

**Study and Examination Regulations for the
Bachelor Programme of
(Bachelor of Engineering, B. Eng.)
Industrial Engineering
at the Deggendorf Institute of Technology
dated 01.10.2019**

On the basis of Art. 13 Para. 2 Clause 2, 58 Para. 1, 61 Para. 2 Clause 1 of the Bavarian University and College Act (BayHSChG) of 23rd May 2006 (BayRS 2210-1-1-K), last amended by § 4 of the Act of 10th July 2018 (GVBl. p. 533), the Deggendorf Institute of Technology enacts the following by-laws:

**§ 1
Aim of the study programme**

- (1) The Bachelor programme of Industrial Engineering aims to provide a broad-based interdisciplinary qualification in knowledge-intensive engineering and business administration based on scientific knowledge and methods through practice-oriented teaching. The programme also aims to impart the professional, methodological and social skills that enable the independent application of engineering and scientific knowledge and procedures as well as responsible action in business and society both as an employee and an entrepreneur. Students also acquire international skills and skills in dealing with digital enabling technologies that make it possible to act confidently and competently in a complex and inter-cultural economic environment, especially energy and resource management. International aspects, development of language skills and an optional one-semester stay abroad are of great importance against the background of the increasing internationalisation of economy.
- (2) With a generalist education, primarily in the engineering fields, supplemented by subjects related to business administration, legal basics and key qualifications in the entrepreneurial field, students should, in addition to acquiring business and technical knowledge, be in a position to understand comprehensive interdisciplinary connections, to respond flexibly and to manage people. Graduates should be taught to grasp the rapid change in technical progress, to help develop technical design and solution options and to assess their technical suitability, to evaluate technology concepts economically and to use them for the company by applying economic-scientific principles, and to recognise the impact of decisions on company events, employees and the environment and act with responsibility accordingly.

- (3) The programme is designed to enable generalist work in the following areas:
- business segment and product planning, business development
 - project planning of plants, project management and project controlling
 - modification of processes and systems in the field of energy and resource management as per the rules of sustainable action
 - innovation and technology management
 - technical planning and controlling
 - technical purchasing, organisation and logistics
 - controlling for technical fields
 - working at the interface between technology and business in an international environment
 - assistance to the management, profit centre responsibility
 - divisional management and business management
 - formation of an enterprise and company succession.
- (4) Importance is attached to wide-ranging, qualified, interdisciplinary training that enables graduates to seize diverse career opportunities. The training focuses on implementation-oriented teaching, taking into account the requirements of small and medium-sized companies.

§ 2

Admission requirements

The general admission requirements for studying at a university in accordance with Art. 43, 45 of the Bavarian University and College Act (BayHSChG), in conjunction with the Ordinance on the Qualification for Studying at Universities in the Free State of Bavaria and at State-recognised Non-state Universities (Qualifikationsverordnung-QualV) (BayRS 2210-1-1-3-UK/WFK) as amended, must be met for the Bachelor's programme of Industrial Engineering.

§ 3

Standard period of study, structure of the programme

1. The standard period of study for the programme is seven semesters with six theory semesters and one practical semester. The sixth semester is the practical study semester.
2. Courses and examinations in the first and second semesters are conducted in German and English. From the third semester, the courses and examinations are conducted in English. The thesis can be written in German or English.
3. Three subject-specific elective modules must be taken in the seventh semester. At least two of them must be from the technical field and one from the economic field. The division into technical and economic fields is marked accordingly in the curriculum.

§ 4 Proof of language skills

The programme is predominantly conducted in English, which is why a proof of English language skills of level B2 of the Common European Framework of Reference for Languages of the Council of Europe must be submitted at the time of applying.

All applicants, who have not acquired their qualifications at a German institution, must submit proof of adequate German language skills in order to be admitted to the programme. Proof is provided by submitting a certificate or a comparable confirmation that indicates language skills of level B2 (or higher) of the Common European Framework of Reference for Languages of the Council of Europe. The Examination Committee of the university's Language Centre decides on the comparability. If proof cannot be provided at the start of the programme, enrolment is subject to the resolutive condition that the proof is provided by the end of the fourth semester at the latest.

Regarding the proof, the regulations set out in § 3 of the framework examination regulations for additional training in foreign languages and general academic elective courses at the Deggendorf Institute of Technology shall apply.

