

**Study and Examination Regulations
for the Bachelor's Degree Programme
(Bachelor of Engineering, B. Eng.)
Building Products and Processes (BPP)
at Deggendorf Institute of Technology
dated 1 October 2022**

Based on Article 13 para. 2 Clause 2, 58 para. 1, 61 para. 2 Clause 1 of the Bavarian Higher Education Act (BayHSchG) of 23 May 2006 (GVBl. [law and official gazette] p. 245, Bay RS 2210-1-1-WK), last amended by Section 1 of the Act of 9 April 2021 (GVBl. p. 182), Deggendorf Institute of Technology hereby issues the following by-laws:

**Section 1
Aim of the study programme**

- (1) The aim of the bachelor's degree programme "Building Products and Processes (BPP)" is to impart, through practice-oriented teaching, a broadly based interdisciplinary qualification in knowledge-intensive engineering based on scientific knowledge and methods. The degree programme is intended to cover the new spectrum of building construction in the construction industry with regard to climate protection, digitalisation, efficiency of execution, sustainable orientation, innovative building materials, circular economy and architectural efficiency.
The aim is to qualify students both in terms of the digital building process and the development of internationally marketable and sustainable building products. This hybrid structure of engineering and management trains specialists and managers to develop and market sustainable, recyclable building products and use them successfully in national and international projects. The top priority is to prepare the students for responsible tasks relating to the future challenges in the construction industry and thereby take account of the challenges in the area of societal problems and human needs in the world of work.
The programme also aims to impart the technical, methodological and social skills that enable students to independently apply the acquired knowledge and skills, the scientific findings and procedures, and to act responsibly as engineers.
- (2) In addition, students will acquire social and international skills that enable them to act confidently and competently in the complex and intercultural environment of the construction industry, in particular when it comes to the development, marketing, management, project planning and execution of construction products. Against the backdrop of the increasing internationalisation of the economy, international aspects and the development of language skills are

of great importance. The technical focus of the degree programme lies in imparting practice-oriented knowledge to meet the future challenges in building construction and development. Combined with a recommended stay abroad of at least one semester, students will be optimally prepared for these challenges.

- (3) Through a generalist education, which focuses on the engineering disciplines supplemented by management competences and key qualifications in the field of development and processing of building products, the students should be able to grasp interdisciplinary correlations, react flexibly and thus actively shape the future transformation process of the construction industry. The graduates should learn to recognise the rapid changes in technological progress, to develop product design and potential solutions and to implement these successfully in medium-sized and large building construction projects. In this context, the students should also be able to judge what makes sense and is possible for the respective building project, both architecturally and autochthonously.

Furthermore, graduates should be able to evaluate products and processes from an economic point of view in order to use them in their company by applying economic principles, and to recognise the impact of decisions on business operations, employees and the environment and to act in a responsible way accordingly.

- (4) The bachelor's degree programme is designed to qualify students for engineering and management activities in the following fields of work:
- Mastery of all process steps that are necessary within the scope of developing a building product in order to bring it to the national and international target market or to apply it in the construction sector
 - Competence in data consistency on the basis of integrated CAD-3D planning throughout the entire construction process from the tender phase to construction invoicing (BIM 3D to 6D)
 - Technical and commercial planning, management and execution of medium and large-scale building construction projects with complex building structure, building envelope, interior fit-out and technical finishing trades
 - Lean management
 - Working in an international environment
 - Developing sustainable and energy-efficient buildings of tomorrow with recyclable building products and systems.
- (5) Emphasis is placed on a wide-ranging, qualified, interdisciplinary and implementation-oriented education that enables graduates to take advantage of a variety of career opportunities in all companies in the construction industry, particularly in building construction - most notable also in those that are active in the region (as building product manufacturers or as construction service providers), but also offer their services internationally. With the skill set they have acquired, graduates will also be ideally qualified for employment in engineering offices, planning offices, building offices and building supervisory authorities. The graduates should also be prepared

for future management tasks in companies as well as for possible self-employment or company succession.

- (6) The defined qualification goals are achieved through sound knowledge transfer in the scientific and engineering basic modules. From the third semester onwards, specialised knowledge of English is also expanded through an increasing number of lectures in English. Semesters 3 to 7 focus on a marked orientation towards the main points of building products and building processes, which are reinforced in a practice-oriented manner with two project papers and a bachelor's thesis. The emphasis here is always placed on scientific methods and academic writing. In the later semesters, students are also offered multiple elective subjects (FWP) in order to allow greater freedom in the choice of subjects and personal orientation towards the end of the degree programme.

