HOCHSCHULE
FÜR ANGEWANDTE WISSENSCHAFT UND KUNST
Hildesheim/Holzminden/Göttingen
University of Applied Sciences and Arts

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Inhaltsübersicht

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HAWK
HOCHSCHULE
FÜR ANGEWANDTE WISSENSCHAFT UND KUNST
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Prüfungsordnung für den Bachelorstudiengang Baumanagement (Besonderer Teil)

Fakultät Management, Soziale Arbeit, Bauen

Die Prüfungsordnung Besonderer Teil für den Bachelorstudiengang Baumanagement der Fakultät Management, Soziale Arbeit, Bauen vom 25. November 2019 in der Fassung vom 16. September 2022 tritt gemäß Fakultätsratsbeschluss vom 16. September 2022 der Fakultät Management, Soziale Arbeit, Bauen der HAWK Hochschule für angewandte Wissenschaft und Kunst Hildesheim/Holzminden/Göttingen und Genehmigung des Präsidiums vom 20. September 2022 nach ihrer hochschulöffentlichen Bekanntmachung in Kraft. Die hochschulöffentliche Bekanntmachung erfolgte am 30. September 2022.

Inhaltsübersicht

§ 1 Dauer und Verlauf des Studiums

(1) Die Regelstudienzeit des Bachelorstudiengangs Baumanagement beträgt sieben Semester.

(2) Der Gesamtumfang der Pflicht- und Wahlpflichtmodule beträgt 210 Leistungspunkte (Credits). Das Studium setzt sich aus Pflichtmodulen im Umfang von 135 Leistungspunkten sowie Wahlpflichtmodulen für die jeweilige Studienrichtung im Umfang von 63 Leistungspunkten und nicht einer Studienrichtung zugeordneten Wahlpflichtmodulen im Umfang von 12 Leistungspunkten zusammen. Studienverlauf und Workload der einzelnen Module werden in Anlage 1 aufgezeigt. Er gilt für diejenigen Studierenden, die zum Wintersemester in das erste Fachsemester immatrikuliert werden. Für Studierende, die zum Sommersemester in das erste Fachsemester immatrikuliert werden, werden die in der Anlage 1 dargestellten Module gemäß zugehörigem Studienverlaufsplan in anderer Reihenfolge studiert.

(3) Wählbare Studienrichtungen sind „Hochbau“ und „Ingenieurbau“. Die Module der ersten beiden Semester (60 Leistungspunkte) sind für beide Studienrichtungen gleich, ebenso Module im Umfang von 75 Leistungspunkten in den höheren Semestern. Ab dem dritten Semester ist dem jeweiligen Studienverlaufsplan der gewählten Studienrichtung zu folgen, um den Studiengang erfolgreich abschließen zu können. Die der jeweiligen Studienrichtung zugeordneten Module sind der Anlage 1 zu entnehmen. Ein interdisziplinäres Studium aus beiden Studienrichtungen ist nicht möglich.

(4) Studierende müssen aus dem Angebot der zentralen Einrichtung HAWK plus Wahlpflichtmodule im Umfang von sechs Leistungspunkten auswählen.

§ 2 Prüfungen

(1) Die für die Bachelorprüfung zu erbringenden Prüfungen werden studienbegleitend erbracht. Der Modulübersicht (Anlage 1) ist zu entnehmen, welche Prüfungsformen einem Modul zugeordnet sind und ob es sich um Prüfungs- oder Studienleistungen handelt. Neben der Art der Prüfung ist in den Modulbeschreibungen bei zusammengesetzten Modulprüfungen die Gewichtung ausgewiesen, mit der die Gesamtmodulnote zu berechnen ist.

(2) Ist in den Modulbeschreibungen eine Studienleistung als Prüfungsvorleistung (PVL) vorgesehen, so ist das Bestehen dieser Prüfungsvorleistung neben dem Vorliegen der Voraussetzungen gemäß § 8 des Allgemeinen Teils der Prüfungsordnung für die Zulassung zur Noten bildenden Modulabschlussprüfung erforderlich.

