

Diploma Supplement

This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international "transparency" and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

1. Information identifying the holder of the qualification

1.1 Family name(s) [redacted] 1.2 Given name(s) [redacted] 1.3 Date of birth [redacted] 1.4 Student identification number [redacted]

2. Information identifying the qualification

2.1 Name of qualification and title conferred: Bachelor of Science in Engineering (BSc) 2.2 Main field(s) of study for the qualification: Smart Building - Energy Efficient Building Technology & Sustainable Construction
2.3 Name and status of awarding institution / 2.4 Name and status of institution administering studies: Fachhochschule Salzburg GmbH; University of Applied Sciences since 05.11.2004 2.5 Language(s) of instruction/examination: German, English

3. Information on the level of the qualification

3.1 Level of qualification: Bachelor Degree - UNESCO ISCED Code 6 acc. 2011 3.2 Official length of programme: 6 Semesters / 3 Academic year(s) / 180 ECTS Credits
3.3 Access requirement(s): Austrian secondary school leaving certificate or equivalent, multi-level admission process including entrance exam and interview

4. Information on the contents and results gained

4.1 Mode of study: part-time
4.2 Programme requirements: The Bachelor Degree program educates engineers in the fields of energy-efficient building technology and sustainable building with cross-linked mental skills. 180 ECTS credits with following competences: Natural sciences and engineering competences (15 ECTS-credits), Energy- und control engineering competences (10 ECTS-credits), Construction & building technological competences (35 ECTS-credits), Planning and design (10 ECTS-credits), Smart Building systems (18 ECTS-credits) or Smart Building construction (18 ECTS-credits), Integrated projects Smart Building & Bachelor thesis (40 ECTS-credits), Practical competences (29 ECTS-credits), Social & economical competences (23 ECTS-credits)
180 ECTS Credits
see Diploma Supplement Annex and Transcripts of Records
4.3 Programme details (courses, modules or units studied, individual grades obtained)



Grading scheme and, if available, grade distribution guidance (ECTS grading scale)

1	excellent	30,6 %
2	good	30,3 %
3	satisfactory	22,0 %
4	sufficient	8,4 %
5	insufficient	3,6 %
P	successfully completed	5,0 %
F	not completed	0,0 %

Source for the ETCS Grading Table: Percentage distribution of the assessments of the degree programme concerning the last two years (winter semester 2017/18 to summer semester 2019)

Grading scheme of the cumulative grade point average of the studies

pass with distinction ≥ 93 % equal to 1,00 - 1,42 grade point average

pass with merit ≥ 83 - 93 % equal to 1,43 - 2,02 grade point average

pass ≥ 50 - 83 % equal to 2,03 - 4,00 grade point average

Minimum pass mark = 50%

For the calculation of the cumulative grade point average of the studies see the exam regulations of the Salzburg University of Applied Sciences, as amended.

4.4 Grading scheme, grade translation and grade distribution guidance

The cumulative grade point average of the studies equals 1.68 (50% of which reflects the final grades in all coursework weighted according to ECTS-credits – not including the first academic year according to the curriculum (1.7 = 88 Points) - and 50% of which is the result of the final panel examination (89 Points)).

4.5 Overall classification of the qualification

5. Information on the function of the qualification

Qualification fulfills the entrance requirements for MSc. studies in building technology & construction

5.1 Access to further study

Access to academic professions according to the professional regulations; diploma awarded according to the directive concerning the recognition of professional qualifications, 64/427/EWG main group 40.

Working field: construction sector

5.2 Professional status conferred



6. Additional information

Study time spent abroad

[REDACTED]

Bachelor theses

[REDACTED]

6.1 Additional information

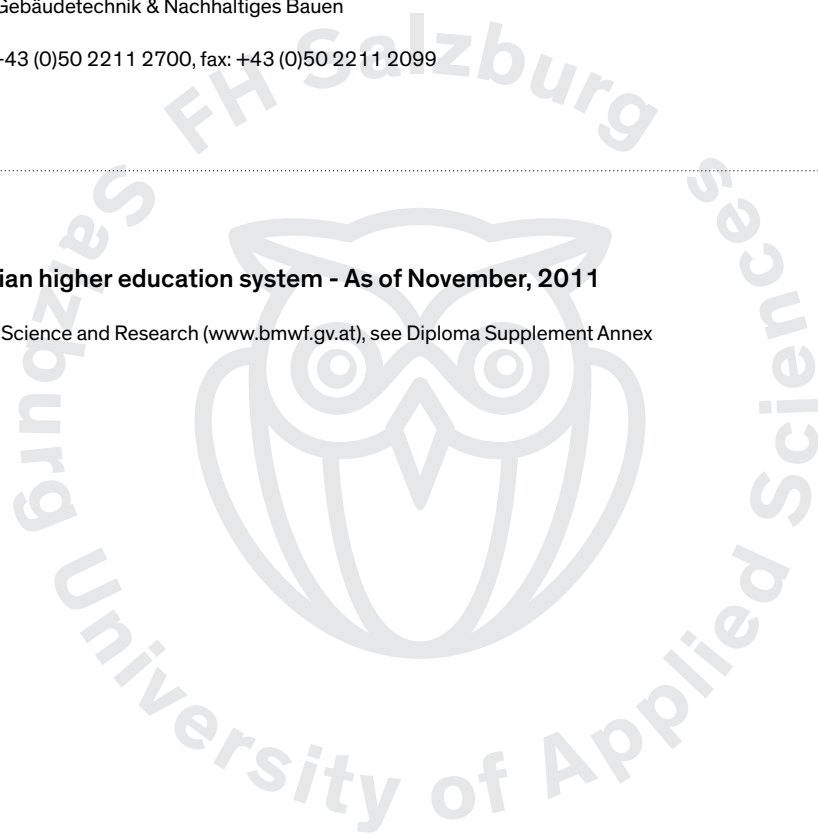
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ENIC Naric Austria:
<http://www.bmwf.gv.at/naric>