§ 5 Modules

- (1) The programme comprises modules that can be composed of thematically-related courses. Each module is assigned ECTS credits that take into account the time required by students to complete the module.
- (2) The compulsory and elective modules, form of teaching, number of hours, form of examinations as well as ECTS credits are set out in the annex to these by-laws. Regulations are supplemented by the curriculum for the general and subject-specific elective modules.
- (3) Modules can also be taught in blocks.
- (4) There is no claim that all available elective and optional modules will actually be offered. Likewise, there is no claim that the accompanying courses will be held when the number of participants is insufficient.

§ 6 Curriculum

The responsible faculty draws up a curriculum to safeguard the range of courses and to inform the students. Details of the course of studies are derived from this curriculum. The curriculum is decided by the Faculty Council and announced within the university before the semester starts. Changes or new regulations are announced, at the latest, at the beginning of the lecture period of the semester in

which these changes are to be implemented for the first time. In particular, the curriculum contains regulations and information regarding

1. the time distribution of weekly semester hours per module and study semester including ECTS credits,
2. names of the compulsory and elective modules, number of hours, course type,
3. the form of teaching in the individual modules, if they have not been definitively set out in the annex,
4. the study objectives and course content of individual modules (module handbook),
5. the goals and contents of practical work and the courses accompanying the internships in the practical semester, as well as their form and organisation.

§ 7

Departmental student advisory service

Students, who have not yet acquired 40 ECTS credits after two semesters, are advised to consult the study advisory service.

§ 8

Test in fundamentals and orientation

By the end of the second semester, students must have taken the module examination for the following modules for the first time

- IE-01 Analytical Principles of Engineering
- IE-03 Technical Mechanics I
- IE-05 Principles in Business

§ 9

Practical study semester

- (1) The sixth semester of the course is intended to be a practical study semester. It comprises at least 20 weeks and includes an internship in a company, as well as accompanying courses as indicated in Annex 1. It is important to ensure that the tasks given during the internship are mainly related to technical topics.

In duly justified exceptional cases, proof of practical activity can be substituted by subject-related practical training. This is decided by the person in charge of practical training at the faculty.

- (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. When performing a military exercise, students need not make up for the interruption if it does not extend beyond 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. Work completed as overtime can offset interruptions.

- (3) Admission to the practical study semester requires a minimum of 120 ECTS credits.

§ 10

Assessment of examination performance

- (1) There is an examination for each module. If a module examination consists of several examination performances, the module grade is calculated from the arithmetic mean of the individual examination performances, which is rounded down to one decimal place. Individual examination performances are weighted according to the allotted ECTS credits. For the stipulated ECTS credits, see Annex – Overview of Modules. ECTS credits are awarded only after the successful completion of modules. The ECTS credits per course are used to calculate the module grade.
- (2) If a module examination consists of several examination performances, the grade "nicht ausreichend" (Fail) in one partial examination cannot be compensated by a better grade in another partial examination.
- (3) The overall examination grade is calculated by taking the weighted arithmetic mean of individual grades. The weight of an individual grade is the same as the number of ECTS credits allocated to the subject for which the grade was awarded.
- (4) In addition to the overall examination grade in accordance with Para. 3, a relative grade based on the numerical value attained is shown according to the ECTS user guide as per regulations contained in § 8 Para. 6 of the general examination regulations of the Deggendorf Institute of Technology.

§ 11

Bachelor thesis

- (1) In the Bachelor thesis, students should demonstrate their ability to independently apply the knowledge and skills, which they have acquired during their studies, to complex tasks.
- (2) Anyone who has obtained 150 ECTS credits can register for the Bachelor thesis.
- (3) Students independently try to find a corresponding topic from the industry and/or related to public institutions.
- (4) The Bachelor thesis can be written in English or German. It is important to ensure that the topic is mainly related to the technical field. Professors from the faculty issue topics in consultation with supervisors from the industry and/or public institutions.
- (5) The Bachelor thesis must be prepared within 6 months.

§ 12 Certificate

A certificate of the passed Bachelor examination is issued in accordance with the respective sample in the annex to the general examination regulations of the Deggendorf Institute of Technology.

§ 13 Academic degree and diploma supplement

- (1) On successful completion of the Bachelor examination, the academic degree of "Bachelor of Engineering", abbreviated "B.Eng.", is awarded.
- (2) A certificate granting the academic degree is issued in accordance with the respective sample in the annex to the general examination regulations of the Deggendorf Institute of Technology.
- (3) The certificate is bilingual. A diploma supplement, which particularly describes the essential course content underlying the degree, the course of studies and the qualification obtained with the degree, is additionally included.

§ 14 Coming into effect

These study and examination regulations come into effect from 01 October 2019. They shall apply for all students who start their studies in the 2019/2020 winter semester.

