology) is only granted to those who have achieved at least 72 ECTS credits and passed the exams of at least two of the following modules: Mathematics 1, Physics 1, Basics of Electrical Engineering and Information Technology 1.
- (5) Students require at least 110 ECTS credit points before they can commence their chosen specialisation.

Section 9 Internship semester

- (1) The internship semester comprises a minimum of 20 but no more than 24 weeks, of which two are devoted to the courses accompanying the internships (PLVs).
- (2) If the training objective is not affected, then - by way of exception - students need not make up for interruptions in practical work if they are not responsible for these interruptions (e.g. shutdown, illness) and if the total number of days lost due to the interruption is not more than five working days. In the case of a reserve duty training exercise, the make-up period shall be waived if it does not last more than ten working days. Students must prove that they are not responsible for the interruption. If the interruptions extend beyond five and ten working days respectively, students must make up for the total number of lost days. Overtime worked may be counted towards interruptions.
- (3) Entry to the internship semester requires at least 100 ECTS and a pass in all examinations of the first semester modules.

Section 10 Assessment of examination performance; overall examination grade

- (1) ECTS credits are awarded for each successfully passed examination. The number of attainable points per exam is shown in the appendix.
- (2) A student's overall grade is calculated using a weighted arithmetic average of their individual grades. The weighting of each individual grade equates to the number of ECTS credits allocated to the course for which the grade was awarded.
- (3) In addition to the overall examination grade as set out in paragraph 2, a relative grade shall be shown based on the numerical value achieved according to the ECTS User Guide in accordance with the regulations in Section 8 paragraph 6 of the General Examination Regulations of Deggendorf Institute of Technology.
- (4) Should an end-of-module examination comprise multiple module component examinations, a grade of "nicht ausreichend" ("insufficient") awarded in one module component examination may not be offset by a higher grade in another.
- (5) The practical seminar and the internship are only assessed as "passed" or "failed" (grade 5).

Section 11 Bachelor's Thesis

- (1) When writing their bachelor's thesis, students will be required to demonstrate their ability to apply unassisted the knowledge and skills they have acquired in the course of their studies to complex tasks.
- (2) Students who have achieved at least 190 ECTS credits and have passed all examinations from the modules of the first and second semesters can register for the bachelor's thesis.
- (3) The completion time for the bachelor's thesis is six months.
- (4) The bachelor's thesis is to be written in German.

Section 12 Certificate

On passing the bachelor's examination, a corresponding certificate is issued in line with the sample shown in the appendix to the General Examination Regulations of Deggendorf Institute of Technology.

Section 13 Academic degree and diploma supplement

- (1) On successful completion of the bachelor's examination, the academic degree of "Bachelor of Engineering", abbreviated "B.Eng.", is awarded.
- (2) A certificate on the awarding of the academic degree shall be issued according to the respective template given in the appendix to the General Examination Regulations of Deggendorf Institute of Technology.
- (3) A diploma supplement, which describes in particular the essential course content underlying the degree, the course of studies and the qualification obtained with the degree, is enclosed with the certificate in two languages.

Section 14 Coming into effect

These study and examination regulations enter into force on 1 October 2024. They apply to all students commencing the degree programme as of the 2025 summer semester.

Appendix to the Study and Examination Regulations for the Bachelor's Degree Programme Electrical Engineering and Information Technology International at Deggendorf Institute of Technology