6.2 Further information sources

7. Information on the Austrian higher education system - As of November, 2011

Source: BMWF Federal Ministry for Science and Research (www.bmwf.gv.at), see Diploma Supplement Annex



[REDACTED]

Kuchl, 11.06.2019

Place and date of Issue

Head of academic board Rector [REDACTED]
as representative head of degree programme [REDACTED]

Diploma Supplement Annex

The Austrian Higher Education System

Post-secondary Education in Austria

The Austrian post-secondary **university sector** („Hochschulsektor“) consists of

- Public universities (Universitäten), maintained by the state;
- Private universities (Privatuniversitäten), operated by private organisations with state accreditation;
- Maintainers of university of applied sciences degree programmes (Fachhochschul-Studiengänge) incorporated upon the basis of private or public law and subsidised by the state, with state accreditation (some of which are entitled to use the designation Fachhochschule);
- University colleges of education (Pädagogische Hochschulen) maintained by the state or operated by private organisations with state accreditation;
- The Institute of Science and Technology Austria;
- Universities of philosophy and theology (Philosophisch-Theologische Hochschulen), operated by the Roman Catholic Church.

The **non-university post-secondary sector** (außeruniversitärer postsekundärer Sektor) consists of

- Military academies (Militärische Akademien);
- Vienna School of International Studies (Diplomatische Akademie);
- Certain training institutions for psychotherapists (Psychotherapeutische Ausbildungseinrichtungen);
- Conservatories (Konservatorien).

The following text addresses exclusively the university sector.

Overall Structure of University Education

There are currently two different systems of degree programmes in Austria: a **newer system**, based on the European Higher Education Area (Bologna process), and a **former one**, dating from before the European Higher Education Area.

The **new system** is based on the distinction between undergraduate and graduate studies. Upon completion of an undergraduate programme (Bachelorstudium at universities and university colleges of education or, respectively, Fachhochschul-Bachelorstudiengang at universities of applied sciences, comprising 180 to 240 ECTS credits), a bachelor's degree (designation: „Bachelor of/in ...“) is awarded. Upon completion of a graduate programme (Masterstudium at universities and university colleges of education or, respectively, Fachhochschul-Masterstudiengang at universities of applied sciences, comprising 60 to 120 ECTS credits), a master's degree (designation: „Master of/in ...“) is awarded. In the fields of engineering, the designation of the master's degree can also be „Diplom-Ingenieur/in“.

Under the auspices of the **older system** of diploma degree programmes (Diplomstudien), the first degree awarded is the diploma degree (Diplomgrad). An Austrian higher secondary school leaving certificate or its equivalent is the general qualification necessary for enrolling in a diploma programme; conclusion of a diploma programme entitles degree holders to enrol in doctoral programmes. A diploma degree (Diplomgrad) is awarded by Austrian universities after a course of study consisting of 240 to 360 ECTS credits. Full degree titles are gender specific designations: Magister for men; Magistra for women. Degree titles also include a general description of the field of study in which they were obtained, e.g. Magister philosophiae. In the fields of engineering, the degree titles are Diplom-Ingenieur/in. Degrees awarded in medicine and dentistry are exceptions to the above. The first degrees awarded after the completion of these degree programmes consisting of 360 ECTS credits are Doctor medicinae universae and Doctor medicinae dentalis, respectively. Graduates of university of applied sciences programmes that consist of 240 to 300 ECTS credits are awarded, analogous to university studies, a university of applied science diploma degree (Fachhochschul-Diplomgrad) contingent upon discipline: either a Diplom-Ingenieur/in (FH) for fields of engineering or Magister/Magistra (FH) in other fields of study.

Some study programmes for teachers' qualifications are offered jointly between universities and university colleges of education.

Recipients of these diploma degrees from the old system or a master's degrees from the new system (including the ones awarded in both cases by the universities of applied sciences) are entitled to enrol in doctoral programmes (Doktoratsstudium) at universities. A doctoral degree with the designation either „Doktor/in“ or „Doctor of Philosophy“ (PhD) is awarded upon completion of a doctoral programme with a minimum duration of three years.

In addition to the degree programmes (ordentliche Studien) described above, non-consecutive certificate programmes (außerordentliche Studien) are offered, for example in the form of university programmes for further education (Universitätslehrgänge) or individual units/modules in scientific subjects, both at universities; certificate university of applied sciences programmes for further education (Lehrgänge zur Weiterbildung) or individual units/modules in scientific subjects at universities of applied sciences; and certificate university college programmes for further education (Hochschullehrgänge) at university colleges of education.



Bachelor Programme (Bachelorstudium)

Admission to a bachelor programme is granted upon the basis of the Austrian higher secondary school leaving certificate (Reifezeugnis), its foreign equivalent, or the successful completion of a special university entrance qualification examination (Studienberechtigungsprüfung). Students of compulsory lower schools who have completed additional schooling in the form of apprenticeships as skilled workers may take a vocationally based examination acknowledged as equivalent to the higher secondary school leaving certificate (Berufsreifeprüfung). Admission to bachelor programmes in the arts is based on aptitude ascertained by admission examinations. Admission to university of applied sciences bachelor programmes is also possible on the basis of previous vocational or technical experience and qualifications of the applicants. In some university bachelor programmes, in most university of applied sciences bachelor programmes and in bachelor programmes at university colleges of education, admission is based on a selective admission process. Areas/modules of study (Fächer/Module) are specified in curricula. As a rule, the completion of two substantial bachelor papers or projects (Bachelorarbeiten) are required for awarding the degree. University of applied sciences bachelor programmes, bachelor programmes at university college and some bachelor programmes at universities include an internship or practical training. The programme can conclude with a bachelor examination (Bachelorprüfung).