Section 2

Structure of the programme, standard period of study

- (1) The degree programme comprises a standard period of study of seven semesters with six theoretical and one internship semester. The internship semester is conducted as the fifth study semester.
- (2) If German is the native language, the subject-specific language training in the first semester shall be in English; if the native language differs, the training shall be conducted in German. The courses and examinations are mainly held in German during the first two semesters and increasingly taught in English from the third semester onwards. The final reports in the two project seminars and the bachelor's thesis can be written in either German or English, depending on the subject orientation. The modular structure and the language concept of the study programme are regulated in Annex 1 to these Statutes.
- (3) In the sixth and seventh semesters, students can choose various modules from a pool of compulsory elective subjects, totalling 10 ECTS points.

Section 3

Admission requirements

For the bachelor's degree programme Building Products and Processes (BPP), the general admission requirements for studying at a university must be met in accordance with Art. 43, 45 BayHSchG in conjunction with the Ordinance on Qualification for Studies at the Universities of the Free State of Bavaria and the state-recognised non-state institutions of higher education (Qualification Ordinance QualV) (BayRS 2210-1-1-3- UK/WFK) in the currently valid version.

Since the lecture modules are taught in both German and English, depending on the subject orientation, students must furnish proof of their language skills in both German and English at least at B2 level according to the European Framework of Reference for Languages at the time of application.

In terms of proof of this, 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 consists of modules, which can be made up of thematically related courses. Each module is assigned ECTS points which reflect the time of study required of the students.
- (2) The compulsory and elective modules, their number of hours, the type of courses, the form of examinations and the ECTS points are specified in Annex 2 to these Statutes. The regulations of subject-specific compulsory elective modules and compulsory elective subjects of a general academic nature are supplemented by the curriculum.
- (3) All modules consist of compulsory subjects, compulsory elective subjects or optional modules:
 1. Compulsory modules are mandatory for all students.
 2. Compulsory elective modules are the modules that are offered as alternatives, either individually or in groups. Students must make a specific selection from among them in accordance with these study and examination regulations. The modules selected shall be treated as compulsory modules.
 3. Optional modules are modules that are not mandatory for the achievement of the study objective. Students can select these additionally from the range of courses offered by the university.
- (4) Modules can also be taught in blocks as well as in both German and English.
- (5) There is no guarantee that all scheduled compulsory elective modules and optional modules will actually be offered. Likewise, there is no guarantee that the corresponding courses will be held if the number of participants is insufficient.

Section 5 Curriculum

The responsible faculty, currently the Faculty European Campus Rottal-Inn, prepares a curriculum for the purpose of securing the teaching provision and to provide information to students. This shows the course of studies in detail. 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. The curriculum contains, in particular, regulations and information about:

1. the time allocation of the weekly semester hours per module and study semester incl. ECTS credits

2. the designation of the compulsory and elective modules with their number of hours,
3. the subject-related compulsory elective modules with their number of hours,
4. the catalogue of selectable elective modules of a general academic nature,
5. the teaching format in the individual modules, provided this has not been conclusively defined in Annex 2,
6. the study objectives and contents of the individual modules (Module Handbook),
7. the objectives and contents of the internship and of the courses accompanying the internship (PLV) as well as the form and organisation of these.

Section 6 **Basic modules, minimum ECTS score requirement (GOP)**

(1) 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 an * in the curriculum.

(2) By the end of the second semester, students must have taken all subject-specific module examinations of the first semester for the first time:

- BPP-01 Engineering Mathematics
- BPP-02 Basics of Building Physics 1
- BPP-03 Construction Chemistry
- BPP-04 Structural Engineering
- BPP-05 Building Informatics

Section 7 **Academic counselling service**

Students who have not yet achieved 40 ECTS points after two semesters are advised to consult the academic counselling service.

Section 8 **Internship**

(1) The internship semester is scheduled for the fifth semester of the study programme. It shall last at least 20 weeks and include an internship in a company of at least 18 weeks' duration as well as courses accompanying the internship (PLV I/II) for a duration of two weeks.

Evidence of practical work can in exceptional, particularly justified cases be replaced by relevant practical training. The decision lies with the faculty internship officer.

- (2) Students shall independently endeavour to find an appropriate topic from industry or public institutions. In doing so, care must be taken to ensure that the assignment is predominantly related to technical topics. The determination of suitability is made by the faculty internship officer.
- (3) Provided the educational objective is not negatively affected, students shall not be required to make up for interruptions to internship periods if they are not responsible for them (e.g. company shutdown, illness) and the days of absence due to the interruption do not exceed a total of 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 exceed five or ten working days respectively, the total number of days of absence must be made up. Overtime worked may be counted towards interruptions.
- (4) Entry into the internship semester requires that at least 90 ECTS credit points have been achieved.