(3) Für die Vergabe der Noten gemäß Absatz 4 gilt – unter Beachtung der Rundung auf eine Nachkommastelle - folgendes Bewertungsschema:

bei 95,5 % bis 100 % der erreichbaren Leistung	= 1,0	
bei 90,9 % bis 95,4 % der erreichbaren Leistung	= 1,3	
bei 84,8 % bis 90,8 % der erreichbaren Leistung	= 1,7	
bei 80,3 % bis 84,7 % der erreichbaren Leistung	= 2,0	
bei 75,8 % bis 80,2 % der erreichbaren Leistung	= 2,3	
bei 69,7 % bis 75,7 % der erreichbaren Leistung	= 2,7	
bei 65,2 % bis 69,6 % der erreichbaren Leistung	= 3,0	
bei 60,6 % bis 65,1 % der erreichbaren Leistung	= 3,3	
bei 54,5% bis 60,5% der erreichbaren Leistung	= 3,7	
bei 50,0 % bis 54,4 % der erreichbaren Leistung	= 4,0	
und bei weniger als 50 % der erreichbaren Leistung	= 5,0	(nicht bestanden)

(4) Abweichend von § 15 Absatz 2 der Prüfungsordnung Allgemeiner Teil 2019 findet keine Pflichtanmeldung zur ersten Wiederholungsprüfung statt. Eine nicht bestandene Modulprüfung nach § 15 Absatz 1 der Prüfungsordnung Allgemeiner Teil soll jedoch in der Regel im Rahmen der regulären Prüfungstermine innerhalb der nächsten beiden Semester in der gleichen Art und Dauer wiederholt werden.

§ 3 Praxismodul

(1) Die Zulassung zum Praxismodul (Modul BH7 601 bzw. BI7 601) erfolgt auf Antrag, welcher in Form einer Modulanmeldung innerhalb der hierfür laut Semesterzeitplan vorgesehenen Fristen in der Prüfungsverwaltung einzureichen ist.

(2) Zum Praxismodul wird zugelassen, wer bis dahin alle Module der ersten beiden Fachsemester bestanden und mindestens 132 Leistungspunkte erreicht hat. Näheres regeln Modulbeschreibung sowie Praxisleitfaden in ihrer jeweils gültigen Form.

§ 4 Bachelorarbeit und Kolloquium

(1) Die Bearbeitungszeit für die Bachelorarbeit (Modul BH7 901 bzw. BI7 901) beträgt sieben Wochen.

(2) Eine Zulassung zum Modul Bachelorarbeit ist erst möglich, wenn alle Leistungspunkte bis auf die Leistungspunkte der Abschlussarbeit selbst, die Leistungspunkte der Module des Abschlusssemesters sowie die Leistungspunkte eines weiteren Moduls erbracht sind. Das offene Modul darf nicht aus den ersten beiden Fachsemestern stammen. Für das im letzten Fachsemester angesiedelte Praxismodul muss die Zulassung erteilt worden sein. Es muss ferner durch einen aussagekräftigen Nachweis (z.B. Praktikumsvertrag) erkennbar sein, dass der Pflichtteil des Praktikums rechtzeitig vor Ausgabe des Bachelorthemas abgeschlossen sein wird. Dieser Nachweis ist gemeinsam mit dem Zulassungsantrag zur Bachelorarbeit in der Prüfungsverwaltung einzureichen.

(3) Im Antrag auf Zulassung zur Bachelorarbeit (Modulanmeldung) ist der Themenbereich der Aufgabenstellung für die Bachelorarbeit sowie die/der Erstprüfende zu nennen. Es ist ferner die Unterschrift der/des Erstprüfenden einzuholen.