Master Programme (Masterstudium)

Admission to a master programme is granted on the basis of the successful completion of a subject-relevant bachelor programme or an equivalent post-secondary qualification. In some master programmes admission is based on a selective admission process. Areas/modules of study (Fächer/Module) are specified in curricula. A core requirement is the completion of a master thesis (Masterarbeit). This degree programme concludes with a master examination (Masterprüfung). The approval of the master thesis (Masterarbeit) is a prerequisite for admission to this examination.

Diploma Programme (Diplomstudium = old system)

Admission to a diploma programme is granted upon the basis of the Austrian higher secondary school leaving certificate (Reifezeugnis), its foreign equivalent, or the successful completion of a special university entrance qualification examination (Studienberechtigungsprüfung). Students of compulsory lower schools who have completed additional schooling in the form of apprenticeships as skilled workers also may take a vocationally based examination acknowledged as equivalent to the higher secondary school leaving certificate (Berufsreifeprüfung). Admission to diploma programmes in the arts is based on aptitude ascertained by admission examinations. Admission to university of applied sciences diploma programmes may also take place upon the basis of previous vocational or technical experience and qualifications of applicants. In some fields of study (e.g. Human Medicine and Dentistry, and university of applied sciences diploma programmes) admission is based on a selective admission process. A degree programme may be divided into stages (Studienabschnitte). The length of each stage of the degree programme as well as the areas of study (Fächer) and content required are articulated in curricula that distinguish between required subjects (Pflichtfächer) and electives (Wahlfächer). Each stage concludes with a diploma examination (Diplomprüfung). University of applied sciences diploma programmes and some diploma programmes at universities include an internship or practical training. The approval of a diploma thesis (Diplomarbeit) is a prerequisite for admission to the

concluding diploma examination.

Doctoral Programme (Doktoratsstudium)

Admission to a doctoral programme at a university is granted on the basis of the successful completion of a subject-relevant diploma or master programme. Contents and requirements of study are specified in curricula with the focus on the doctoral thesis (Dissertation) as the result of independent research. This degree programme concludes with the approval of the dissertation and with a comprehensive doctoral examination (Rigorosum) or a defensio.

At universities of applied sciences and at university colleges of education no doctoral programmes are offered.

Evaluation of performance and grading system

*Austrian grading scale

According to the modalities for examinations outlined in the curricula, achievement may be assessed by oral and written exams or project related work. In principle oral examinations are open to the public.

AGS *	Definition
1	EXCELLENT (SEHR GUT) Outstanding performance
2	GOOD (GUT) Generally good, but with some errors
3	SATISFACTORY (BEFRIEDIGEND) Generally sound work with a number of substantial errors
4	SUFFICIENT (GENÜGEND) Performance meets the minimum criteria
	SUCCESSFULLY COMPLETED (MIT ERFOLG TEILGENOMMEN) Positive performance, where a strict differentiation is not adequate
5	INSUFFICIENT < 50 % (NICHT GENÜGEND) Substantial improvement necessary; requirement of further work
	NOT COMPLETED (OHNE ERFOLG TEILGENOMMEN) Negative performance, where a strict differentiation is not adequate

Grades for comprehensive examinations, i.e. covering materials from various subjects

POSITIVE	PASS WITH DISTINCTION (MIT AUSZEICHNUNG BESTANDEN) PASS WITH MERIT (MIT GUTEM ERFOLG BESTANDEN) PASS (BESTANDEN)
NEGATIVE	INSUFFICIENT (NICHT BESTANDEN)

Source: Federal Ministry of Science, Research and Economy, Unit VI/7, September 2014

Module Descriptions

The following modules have been completed during this study and/or have been recognized due to prior learning. Recognized modules from a previous study on direct entry into a higher semester are not listed here.

Modules (Module description, module class, module explanation)	ECTS
.	2
Control and feedback control systems IL (4. Course Semester)	2
Basic methods of control engineering for the modeling, analysis and synthesis of control circuits were introduced. The graduates understand the principle of control engineering in buildings and know its most important components.	
Bachelor thesis 1: Bachelor project	6
Bachelor thesis 1: Bachelor project PT (4. Course Semester)	6
The graduates can independently carry out written tasks in a systematic manner. In addition to being able to analyse and describe problems, they can also recognize and formulate objectives. They systematically developed the bachelor thesis which is oriented towards the specialisation subjects. The graduates acquired the ability to differentiate between personal and external intellectual property as well as justify and argue for their approach. The graduates can communicate their specialised knowledge and hold interdisciplinary discussions. They are capable of implementing the required techniques and possess the necessary key qualifications.	
Bachelor thesis 2	12
Bachelor thesis 2: Accompanying seminar SE (6. Course Semester)	12
The graduates can independently carry out written tasks in accordance with scientific methods. They systematically developed the bachelor thesis which was oriented towards the specialisation subjects. The graduates acquired the ability to differentiate between personal and external intellectual property. They can justify and argue for their approach, and illustrate interconnections with the work placement.	
Building Automation Technology, Information Technology and Energy Technology	6
Building Automation Systems IL (3. Course Semester)	2
Information and communication technology IL (3. Course Semester)	4
The graduates have an overview of the switching mechanisms, regulation and control strategies and are familiar with the subject-specific concepts and terms as well as the basics of computer systems and networks. They have fundamental knowledge in programming and are able to implement it practically for specific IT problems.	
Construction and Building Technology Competences 1	12
Ecology VO (1. Course Semester)	2
GL Structural design training IL (1. Course Semester)	4
Structural building construction VO (1. Course Semester)	4
Sustainable construction VO (1. Course Semester)	2
The graduates became familiar with the basic principles associated with the ecology of the basic materials and the construction materials, and received an overview of the subject of social sustainability. The basic principles of sustainable building were illustrated. The graduates became familiar with the constructive details of structural engineering and can subject them to material and architectural analyses.	
Construction and Building Technology Competences 2	10
GL Technical building equipment IL (2. Course Semester)	4
Structural Planning IL (2. Course Semester)	2
VT Structural design training IL (2. Course Semester)	4
The graduates were trained in the basic disciplines of the construction domain. The emphasis was laid on the expertise in the structural design, structural planning as well as on the important aspects of the technical building equipment.	