Section 9 Violations of examination regulations

Bringing in unauthorised aids in the examination room, in particular web-enabled mobile devices such as smartphones, smart watches, tablets, etc., will be considered as an attempt to cheat.

Section 10 Evaluation of examination performances

- (1) Each module is assigned an examination. If a module examination consists of several examinations, the module grade shall be calculated from the arithmetic mean of the grades of the individual examinations. Each examination performance is weighted according to the ECTS points allocated. For the ECTS points awarded, see Annex 2. The ECTS points are only acquired upon successful completion of the modules. The ECTS points per course are used to calculate the module grade.
- (2) If a module examination consists of several examinations, the grade "not sufficient" 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 the individual grades. The weighting of an individual grade is equal to the number of ECTS credits assigned to the subject for which the grade was awarded. Ungraded examinations do not count towards the overall examination grade, but must be successfully passed.

- (4) 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.
- (5) For the modules listed in Annex 3, the attendance requirements listed must also be fulfilled before the overall examination grade can be determined.

Section 11 Bachelor thesis

- (1) In the bachelor's thesis, students shall demonstrate their ability to independently apply the knowledge and skills acquired during their studies to complex tasks.
- (2) Students who have achieved at least 150 ECTS points can register for the bachelor's thesis.
- (3) Students shall independently endeavour to find an appropriate topic from industry or public institutions. In doing so, care must be taken to ensure that the assignment is predominantly related to technical topics. The topics to be worked on shall be finally determined by the supervising lecturers of the faculty in agreement with the supervisors from industry or public institutions.
- (4) The bachelor's thesis can be written in English or German.
- (5) The completion time for the bachelor's thesis is six months.

Section 12 Certificate

A certificate shall be issued for the successful completion of the bachelor's examination in accordance with the respective template given in the annex to the General Examination Regulations of Deggendorf Institute of Technology.

Section 13 Academic degree and diploma supplement

- (1) Based on the successful completion of the bachelor's examination, the academic degree "Bachelor of Engineering", abbreviated as: "B. Eng." shall be awarded.
- (2) A certificate on the awarding of the academic degree shall be issued according to the respective template given in the annex to the General Examination Regulations of Deggendorf Institute of Technology.

- (3) The certificate is issued in two languages. In addition, a diploma supplement, which describes in particular the essential course contents underlying the degree, the course of studies and the qualification obtained with the degree, shall be enclosed with the certificate.

Section 14 Coming into effect

These Study and Examination Regulations shall enter into force on 1 October 2022. They shall apply to all students who commence their studies in the winter semester 2022/23 or afterwards.

Soft Skills / Teamwork
 Options
 Languages
 Work-related experience

black font: Lectures held in German
 blue font: Lectures held in English
 green font: Lectures in German or English (depending on the topic)

| ECTS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---------------------|-------------------------------------------------------------------------------------------|---|----------------------------------------------------------------|---|---|-----------------------------------------------------------------|---|---|--------------------------------------------------------------------------------------------|----|----|-----------------------------------------------------|----|----|------------------------------------------|----|-------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1st Semester | (1) Engineering Mathematics | | (2) Basics of Building Physics 1 (Thermal Insulation) | | | (3) Construction Chemistry | | | (4) Structural Engineering | | | (5) Building Informatics | | | (6) Workshop Architecture | | (7 a/b) Technical English / Technical German | | | | | | | | | | | | | |
| 2nd Semester | (8) Electrical and Power Engineering | | (9) Basics of Construction Physics 2 (Fire Protection) | | | (10) Basics of Building Physics 3 (Building and Room Acoustics) | | | (11) Building Material Characteristics | | | (12) CAD 2D/ 3D (BIM) | | | (13) Intercultural and Management Skills | | | | | | | | | | | | | | | |
| 3rd Semester | (14) Law 1 (Construction Law / Construction Contract / VOB) | | (15) Construction Calculation (Offer and Project Cost Control) | | | (16) Project Management 1 (Project Management) | | | (17) Project Management 2 (Organisation, Lean) | | | (18) Digital Building Process (BIM 4D to 6D) | | | (19) Scientific Working Methods | | (20) AWP (Compulsory Elective of a General Academic Nature) | | | | | | | | | | | | | |
| 4th Semester | (21) Commercial Management (Method of Measurement, Invoicing) | | (22) Law 2 (EU Construction Product Regulations) | | | (23) Product Management 1 (International Product Strategy) | | | (24) Product Development / Tests | | | (25) Construction Material Tests | | | (26) Seminar on Project Management | | | | | | | | | | | | | | | |
| 5th Semester | (27) Internship + PLV 1/2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6th Semester | (28) Building Trades 1 (Shell and Core Construction / Steel Construction / HVAC / Energy) | | (29) Building Trades 2 (Interior Fit-out) | | | (30) Building Trades 3 (Building Envelope / Roof) | | | (31) Building in Existing Structures (Structural Damage, Removal / Demolition, Renovation) | | | (32) FWP-1 (Subject-specific Compulsory Elective 2) | | | (33) Seminar on Product Development | | | | | | | | | | | | | | | |
| 7th Semester | (34) Bachelor's Thesis | | | | | (35) Product Management 2 (International Product Marketing) | | | (36) Sustainable Construction | | | (37) FWP-2 (Subject-specific Compulsory Elective 2) | | | (38) English 2 (Negotiations) | | | | | | | | | | | | | | | |