(4) Zum Kolloquium wird zugelassen, wessen Bachelorarbeit von beiden Prüfenden vorläufig mit mindestens ausreichend bewertet wurde. Eine Zulassung zum Kolloquium ist bereits dann möglich, wenn die Modulprüfung im gemäß Absatz 2 zulässigerweise noch offenen weiteren Fachmodul aussteht.

(5) Das Kolloquium soll in der Regel innerhalb von acht Wochen nach Abgabe der Bachelorarbeit durchgeführt werden.

(6) § 21 Absatz 4 der Prüfungsordnung Allgemeiner Teil 2019 wird ersetzt durch folgenden Text: Die Betreuung der Abschlussarbeit kann von jedem Mitglied der Professor/inn/engruppe der Fakultät übernommen werden. Mit Zustimmung der Prüfungskommission kann die Betreuung auch von einer/einem Professor/in vorgenommen werden, die oder der nicht Mitglied dieser Fakultät ist. Sie kann auch von anderen Prüfer/inne/n nach § 5 Absatz 1 und 2 der der Prüfungsordnung Allgemeiner Teil 2019 übernommen werden. In der Regel muss die oder der Erstprüfende lehrende/r Professor/in sein.

§ 5 Hochschulgrad, Zeugnis

(1) Der Studiengang schließt mit dem Kolloquium zur Bachelorarbeit oder mit dem Abschluss des im gemäß Absatz 2 zulässigerweise noch offenen Fachmoduls ab.

(2) Die Hochschule verleiht zum Abschluss den Hochschulgrad Bachelor of Engineering, abgekürzt B.Eng. Hierüber stellt die Hochschule eine Urkunde mit dem Datum des Zeugnisses aus (Anlage 2). Ein Muster des Bachelorzeugnisses enthält Anlage 3. Gleichzeitig mit dem Zeugnis wird der/dem Studierenden ein englisches Diploma Supplement (Anlage 4) gemäß der aktuellen HRK-Vorlage ausgehändigt.

§ 6 Inkrafttreten und Übergangsregelungen

(1) Diese Änderung der Prüfungsordnung tritt am Tag nach ihrer hochschulöffentlichen Bekanntmachung in Kraft.

(2) Studierende, die sich an der HAWK in den Bachelorstudiengang Baumanagement eingeschrieben haben, unterliegen ab Inkrafttreten den Regelungen dieser Prüfungsordnung. Über Ausnahmen entscheidet auf begründeten Antrag, der innerhalb von drei Monaten nach Inkrafttreten dieser Prüfungsordnung zu stellen ist, die Prüfungskommission.

Anlage 1: Modulübersicht

a) Modulübersicht (für beide Studienrichtungen). Es gilt § 1 Absatz 3.