Modules (Module description, module class, module explanation)	ECTS
Construction and Building Technology Competences 3	9
Elective Module Building Physics IL (3. Course Semester)	2
Integrated structural design IL (3. Course Semester)	3
Project management IL (3. Course Semester)	2
VT Technical building systems VO (3. Course Semester)	2
<p>The graduates are capable of planning, designing and dimensioning construction-related technical systems in facilities. They are well-acquainted with the subject-specific manner of representation and the technical vocabulary, which enables them to communicate with other engineering disciplines. Furthermore, they can integrate the special technological knowledge of the structural planning process, material science, structural physics and building technology into an integral scheduling process. The graduates acquired basic knowledge of project management and have the ability to independently manage projects in the area of quality assurance.</p>	
Construction and Building Technology Competences 4	4
Application of Building Technology IL (4. Course Semester)	2
Project Development IL (4. Course Semester)	2
<p>The graduates learned how to carry out interdisciplinary, application-oriented projects, supported by computers, for various trade disciplines ζ heating/air conditioning/electrical engineering, focusing heavily on the preparation of construction, building and operation documentation. The graduates learned the foundations of building project planning and became familiar with the construction process. The also got an insight into project management and project development.</p>	
Construction and Legal Doctrine 1	6
Construction Management IL (3. Course Semester)	3
Legal studies IL (3. Course Semester)	3
<p>This module gave the graduates an overview of the system of jurisprudence associated with the construction sector. The graduates have an overview of legal provisions concerning the planning law and can identify and utilise the instruments of land-use planning and the specifications associated with the permissibility of construction projects. At the same time, they received an overview of the various local authorities and their tasks, as well as an overview of the decision-making processes used within the municipalities (whose planning authority covers the construction in question). Based on that the graduates can skillfully collaborate with the various stakeholders involved in a construction project.</p>	
Construction and Legal Doctrine 2	4
Building Calculations IL (5. Course Semester)	2
Business Planning IL (5. Course Semester)	2
<p>The graduates are enabled to prepare, process and test the cost calculations. They also obtained fundamental knowledge in order to prepare business plans and know the basic key business figures and analyses.</p>	
Design and blueprint 1	6
Descriptive geometry IL (1. Course Semester)	2
GL Building design VO (1. Course Semester)	2
Technical drawing and CAD IL (1. Course Semester)	2
<p>The graduates became familiar with the basic principles associated with thinking in three dimensions and three-dimensional representation. They were introduced to techniques of representation and projection. The graduates can identify, represent (with the help of pictorial, graphical and other suitable types of media) and design three-dimensional, architectural circumstances. The graduates acquired the basic knowledge to implement utilisation-related specifications in functional, economical and aesthetic structures in a manner that takes all the project-specific constraints into consideration.</p>	
Design and blueprint 2	4
BIM - Building Information Modeling UB (2. Course Semester)	2
VT Building design VO (2. Course Semester)	2
<p>The graduates are capable of working with a structural design. They can analyse the framework conditions and use specific work steps to develop the project. The graduates possess the basic knowledge associated with the norm-based representation of components and assemblies in construction diagrams, and are capable of reading the diagrams. Furthermore, they are also capable of independently creating norm-based technical diagrams.</p>	