Annex 1

Curriculum for the Study and Examination Regulations for the Bachelor Programme of "Industrial Engineering"

Bachelor Industrial Engineering			Weekly Semester Hours (SWS)							ECTS	Course Type	Examination	
Module Nr.	Course Nr.	Module/Course	SWS	1. Sem.	2. Sem.	3. Sem.	4. Sem.	5. Sem.	6. Sem.				7. Sem.
Overview Module- and Course Numbers, Module- and Course Titles, SWS and ECTS													
IE-01		Analytical Principles of Engineering Analytische Grundlagen des Ingenieurstudiums	4	4							5	SL/E	Wr. Ex. 90 min.
IE-02		Informatics for Engineering I Ingenieurinformatik I	4	4							5	SL/E	Wr. Ex. 90 min.
IE-03		Technical Mechanics I Technische Mechanik I	4	4							5	SL/E	O. Ex.
IE-04		Accounting Bilanzierung	4	4							5	SL/E	Wr. Ex. 90 min.
IE-05		Principles in Business Unternehmerische Grundlagen	6	6							6	SL/E	Wr. Ex. 90 min.
IE-06		Foreign Language I Fremdsprachen I	4	4							4	SL/E	Wr. Ex. 90 min.
IE-07		Mathematics for Engineering Ingenieurmathematik	4		4						5	SL/E	Wr. Ex. 90 min.
IE-08		Informatics for Engineering II Ingenieurinformatik II	4		4						5	SL/E	Report or Presentation
IE-09		Technical Mechanics II Technische Mechanik II	4		4						5	SL/E	Wr. Ex. 90 min.
IE-10		Business Law Wirtschaftsrecht	4		4						5	SL/E	Wr. Ex. 90 min.
IE-11		Physics Physik	6								6		
		Physics Physik			4						4	SL/E	Wr. Ex. 90 min.
		Lab work in Physics Laborpraktikum in Physik			2						2	SL/E/Pr	Report or Presentation
IE-12		Foreign Language II Fremdsprachen II	2		2						2	SL/E	Wr. Ex. 60 min.
IE-13		Compulsory elective subjects of a general academic nature (AWP) I Allgemeinwissenschaftliches Wahlpflichtmodul (AWP) I	2		2						2	SL/E	Wr. Ex. 60 min. or RP
IE-14		Applied Mathematics Angewandte Mathematik	4			4					5	SL/E	Wr. Ex. 90 min.
IE-15		Fundamentals of Electrical Engineering Grundlagen Elektrotechnik	4			4					5	SL/E	O. Ex.
IE-16		Energy Technology Energietechnik	4			4					5	SL/E	Wr. Ex. 90 min.
IE-17		Scientific Writing, Research Methods and Project Management Wissenschaftliches Arbeiten, Forschungsmethoden und Projektmanagement	4			4					5	SL/E	Report or Presentation
IE-18		Chemistry Chemie	6								6		
		Chemistry Chemie				4					4	SL/E	Wr. Ex. 90 min.
		Lab work in Chemistry Laborpraktikum in Chemie				2					2	SL/E/Pr	Report or Presentation
IE-19		Foreign Language III Fremdsprachen III	4			4					4	SL/E	Wr. Ex. 90 min.
IE-20		Financing Finanzierung	4				4				5	SL/E	Wr. Ex. 90 min.
IE-21		Logistics and Operations Research Logistik und Operations Research	4				4				5	SL/E	Wr. Ex. 90 min.
IE-22		Renewable Energies Regenerative Energien	4				4				5	SL/E	Wr. Ex. 90 min.
IE-23		Plant Engineering Anlagenplanung	4				4				5	SL/E	Wr. Ex. 90 min.
IE-24		Compulsory elective subjects of a general academic nature (AWP) II Allgemeinwissenschaftliches Wahlpflichtmodul (AWP) II	2				2				2	SL/E	Wr. Ex. 60 min. or RP
IE-25		Foreign Language IV Fremdsprachen IV	2				2				2	SL/E	Wr. Ex. 60 min.
IE-26		Fundamentals of Measurement and Control Engineering Grundlagen Mess- und Regeltechnik	4				4				5	SL/E	Wr. Ex. 90 min.