Modul-Nr.	Modulname	Leistungspunkte/Semester							Work-load	Prüfungsform
Pflichtmodule für alle Studierenden		1	2	3	4	5	6	7		
BM1_200	Einführung in das Baumanagement	3							90	K1
BM1_011	Grundlagen des Rechts	3							90	K1,5/ST
BM1_100	Baukonstruktion/Bauphysik	6							180	K2
BM1_101	Grundlagen der Tragwerkslehre	6							180	K2+ST
BM1_102	Mineralische Baustoffe	3							90	K1+LB*
BM1_103	Baukultur – Bau- und Kunstgeschichte	3							90	ST+PR*
BM1_012	Mathematik	6							90	K2
BM2_013	Bauzeichnen, CAD, 3D-Modellierung		6						180	K2+ST*/ST+ST*/ K1+ST+ST*
BM2_104	Baukonstruktion/Mauerwerksbau		6						180	K1+ST
BM2_105	Tragwerkslehre/Konstrukt. Entwerfen		6						180	K2+ST
BM2_106	Baustoffkunde		6						180	K2+LB*
BM2_014	Vermessungskunde/Bauaufnahme		6						180	K2+ST*/PA+PR/ ST+ST*
BM3_110	Grundlagen baulicher Brandschutz			3					90	K1,5/M
BM3_201	Grundlagen Baubetrieb und AVA			6					180	K2/K1+ST
BM4_202	Vertragsrecht				3				90	K1,5/ST
BM4_203	Bauvertragsrecht				3				90	K1,5/ST
BM4_204	Projektmanagement/ Schlüsselfertigbau				6				180	K2/K1+ST
BM5_205	Kostenrechnung/Kalkulation					6			180	K2/K1+ST
BM5_501	Interdisziplinäres Projekt					6			180	ST+PR/PA
BM6_015	Building Information Modeling						3		90	ST+PR/ST
BM6_207	Bauverfahrenstechnik						3		90	K1/ST
BM6_208	Projektsteuerung/ digitaler Planungs- und Bauprozess						6		180	K2/K1+ST/K1+M
BM7_209	Sicherheitstechnik							3	90	K1
BM7_601	Praxismodul							15	450	PB*+PR*
BX7_901	Bachelorarbeit							12	360	Bachelorarbeit mit Kolloquium
Module für die Studienrichtung Hochbau										
BH3_108	Gebäudelehre			6					180	R+PF/PF+PR/R
BH3_109	Geotechnik im Hochbau			6					180	K1,5+R+LB*
BH3_111	Innenausbau			3					90	ST/R
BH3_112	Gebäudetechnik			6					180	K2/ST/R
BH4_113	Holz-/Stahlkonstruktionen				6				180	PA+PR/PF+PR/R
BH4_114	Grundlagen des Entwerfens				6				180	PA+PR/PF+PR/R/R +PF
BH4_500	Projekt Entwurf und Planung				6				180	PA+PR/PF+PR
BH5_115	Stahlbetonkonstruktionen					6			180	K2/ST

BH5_116	Bauphysik					6			180	K2/ST/M
BH5_8XX	Wahlpflichtmodul WPM I					3			90	*s. Tabelle unter b)*
BH5_7XX	Wahlpflichtmodul IPS I					3			90	*individuell*
BH6_117	Skelett- und Fassadenbau						6		180	PA+PR/PF+PR/R/R +PF
BH6_8XX	Wahlpflichtmodul WPM II						3		90	*s. Tabelle unter b)*
BH6_7XX	Wahlpflichtmodul IPS II						3		90	*individuell*
BH6_502	Projekt Bauen im Bestand						6		180	PA+PR/PF+PR
Module für die Studienrichtung Ingenieurbau										
BI3_120	Tragwerksplanung			6					180	K2+ST
BI3_121	Grundlagen des Stahlbetonbaus			6					180	K2
BI3_122	Geotechnik			3					90	K1,5+LB*
BI3_123	Ingenieurholzbau und Instandsetzung			6					180	K2/ST
BI4_124	Stahlbau				6				180	K2
BI4_125	Verkehrswesen				6				180	K2
BI4_503	Projekt Entwurf und Planung (Infrastrukturbau)				6				180	PA+PR+M*/PA+M* /PA+R/ST
BI5_126	Wasserbau/ Siedlungswasserwirtschaft					6			180	ST+PF*/K2+PF*
BI5_127	Stahlbetonbau					3			90	K1,5
BI5_128	Brückenbau					3			90	K1/M/ST/R
BI5_8XX	Wahlpflichtmodul WPM I					3			90	*s. Tabelle unter b)*
BI5_7XX	Wahlpflichtmodul IPS I					3			90	*individuell*
BI6_129	Geotechnik im Ingenieurbau						6		180	K2/ST/M/PA
BI6_8XX	Wahlpflichtmodul WPM II						3		90	*s. Tabelle unter b)*
BI6_7XX	Wahlpflichtmodul IPS II						3		90	*individuell*
BI6_504	Projekt Bauen im Bestand						6		180	PA+PR

b) Modulangebot** für die Wahlpflichtmodule WPM I und WPM II:

Modul-Nr.	Modulname	Leistungspunkte/Semester							Work-load	Prüfungsform
		1	2	3	4	5	6	7		
BM5_8XX	Ausgewählte Themen des Baumanagements I					3			90	K1/ST/R/PR/M
BM5_8XX	Ausgewählte Themen des Hochbaus I					3			90	ST+PF*/PF+PR/ R+PF*
BM5_8XX	Ausgewählte Themen des Ingenieurbaus I					3			90	K1,5/ST/M/R/LB
BM5_8XX	Ausgewählte Themen EDV und Sprachen I					3			90	K1/ST/PA/EDRP /ST+PR*/PF/R
BM6_8XX	Ausgewählte Themen des Baumanagements II						3		90	K1/ST/R/PR/M
BM6_8XX	Ausgewählte Themen des Hochbaus II						3		90	ST+PF*/PR+PF* /R+PF*
BM6_8XX	Ausgewählte Themen des Ingenieurbaus II						3		90	K1,5/ST/M/R/LB
BM6_8XX	Ausgewählte Themen EDV und Sprachen II						3		90	K1/ST/PA/EDRP /ST+PR*/PF/R

**Das konkrete Modulangebot richtet sich nach Studierendenzahlen und Personalverfügbarkeit.

c) Abkürzungen für die Prüfungsformen (siehe § 8 Absatz 3 Prüfungsordnung Allgemeiner Teil):

Abkürzung	Bezeichnung
*	Studienleistung (alle anderen sind Prüfungsleistungen)
/	Der Schrägstrich trennt alternative Varianten der vorgesehenen Prüfungsformen.
FS	Fallstudie
IR	Internetrecherche
K2	Klausur (2 Stunden)
LB	Laborbericht
M	Mündliche Prüfung
PR	Präsentation
PA	Projektarbeit
PB	Praktikumsbericht
PF	Portfolio
R	Referat
EDRP	Erstellung und Dokumentation von Rechnerprogrammen
ST	Studienarbeit

Anlage 2: Bachelorurkunde (Muster)

BACHELORURKUNDE

Die HAWK
Hochschule für angewandte Wissenschaft und Kunst
Hildesheim/Holzminden/Göttingen
Fakultät Management, Soziale Arbeit, Bauen

verleiht mit dieser Urkunde

Frau/Herrn **«Vorname» «Nachname»**
geboren am «Geburtsdatum» in «Geburtsort»

den Hochschulgrad **Bachelor of Engineering**
abgekürzt B. Eng.,
nachdem sie/er die Abschlussprüfung im Studiengang

Baumanagement
(«Studienrichtung»)

bestanden hat.

Holzminden, den «Datum»

«Dekan/in»
Dekan/in

«Studiendekan/in»
Studiendekan/in

Anlage 3: Bachelorzeugnis (Muster)

BACHELORZEUGNIS

Frau **«Vorname» «Nachname»**
geboren am «Geburtsdatum» in «Geburtsort»

hat die Bachelorprüfung im Studiengang

Baumanagement
(«Studienrichtung»)

der Fakultät Management, Soziale Arbeit, Bauen
bestanden.

Thema der Bachelorthesis:

Abschlussprüfung	Credits	Gesamtnote
	000	**0,0 (in Worten)**

Die Gesamtnote ergibt sich aus den Modulnoten (gemäß Anlage zum Bachelorzeugnis), die im Verhältnis der auf sie entfallenden Credits gewichtet werden.