Modules (Module description, module class, module explanation)	ECTS
Economics of construction	2
Materials Handling IL (6. Course Semester)	2
<p>The graduates acquired basic knowledge about the central aspects and connections of the building economics. They are also able to assess the impact of holistic planning on increasing energy efficiency and minimizing life cycle costs. They got an overview of the current funding system as well as the competence to advise builders and plan appropriate measures.</p>	
Energy Technologies	2
Energy technology (renewable energies) VO (2. Course Semester)	2
<p>In the foundations of energy technology, the graduates learned the spectrum of this field of technology and were made familiar with the essential areas of classic energy technology and the newer regenerative energy generation. Production, transformation and distribution are recognised by them as important elements of this professional field, including their responsibility for efficiency and resources protection.</p>	
Individual social competence and communication-related competence 1	1
Self- & resource management UB (1. Course Semester)	1
<p>The graduates acquired knowledge to assess their own performance and performance limits. They know their resource capacities as well as the principles of goal setting and time management. Furthermore, they are familiar with methods and techniques for the effective and efficient handling of personal mental and physical stress situations.</p>	
Individual social competence and communication-related competence 2	2
Effective communication UB (2. Course Semester)	2
<p>The graduates are capable of communicating subject-specific issues and circumstances tailored to a specific target group. They are familiar with the important basic principles of internal and external business communication, and can use the right instruments to facilitate such communication.</p>	
Integration Module 1	2
Building Simulation IL (4. Course Semester)	2
<p>The integration module conveyed specific expertise to the graduates, in a chosen subject area out of energy conscious and optimised building methods and trained how to communicate in English. In the framework of this module the participants learned how to use and judge the relevant necessary programmes and products. Through this, they became qualified points of contact in the planning of high-energy efficient buildings and are able to competently advise developers. The graduates know the basics of building simulation. They understand the important relationships in the subject areas of energy and building technology.</p>	
Integration module 2	1
Integration: English UB (5. Course Semester)	1
<p>The graduates are capable of using a current case study to illustrate in English the aspects of smart buildings and the trends associated with them. They can summarise, present and defend the important aspects of a project plan.</p>	
Integration module 3	4
Building certifications 1 IL (5. Course Semester)	4
<p>With regard to the certification systems, the graduates came to know the label 'passive house' and received a thorough basic training and up-to-date expertise in the successful constructional and economic development of passive house projects in new constructions and refurbishment. The graduates are able to implement a project in passive house design. They can calculate efficiency of passive houses and know the basics of quality assurance of a project in passive house design.</p>	
Integration module 4	4
Building Energy Certification 2 Energy Consultant IL (5. Course Semester)	4
<p>The graduates were given an insight into the issuing, use, principles and foundations of building certifications. They learned about the most important assessment parameters such as high resource efficiency in all areas, particularly energy, water and material under simultaneous reduction of waste and of harmful effects on health and the environment. They know -the fundamentals of a holistic approach over all possible phases of the building life cycle. This ranges from project development, planning and construction through operation, maintenance and dismantling. They know the basics of the preparation and assessment of energy certificates.</p>	



Modules (Module description, module class, module explanation)	ECTS
Integrative project 1	6
Environmental Accounting Life-Cycle Costs IL (3. Course Semester)	2
Integrative project PT (3. Course Semester)	4
<p>The graduates learned to understand blueprints and the schedules associated with buildings having differentiated spatial and functional requirements. They can independently develop design and planning strategies to be used in a structured and integrated planning process. Furthermore, the graduates are capable of using the appropriate types of media to illustrate the contents of the plan in question in a vivid and technically correct manner. This work enhances the graduates' practical and project management-oriented skills. In addition, an analysis of the life cycle costs of buildings as well as life cycle assessments in general (inventory analysis, impact assessment, etc.) and in the building sector in particular (production, construction and dismantling) took place.</p>	
Integrative project 2	2
Scientific Work UB (4. Course Semester)	2
<p>The graduates were enabled to independently pursue a goal-oriented topic development for scientific work.</p>	
Internship	18
Professional placement PT (4. Course Semester)	6
Professional placement PT (5. Course Semester)	4
Professional placement PT (6. Course Semester)	8
<p>The graduates acquired the ability to understand, take over, process and document the results of a task that is part of a larger project and exists within a professional environment. In particular, the graduates learned about the workflow that is used within a professional environment and the manner in which the different groups are organised. They learned how to use the practical and theoretical knowledge that they have acquired in a professional environment. Furthermore, they also learned to assess the relevance of scientific issues. The graduates are capable of classifying their field of study with respect to social, historical or legal references. In addition to acquiring the ability to detect the networking options (with regard to a professional environment) associated with their field of study, they also became capable of detecting the ways in which their field of study can be utilised in their professional lives.</p>	
Knowledge and Social Competences 1	2
VT English UB (4. Course Semester)	2
<p>The graduates can understand, summarise and discuss technical articles in English. With the help of diagrams or plans, students are able to explain and provide written and verbal descriptions of trends, process cycles and relevant consequences. They are capable of communicating effectively in English in typical industry-related contexts.</p>	
Knowledge and social skills 2	2
Knowledge and Information Management IL (5. Course Semester)	2
<p>In this module the graduates obtained knowledge regarding the aims, tasks and methods of information and knowledge management and are able to analyse different concepts/ perspectives.</p>	
Project 1	4
GL Smart Building PT (1. Course Semester)	4
<p>The graduates acquired planning-related abilities through conceptual, project-oriented exercises. Furthermore, group activities were used to teach them teamwork. The graduates are capable of carrying out a systematic analysis in order to reflect the strengths and weaknesses of their own and their resources' expertise. Furthermore, they are familiar with the instruments that facilitate the efficient utilisation of the said resources.</p>	
Project 2	5
Field trip PT (2. Course Semester)	1
VT Smart Building PT (2. Course Semester)	4
<p>The graduates acquired planning-related abilities and are skilled in using and integrating analogue and digital technology. Furthermore, the skills associated with the 'Core 2' module (energy performance certificate, building certification/green building, passive house design course) were acquired integratively in the third year of study. The graduates are capable of planning, designing and dimensioning construction-related technical systems in facilities. They are well-acquainted with the subject-specific manner of representation and the technical vocabulary, which enables them to communicate with other engineering disciplines.</p>	