IE-27	Applied Measurement and Control Engineering Angewandte Mess- und Regeltechnik	4						4			5	SL/E/Pr	Report or Presentation
IE-28	Process reliability Prozesssicherheit	4						4			5	SL/E	Wr. Ex. 90 min.
IE-29	Intercultural Competences Interkulturelle Kompetenzen	4						4			5	SL/E	Report or Presentation
IE-30	Sustainability Nachhaltigkeit	4						4			5	SL/E	RP
IE-31	Management Management	4						4			5	SL/E	Wr. Ex. 90 min.
IE-32	Project Work Projektarbeit	6						6			6	SL/E	Report and Presentation
IE-33	Internship Praktikum	26									26		
	PLV I PLV Seminar I	2							2		2	S/Pr	
	PLV II PLV Seminar II	2							2		2	S/Pr	
IE-34	Compulsory Elective I Fachwissenschaftliches Wahlpflichtmodul I (FWP)	4								4	5	SL/E	Wr. Ex., Report, Presentation or O. Ex.
IE-35	Compulsory Elective II Fachwissenschaftliches Wahlpflichtmodul II (FWP)	4								4	5	SL/E	Wr. Ex., Report, Presentation or O. Ex.
IE-36	Compulsory Elective III Fachwissenschaftliches Wahlpflichtmodul III (FWP)	4								4	5	SL/E	Wr. Ex., Report, Presentation or O. Ex.
IE-37	Bachelor Module Bachelormodul	14									15		
	Bachelor thesis Bachelorarbeit									10	12	BA	
	Applied communication techniques / Bachelor Seminar Angewandte Kommunikationstechniken / Bachelor Seminar									4	3	SU/Ü	O. Ex.
	Gesamt SWS	184	26	26	26	24	26			26	154		
	Gesamt ECTS		30	30	30	29	31	30		30	210		

Abbreviations:														
BA	Bachelor thesis												Report/Presentation	Report Limit 10 DIN A 4 pages / Presentation Limit 30 minutes
ECTS	European Credit Transfer System												S	Seminar
O. Ex.	Oral Examination, 30 minutes												Wr. Ex.	Written Examination
Pr	Practical Work												SL	Seminar-style lesson
RP	Research Paper												SWS	Weekly semester hours
	Limit: 20 DIN A 4 pages, time to edit 6 weeks												E	Exercise

Compulsory Electives:														
		Process Engineering / Verfahrenstechnik												
		Data Acquisition and Processing / Datenerfassung und -verarbeitung												
Engineering		Industrial Automation and Information Technology / Industrielle Automatisierung und Informationstechnologie												
		Modelling Theory / Modellierungstheorie												
		Energy and Resource Efficiency / Energie- und Ressourceneffizienz												
		Process Optimization / Prozess Optimierung												
		Globalisation / Globalisation												
Business		Energy Markets / Energiemärkte												
		Business Planning and Start-Up Management / Businessplanung und Gründungsmanagement												
		Operational Processes / Betriebliche Abläufe												
Foreign Language I-IV:														
The modules "Foreign Language I - IV" are ascending language courses in a foreign language defined in the curriculum. Students without a standardised proof of the german B2 Level have to absolve german courses until they reach the required B2 Level.														
Die Module "Fremdsprache I - IV" sind aufsteigende Sprachkurse in einer Fremdsprache, die im Studienplan festgelegt wird. Studierende ohne einen standardisierten Nachweis des B2-Niveaus in Deutsch müssen solange Deutschkurse absolvieren, bis sie das erforderliche B2-Level erreichen.														

Annex 2
Compulsory Attendance for the Bachelor Programme of Industrial Engineering
at the Deggendorf Institute of Technology/European Campus Rottal Inn

Module	Course	Reason for compulsory attendance	Required attendance	Consequences
IE-32	Project work	Projects and practical set-ups can only be carried out if active participation is guaranteed.	Minimum 75% of the offered courses. Substitution tasks are possible in justified cases of absence.	Students will be considered as failed in project work
IE-11	Internship in physics	Projects and practical set-ups can only be carried out if active participation is guaranteed.	Minimum 75% of the offered courses. Substitution tasks are possible in justified cases of absence.	Module will be considered as failed
IE-18	Internship in chemistry	Projects and practical set-ups can only be carried out if active participation is guaranteed.	Minimum 75% of the offered courses. Substitution tasks are possible in justified cases of absence.	Module will be considered as failed

Issued based on the resolution of the Senate of the Deggendorf Institute of Technology dated 13.02.2019 and the regulatory approval of the Vice President of the Deggendorf Institute of Technology dated 01.10.2019.

Signed by
Prof. Waldemar Berg
Vice President

These by-laws were laid down on 01.10.2019 at the Deggendorf Institute of Technology. This was announced by means of a notice on 01.10.2019. Day of announcement is thus 01.10.2019.