B.Eng. Electrical Engineering and Information Technology International				Weekly semester hours (SWS)										Examinations					
Module no.	Module name	Course no.	Course name	SWS	1. Sem.	2. Sem.	3. Sem.	4. Sem.	5. Sem.	6. Sem.	7. Sem.	8. Sem.	ECTS credits per	ECTS	Type of instruction	Admission requirement	Type of examination	Examination duration	
ETI-01(1,2)	Mathematics 1	ETI 1101		8	8									9	SU/Ü		schrP	90 min	
ETI-02(1,2)	Basics of Electrical Engineering and Information Technology 1	ETI 1102	GET1	5	5								6	8	SU/Ü/Pr		schrP	90 min	
		ETI 1103	Basics of Digital Technology	2	2									2		SU/Ü/Pr		schrP	60 min
ETI-03(3)	German A2	ETI 1104		8	8									10		A1 certificate, 75% compulsory	schrP	120 min	
ETI-04(2)	Self-organisation During Your Studies	ETI 1105		2	2									3	SU/Ü		eTN		
ETI-05(1,2)	Mathematics 2	ETI 2101		6		6								7	SU/Ü		schrP	90 min	
ETI-06(1,2)	Basics of Electrical Engineering and Information Technology 2	ETI 2102	GET2	5		5								6	10	SU/Ü/Pr	TN Practical course	schrP	90 min
		ETI 2103	Computer Science 1	3		3								4		SU/Ü/Pr		schrP	90 min
ETI-07(3)	German B1	ETI 2104		8		8								10	SU/Ü/Pr	Passed German A2 exam, 75% compulsory	schrP	120 min	
ETI-08(1,4)	Compulsory elective module of a General Academic Nature (AWP)	ETI 2105	AWP1	2		2								2			5)		
ETI-09(1,2)	Basics of Electrical Engineering and Information Technology 3	ETI 3101	GET3	5			5						5	8	SU/Ü/Pr		schrP	90 min	
		ETI 3012	Computer Science 2	3			3						3		SU/Ü/Pr		schrP	90 min	
ETI-10(1,2)	Materials Science and Applied Solid-State Physics	ETI3103		4			4							5	SU/Ü/Pr		schrP	90 min	
ETI-11 (1,2)	Physics 1	ETI 3104		5			5							6	SU/Ü/Pr		schrP	90 min	
ETI-12(3)	German B2	ETI 3105		8			8							10	SU/Ü/Pr	Passed German B1 exam, 75% compulsory	schrP	120 min	
ETI-13(4)	Compulsory elective module of a General Academic Nature (AWP)	ETI 3106	AWP 2	2			2							2	SU/Ü/Pr		5)		
ETI-14	Computer Technology	ET 4101	Computer Science 3	3				3					4	9	SU/Ü/Pr		schrP	90 min	
		ETI 4102	Digital Technology	4				4					5		SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-15	Electronic components	ETI 4103		6				6						6	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-16	Control Technology 1	ETI 4104		4				4						5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-17	Electrical Metrology	ETI 4105		8				8						6	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-18(1,2)	Physics 2	EEI 4106		5				5						5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-19	Microcomputer Technology	ETI 5101		4					4					5	SU/Ü/Pr		PSA		
ETI-20	Electromagnetic Compatibility	ETI 5102		4					4					5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-21	Circuit Technology 1	ETI 5103		4					4					5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-22	Digital Signal Processing	ETI 5104		4					4					5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-23	Communication Transmission Technology 1	ETI 5105		4					4					5	SU/Ü/Pr		schrP	90 min	
ETI-24	Electrodynamics	ETI 5106		4					4					5	SU/Ü		schrP	90 min	
ETI-25	Internship	ETI 6101	Internship	x						x			23		Pr		Internship report		
		ETI 6102	Practical seminar	2							2			25		S		Presentation/report	5Min/at least 10 DIN A 4 Pages
ETI-26	Practical Courses Taught as Seminars (PLV)	ETI 6103	Practical Course Taught as Seminar (PLV) 1	2						2			2.5	5	SU/Ü		eTN		
		ETI 6104	Practical Course Taught as Seminar (PLV) 2	2							2			2.5		SU/Ü		eTN	
ETI-27 4)	Compulsory elective module of a General Academic Nature (AWP)	ETI 7101	AWP 3	2								2		2			5)		
ETI-28(4)	Compulsory elective module of a General Academic Nature (AWP)	ETI 7102	AWP 4	2								2		2			5)		
ETI-29	Key Qualifications	ETI 8101	Business Administration	2								2		3	SU		schrP	90 min	
		ETI 8102	Scientific Working Methods	2								2		3	SU/S		PSA		
ETI-30	Bachelor's Module	ETI 8103	Bachelor's thesis	x								x	12	14			BA		
		ETI 8104	Seminar	2									2	2		S		mP	30 min
Specialisation Automation Engineering (AUT)																			
ETI-31	Control Technology 2	ETI 7103		4							4			5	SU/Ü/Pr	TN Practical course	schrP	120 min	
ETI-32	Basics of Automation Engineering	ETI 7104		4							4			5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-33	Sensor Actuator Networks	ETI 7105		4							4			5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-34	Plant Automation (PLC)	ETI 7106		4							4			5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-35	Power Electronics	ETI 7107		4							4			5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-36	Vehicle Electronics	ETI 8105		4								4		5	SU/Ü/Pr		schrP	90 min	
ETI-37	Electrical Machines and Drives	ETI 8106		4								4		5	SU/Ü/Pr	TN Practical course	schrP	90 min	
Specialisation Communications Engineering and Electronics (NTE)																			
ETI-38	Communication Transmission Technology	ETI 7108		4							4			5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-39	High-Frequency Technology	ETI 7109		4							4			5	SU/Ü		schrP	90 min	
ETI-40	Grid-based Communication Transmission	ETI 7110		4							4			5	SU/Ü/Pr		schrP	90 min	
ETI-41	Mobile Communication	ETI 7111		4							4			5	SU/Ü/Pr		schrP	90 min	
ETI-42	Communication Transmission Technology 2	ETI 7112		4							4			5	SU/Ü/Pr		schrP	90 min	
ETI-43	High-frequency Measurement Technology/ Microwave Circuit Design	ETI 8107		4								4		5	SU/Ü/Pr	TN Practical course	PSA		
ETI-44	Circuit Technology 2	ETI 8108		4								4		5	SU/Ü/Pr	TN Practical course	schrP	90 min	