Modules (Module description, module class, module explanation)	ECTS
Quality management and environmental management	5
Environmental management IL (5. Course Semester)	3
Quality management IL (5. Course Semester)	2
<p>The graduates are capable of assessing the environmental relevance of the production processes and products that are found in the construction industry and the field of architecture. They are sensitised to the principles of sustainability. Furthermore, they are well-acquainted with the central aspects of the quality assurance and environmental management processes that are used in the construction industry. The graduates also have the option of acquiring certificates of environmental or quality assurance representatives.</p>	
Scientific and engineering-oriented basic principles 1	6
GL Building physics IL (1. Course Semester)	2
GL Mathematics 1 IL (1. Course Semester)	2
Structural analysis IL (1. Course Semester)	2
<p>The graduates are familiar with the basic engineering-related and scientific relationships between structural physics and statics. Furthermore, they can use the relevant technical rules and apply the said rules to secondary disciplines.</p>	
Scientific and engineering-oriented basic principles 2	7
GL Mathematics 2 IL (2. Course Semester)	2
Physics and Thermodynamics IL (2. Course Semester)	3
VT Building physics IL (2. Course Semester)	2
<p>The graduates became familiar with the basic secondary principles of structural physics and the fundamental relationships between physics and mathematics. Furthermore, they acquired basic knowledge in the fields of mechanics, radiation, heat, electromagnetism and thermodynamics. They can utilise this basic knowledge and introduce it into secondary disciplines.</p>	
Scientific and engineering-oriented basic principles 3	2
VT Mathematics IL (3. Course Semester)	2
<p>The graduates gained insight into analytical geometry in the two- and three-dimensional space. They know vectors, matrices and determinants, eigenvalues, eigenvectors, and their use for the solution of linear differential equations. They deepened their knowledge in exercises with practical demonstrations and calculation examples.</p>	
Smart building systems 1	6
Building Automation IL (4. Course Semester)	2
Smart Building Systems 1 IL (4. Course Semester)	4
<p>When it comes to smart buildings, the graduates possess the basic knowledge on how building management systems and building automation systems are integrated and combined. They are familiar with the options associated with changing the characteristics and functions of the building management system by utilising and adjusting the control techniques used in a smart building. They can define the integration of the smart building into the network architecture of thermal, electrical and telecommunication networks. They can also describe the important characteristics of the building within the framework of the systems in question.</p>	
Smart building systems 2	6
Smart Building Systems 2 IL (5. Course Semester)	6
<p>When it comes to smart buildings, the graduates possess detailed knowledge about the manner in which building management systems and building automation systems are integrated and combined. They can use the requirements that the smart building is subject to as a basis for determining the characteristics of the building's components and the overriding automation systems, as well as the manner in which they are to be integrated. Based on this, they can develop complete solutions for the system of a smart building.</p>	
Smart building systems 3	6
Seminar: Smart Building Systems 3 SE (6. Course Semester)	2
Smart Building Systems 3 – Expertise IL (6. Course Semester)	4
<p>The graduates possess detailed knowledge about the latest topics and systems associated with the domains of building management, the automation systems that are used in buildings and energy management. They are also very well-acquainted with the manner in which the said systems are connected to smart grids, the function that they carry out within smart grids and the possible integration of e-mobility. The graduates are capable of assessing existing systems and buildings with respect to their functions and further development. They are also capable of discussing new developments. The graduates are acquainted with the latest examples and applications of the systems used in conjunction with smart buildings and can provide technical information regarding these systems.</p>	



Modules (Module description, module class, module explanation)	ECTS
Social Skills 2	1
GL English UB (3. Course Semester)	1

The graduates acquired specific vocabulary as well as the ability to present and discuss current topics in the field of smart building, energy technology and sustainability in English, to extract relevant facts from specialist texts and to formulate requirements and specifications.

Social skills 1	1
Teambuilding / team processes UB (1. Course Semester)	1

The graduates can describe the basic sequences associated with team-building and the different roles that are related to it, and ensure that these sequences are reflected in their own project-related experience. They are capable of detecting and analysing conflicts and utilising solution-strategies.





Transcript of Records winter semester 2016/17

[REDACTED] Smart Building - Energy Efficient Building Technology & Sustainable Construction
 Last name, First name Date of birth Student identification number Degree programme
 Bachelor degree programme (part-time), Semester 1
 Study organization and semester

Course code	Course title	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB1DAGIL	Descriptive geometry	IL	2	12.09.2016	2	RPL
SMBB1OKOVO	Ecology	VO	2	03.02.2017	2	Good (2)
SMBB1GLGVO	GL Building design	VO	2	04.02.2017	2	Excellent (1)
SMBB1BP1IL	GL Building physics	IL	2	15.12.2016	2	Good (2)
SMBB1MA1IL	GL Mathematics 1	IL	2	13.01.2017	2	Good (2)
SMBB1GLSPT	GL Smart Building	PT	1	21.01.2017	4	Good (2)
SMBB1GLBIL	GL Structural design training	IL	3	04.02.2017	4	Good (2)
SMBB1SRMUE	Self- & resource management	UB	1	17.09.2016	1	P
SMBB1STKIL	Structural analysis	IL	2	20.11.2016	2	RPL
SMBB1KHBVO	Structural building construction	VO	2	28.01.2017	4	Good (2)
SMBB1NBAVO	Sustainable construction	VO	2	14.01.2017	2	Sufficient (4)
SMBB1TBPUE	Teambuilding / team processes	UB	1	17.09.2016	1	Excellent (1)
SMBB1TEZIL	Technical drawing and CAD	IL	2	27.01.2017	2	Excellent (1)
Sum total of successfully completed ECTS credits					30	

The grade average weighted according to ECTS-credits for 1. WS 2016 equals 1.96 (excluding recognized or extracurricular courses).