Annex 2: Curriculum Bachelor's Programme "Building Products and Processes (BPP)" – Continued

Abbreviations:

| | | | |
|------|------------------------------------------|-----------|---------------------------------------------------------------------|
| * | Basic modules marked with * | TN % | Participation (Attendance in %) |
| d | Language of instruction German | BA | Bachelor's thesis |
| e | Language of instruction English | schrP | written examination |
| ECTS | European Credit Transfer System | mP | oral examination |
| SWS | weekly semester hours | Report | Report limit 10 DIN-A4 pages |
| SU/Ü | Seminar-style lessons / practical course | Präs | presentation limit 30 minutes |
| S | Seminar | Portfolio | several partial assignments to be completed throughout the semester |
| Pr | Lab work | | |

"Pool of FWP subjects": (students must acquire 10 ECTS from the pool of subjects)

Architekturgeschichte und -theorie / Architectural History and Theory (schrP 90 min)

Gründungsmanagement / Entrepreneurship (Report/Presentation)

Strategische Planung und Projektmanagement / Strategic Planning and Project Management (Report/Presentation)

Finanzierung und Rechnungswesen / Finance and Accounting (Report/Presentation)

Moderne Arbeitswelten / Workplace Innovation (Report/ Presentation)

Managementsysteme nach DIN EN ISO / Management Systems according to ISO (schrP 90 min)

Gesundheit Sicherheit Umwelt / Health Safety Environment (Report/Presentation)

Technologie- und Schutzrechtsmanagement / Technology and Intellectual Property Rights Management (Report/Presentation)

Energie- und Ressourceneffizienz / Energy and Ressource Efficiency (schrP 90 min)

Betriebliche Abläufe / Operational Processes (schrP 90 min.)

Annex 3: Attendance requirements Bachelor's Programme "Building Products and Processes (BPP)"

| Module | Course | Reason for compulsory attendance | Required attendance | Consequences |
|---------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------|
| BPP-06 | Workshop Architecture | The contents taught can only be conveyed sustainably in group work and with the participants present. | At least for 75% of the classes offered. In justified cases of absence, substitute tasks may be assigned. | Module will be assessed as failed |
| BPP-13 | Intercultural and Management Skills | The contents taught can only be conveyed sustainably in group work and with the participants present. | At least for 75% of the classes offered. In justified cases of absence, substitute tasks may be assigned. | Module will be assessed as failed |
| BPP-19 | Scientific working methods | The successful preparation and presentation of the project reports and the Bachelor thesis requires communication skills that can only be practised when the students are present. | At least for 75% of the classes offered. In justified cases of absence, substitute tasks may be assigned | Module will be assessed as failed |
| BPP-12 | CAD 2D / 3D (BIM) | The contents taught can only be conveyed sustainably in group work and with the participants present. | At least for 75% of the classes offered. In justified cases of absence, substitute tasks may be assigned. | Module will be assessed as failed |
| BPP-26 | Project seminar on Project Management | Projects and practical interpretations can only be carried out if active participation is guaranteed. | At least for 75% of the classes offered. In justified cases of absence, substitute tasks may be assigned. | Module will be assessed as failed |
| BPP-33 | Project seminar on Product Development | Projects and practical interpretations can only be carried out if active participation is guaranteed. | At least for 75% of the classes offered. In justified cases of absence, substitute tasks may be assigned. | Module will be assessed as failed |

Issued on the basis of the resolution of the Senate of the Deggendorf Institute of Technology of 26 May 2021, the notification to the Bavarian State Ministry for Science and the Arts of 3 August 2021 and the legal supervisory approval of the Vice President of the Deggendorf Institute of Technology of 15 April 2022

signed
Prof. Waldemar Berg
Vice-President

The Statutes were laid down at Deggendorf Institute of Technology on 15 April 2022. The Statutes were placed on display on 15 April 2022. The date of their publication is therefore 15 April 2022.