Specialisation General Electrical Engineering (AET)																	
ETI-45	Basics of Integrated Circuits and Systems	ETI 7113	4							4		5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-46	System Technologies for Renewable Energies	ETI 7114	4							4		5	SU/Ü/Pr		PStA		
ETI-47	Introduction to Optoelectronics and Laser Technology	ETI 7115	4							4		5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-48	Electric Power Systems	ETI 7116	4							4		5	SU/Ü/Pr		schrP	90 min	
ETI-49	Power Supply Technology	ETI 7117	4							4		5	SU/Ü/Pr	TN Practical course	schrP	90 min	
ETI-50	Production / Quality Assurance in Electrical Engineering	ETI 8109	4							4		5	SU/Ü/Pr		schrP	90 min	
ETI-51	Computer-Aided Simulation in Electrical Engineering	ETI 8110	4							4		5	SU/U		schrP	90 min	
Total SWS			174	25	24	27	30	24	6	24	14						
Total ECTS			240	30	29	31	31	30	30	29	30	240					
as of 28/03/2024																	

Abbreviations:													
ECTS	European Credit Transfer System		schrP	Written examination								Pr	Practical course/lab work
SWS	Weekly semester hours		mP	Oral examination								S	Seminar
ZV	Admission requirements		PSIA	Written assignment								SU	Seminar-based lesson
1)	Basic modules		Pras	Presentation								U	Exercise class
2)	Language of instruction English		PB	Internship report									
3)	In lieu of the German course, native speakers of German are required to select a language course from the Language Centre catalogue which, where English is concerned, must be a level higher than B2.		eTN	Successful participation									
4)	to be selected from the Language Centre catalogue		BA	Bachelor's thesis									
5)	Both examination formats and their duration are specified in the catalogue of selectable elective (AWP) courses		MA	Master's thesis									

Issued based on the resolution of the Faculty Council of the Faculty of Electrical Engineering and Information Technology of Deggendorf Institute of Technology dated 03 April 2024, the approval of the university management dated 08 May 2024 and the regulatory approval of the Vice President of Deggendorf Institute of Technology dated 30 September 2024.

Signed
Prof. Dr. Marcus Herntrei
Vice President

These by-laws were recorded at Deggendorf Institute of Technology on 30 September 2024. They were duly posted on 30 September 2024. Their day of announcement is therefore 30 September 2024.