Kuchl, 11.06.2019

Place and date of Issue

Head of Degree Programme, [REDACTED]

1 SEHR GUT EXCELLENT
 2 GUT GOOD
 3 BEFRIEDIGEND SATISFACTORY
 4 GENÜGEND SUFFICIENT
 5 NICHT GENÜGEND INSUFFICIENT
 P MIT ERFOLG TEILGENOMMEN
 P SUCCESSFULLY COMPLETED
 F OHNE ERFOLG TEILGENOMMEN
 F NOT COMPLETED

ECTS EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM
 ECTS EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM
 RPL ANERKANNT AUFGRUND VON VORKENNTNISSEN
 RPL RECOGNIZED DUE TO PRIOR LEARNING
 RES ANERKANNT AUFGRUND EINES ERFOLGREICH ABSOLVIERTEN AUSLANDSSEMESTERS
 RES RECOGNIZED DUE TO A SUCCESSFULLY COMPLETED EXCHANGE SEMESTER
 STV ANERKANNT AUFGRUND VON ZEITEN ALS STUDIERENDENVERTRETER/IN GEM. §31 HSG
 STV REDUCED DUE TO STUDENTS' UNION DUTIES ACCORDING TO §31 HSG

LVA LEHRVERANSTALTUNG TEACHING UNIT
 IL INTEGRIERTE LEHRVERANSTALTUNG LECTURE WITH INTEGRATED PROJECT WORK
 LB LABOR(ÜBUNG) LAB SESSION
 IT INDIVIDUALTRAINING SELF-DIRECTED LEARNING WITH SUPERVISORY SESSION
 RC LVA MIT REFLEXIVEM CHARAKTER LVA WITH INTEGRATED REFLECTIVE PRACTICE
 MOD MODULPRÜFUNG MODULE EXAM
 SWS SEMESTERWOCHESTUNDEN CONTACT HOURS PER WEEK

UE/UB ÜBUNG PRACTICE SESSION
 VO VORLESUNG LECTURE
 PS PROSEMINAR PROSEMINAR
 RE REPETITORIUM REVISION COURSE
 SE SEMINAR SEMINAR
 PT PROJEKT PROJECT
 TU TUTORIUM TUTORIAL
 FH SALZBURG



Transcript of Records summer semester 2017

[REDACTED] Smart Building - Energy Efficient Building Technology & Sustainable Construction
 Last name, First name Date of birth Student identification number Degree programme

Bachelor degree programme (part-time), Semester 2
 Study organization and semester

Course code	Course title	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB2BIMUE	BIM - Building Information Modeling	UB	1	20.05.2017	2	Satisfactory (3)
SMBB2SKKUE	Effective communication	UB	2	10.06.2017	2	Excellent (1)
SMBB2EEEVO	Energy technology (renewable energies)	VO	2	16.06.2017	2	RPL
SMBB2EXKPT	Field trip	PT	1	23.03.2017	1	P
SMBB2MA1IL	GL Mathematics 2	IL	2	17.06.2017	2	Satisfactory (3)
SMBB2GLTIL	GL Technical building equipment	IL	3	16.06.2017	4	RPL
SMBB2PHYIL	Physics and Thermodynamics	IL	3	07.07.2017	3	Satisfactory (3)
SMBB2TWEIL	Structural Planning	IL	2	01.04.2017	2	Good (2)
SMBB2VTGVO	VT Building design	VO	2	23.09.2017	2	Sufficient (4)
SMBB2BP2IL	VT Building physics	IL	2	05.05.2017	2	Satisfactory (3)
SMBB2VTSPT	VT Smart Building	PT	1	18.05.2017	4	Good (2)
SMBB2VTBIL	VT Structural design training	IL	3	08.07.2017	4	Satisfactory (3)
Sum total of successfully completed ECTS credits					30	

The grade average weighted according to ECTS-credits for 2. SS 2017 equals 2.65 (excluding recognized or extracurricular courses).

Kuchl, 11.06.2019

Place and date of Issue

Head of Degree Programme, [REDACTED]

1 SEHR GUT EXCELLENT
 2 GUT GOOD
 3 BEFRIEDIGEND SATISFACTORY
 4 GENÜGEND SUFFICIENT
 5 NICHT GENÜGEND INSUFFICIENT
 P MIT ERFOLG TEILGENOMMEN
 P SUCCESSFULLY COMPLETED
 F OHNE ERFOLG TEILGENOMMEN
 F NOT COMPLETED

ECTS EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM
 ECTS EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM
 RPL ANERKANNT AUFGRUND VON VORWISSEN
 RPL RECOGNIZED DUE TO PRIOR LEARNING
 RES ANERKANNT AUFGRUND EINES ERFOLGREICH ABSOLVIERTEN AUSLANDSSEMESTERS
 RES RECOGNIZED DUE TO A SUCCESSFULLY COMPLETED EXCHANGE SEMESTER
 STV ANERKANNT AUFGRUND VON ZEITEN ALS STUDIERENDENVERTRETER/IN GEM. §31 HSG
 STV REDUCED DUE TO STUDENTS' UNION DUTIES ACCORDING TO §31 HSG

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UE/UB ÜBUNG PRACTICE SESSION
 VO VORLESUNG LECTURE
 PS PROSEMINAR PROSEMINAR
 RE REPETITORIUM REVISION COURSE
 SE SEMINAR SEMINAR
 PT PROJEKT PROJECT
 TU TUTORIUM TUTORIAL



Transcript of Records winter semester 2017/18

[Redacted] Smart Building - Energy Efficient Building Technology & Sustainable Construction
 Last name, First name Date of birth Student identification number Degree programme
 Bachelor degree programme (part-time), Semester 3
 Study organization and semester

Course code	Course title	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB3GASIL	Building Automation Systems	IL	2	10.11.2017	2	Excellent (1)
SMBB3BBLIL	Construction Management	IL	3	10.03.2018	3	Satisfactory (3)
SMBB3AB2IL	Elective Module Building Physics	IL	2	27.01.2018	2	Satisfactory (3)
SMBB3OBZIL	Environmental Accounting Life-Cycle Costs	IL	2	02.03.2018	2	Excellent (1)
SMBB3GLEUE	GL English	UB	1	26.01.2018	1	Excellent (1)
SMBB3IKTIL	Information and communication technology	IL	3	24.11.2017	4	Excellent (1)
SMBB3IBKIL	Integrated structural design	IL	3	03.02.2018	3	Good (2)
SMBB3INPPT	Integrative project	PT	1	03.02.2018	4	Good (2)
SMBB3RELIL	Legal studies	IL	3	01.12.2017	3	Satisfactory (3)
SMBB3PRMIL	Project management	IL	1	24.11.2017	2	Excellent (1)
SMBB3MA2IL	VT Mathematics	IL	2	19.01.2018	2	Excellent (1)
SMBB3VTTVO	VT Technical building systems	VO	2	02.02.2018	2	Excellent (1)
Sum total of successfully completed ECTS credits					30	

The grade average weighted according to ECTS-credits for 3. WS 2017 equals 1.77 (excluding recognized or extracurricular courses).

Kuchl, 11.06.2019

Place and date of Issue

Head of Degree Programme, [Redacted]



Transcript of Records summer semester 2018

[REDACTED] Smart Building - Energy Efficient Building Technology & Sustainable Construction
 Last name, First name Date of birth Student identification number Degree programme

Bachelor degree programme (part-time), Semester 4

Study organization and semester

Course code	Course title	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB4SGAIL	Application of Building Technology	IL	2	21.04.2018	2	Excellent (1)
SMBB4GBAIL	Building Automation	IL	2	25.05.2018	2	Excellent (1)
SMBB4GESIL	Building Simulation	IL	2	09.06.2018	2	Good (2)
SMBB4SRTIL	Control and feedback control systems	IL	2	16.04.2018	2	RPL
SMBB4PJEIL	Project Development	IL	2	29.06.2018	2	Good (2)
SMBB4WIAUE	Scientific Work	UB	1	05.05.2018	2	Satisfactory (3)
SMBB4SS1IL	Smart Building Systems 1	IL	3	08.06.2018	4	Good (2)
SMBB4VTEUE	VT English	UB	2	20.04.2018	2	Sufficient (4)
Course code	Practical training	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB4BPRPT	Professional placement	PT	1	08.02.2018	6	RPL
Course code	Bachelor thesis	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB4BA1PT	Bachelor thesis 1: Bachelor project	PT	1	01.10.2018	6	Excellent (1)
Sum total of successfully completed ECTS credits					30	

The grade average weighted according to ECTS-credits for 4. SS 2018 equals 1.82 (excluding recognized or extracurricular courses).

Kuchl, 11.06.2019

Place and date of Issue

Head of Degree Programme, [REDACTED]



Transcript of Records winter semester 2018/19

[Redacted] Smart Building - Energy Efficient Building Technology & Sustainable Construction
 Last name, First name Date of birth Student identification number Degree programme
 Bachelor degree programme (part-time), Semester 5
 Study organization and semester

Course code	Course title	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB5BAKIL	Building Calculations	IL	2	21.12.2018	2	Satisfactory (3)
SMBB5GZ2IL	Building Energy Certification 2 Energy Consultant	IL	3	30.11.2018	4	Excellent (1)
SMBB5GZ1IL	Building certifications 1	IL	3	11.01.2019	4	Satisfactory (3)
SMBB5BPLIL	Business Planning	IL	2	02.02.2019	2	Excellent (1)
SMBB5UWMIL	Environmental management	IL	2	16.11.2018	3	Satisfactory (3)
SMBB5INEUE	Integration: English	UB	1	02.02.2019	1	Satisfactory (3)
SMBB5WIMIL	Knowledge and Information Management	IL	1	20.11.2018	2	Excellent (1)
SMBB5QMAIL	Quality management	IL	2	17.11.2018	2	Excellent (1)
SMBB5SS2IL	Smart Building Systems 2	IL	4	19.01.2019	6	Good (2)
Course code	Practical training	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB5BPRPT	Professional placement	PT	1	30.01.2019	4	RPL
Sum total of successfully completed ECTS credits					30	

The grade average weighted according to ECTS-credits for 5. WS 2018 equals 2.00 (excluding recognized or extracurricular courses).

Kuchl, 11.06.2019

Place and date of Issue

Head of Degree Programme, [Redacted]



Transcript of Records summer semester 2019

[REDACTED] [REDACTED] [REDACTED] Smart Building - Energy Efficient Building Technology & Sustainable Construction
 Last name, First name Date of birth Student identification number Degree programme

Bachelor degree programme (part-time), Semester 6
 Study organization and semester

Course code	Course title	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB6IBPIL	International construction projects: Best practice	IL	2	18.05.2019	2	Good (2)
SMBB6FWEIL	Materials Handling	IL	2	18.05.2019	2	Good (2)
SMBB6SS3SE	Seminar: Smart Building Systems 3	SE	1	10.05.2019	2	Excellent (1)
SMBB6SS3IL	Smart Building Systems 3 – Expertise	IL	3	12.04.2019	4	Excellent (1)
Course code	Practical training	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB6BPRPT	Professional placement	PT	0.5	05.03.2019	8	RPL
Course code	Bachelor thesis	Type	SWS	Exam date	ECTS Credits	Local grade
SMBB6BA2SE	Bachelor thesis 2: Accompanying seminar	SE	1	11.06.2019	12	Excellent (1)
Sum total of successfully completed ECTS credits					30	

The grade average weighted according to ECTS-credits for 6. SS 2019 equals 1.18 (excluding recognized or extracurricular courses).

Kuchl, 11.06.2019

Place and date of Issue

Head of Degree Programme, [REDACTED]