Holzminden, den «PruefDatum»

«Studiendekan/in»
Studiendekan/in

Notenstufen: 1,0 bis 1,5 = Sehr Gut; 1,6 bis 2,5 = Gut; 2,6 bis 3,5 = Befriedigend; 3,6 bis 4,0 = Ausreichend

ANLAGE ZUM BACHELORZEUGNIS (TRANSCRIPT OF RECORDS)

Baumanagement («Studienrichtung»)

Herr/Frau **Vorname Nachname**
geboren am 00.00.0000 in Geburtsort

Module	Credits	Note
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
IPS		
		0,0
		0,0
Bachelorarbeit und Kolloquium		
Thema: «Thema»		0,0

Holzminden, den «PruefDatum»

Anlage 4: Diploma Supplement (Muster)

DIPLOMA SUPPLEMENT

This Diploma Supplement model was 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)	**Nachname**
1.2	First name(s)	**Vorname**
1.3	Date of birth	**oo.oo.oooo**
1.4	Student ID Number or code	**oooooo**

2. Information identifying the qualification

2.1 Name of Qualification and (if applicable) title conferred (in original language)
Bachelor of Engineering– B.Eng.
Bachelor of Engineering/B.Eng. in Construction Management

2.2 Main field(s) of study for the qualification
Construction Management with
- Building Construction (Hochbau) or
- Civil Engineering (Ingenieurbau)
as a profile tob e chosen

2.3 Name and status of awarding institution (in original language)
HAWK Hochschule für angewandte Wissenschaft und Kunst
Hildesheim/Holzminden/Göttingen
Fakultät Management, Soziale Arbeit, Bauen
Status (Type / Control)
University of Applied Sciences and Arts / State Institution

2.4 Name and status of institution administering studies (in original language)
[as above]
Status (Type / Control)
[as above]

2.5 Language(s) of instruction/examination
German

3. Information on the level and duration of the qualification

3.1 Level of the qualification
Bachelor programme, undergraduate, first degree, by research with thesis

3.2 Official duration of programme in credits and/or years
Three and a half years, 7 semesters, 210 ECTS

3.3 Access requirement(s)

General Higher Education Entrance Qualification or Entrance Qualification to Universities of Applied Sciences, or foreign equivalent.

4. Information on the programme completed and the results obtained

4.1 Mode of Study

Full Time Study

In the event of part-time study (individual application required), the official length of the programme will be extended accordingly.

4.2 Programme learning outcomes

The educational target of the Bachelor program "Construction Management" is the professional qualification of engineers for construction industry who acquire knowledge in building and civil engineering as well as understanding of planning and execution work especially knowledge of holistic and sustainable management in construction.

As the interdisciplinary studies cover planning and management contents, graduates have abilities to coordinate in construction various structural and technical disciplines and hereby finding results. Construction projects may be considered and controlled goal-directed from a higher point of view.

The Bachelor program "Construction Management" links traditional contents of architecture and civil engineering and essential aspects of management with interdisciplinary knowledge in engineering, economy and management. This is made through a combination of particular contents of construction and various aspects of management in technical fields. Hereby the student can choose between the profiles building (Hochbau) and civil engineering (Ingenieurbau).

Furthermore the educational objective is to transmit essential personal, social and method based skills to graduates. For example there are lectures in rhetoric, presentations, teamwork, managing conflicts, awareness of diversity, academic methods of writing, statistics.

Apart from two external internships in industry which last for several weeks, students have to be present in large numbers of lectures accompanied by laboratory work, practical exercises, projects and excursions.

During their studies, graduates developed subject-specific method competences. They are able to solve different assignments in project planning and management as well as to connect requirements of their own discipline with those of other disciplines, to find and to present appropriate solutions.

The studies in Construction Management are based on applied studies respectively practical oriented studies. The unification of building construction and civil engineering is given so that a holistic consideration on building projects is reached. At the end of the first semester, students generally decide for one profile.

The projects take in consideration various aspects, where students train the interdisciplinary assignment and its execution. Therefore common projects are offered for both profiles.

Building Construction (Hochbau) as a profile: Programme of studies

First semester:

Introduction to construction management, legal basics, construction and building physics, introduction to load bearing structure, mineral materials and concrete rehabilitation, building culture and art history, mathematics.

Second semester:

Technical drawing, CAD, 3 D modelling; construction and masonry, load bearing engineering and structural design, building materials, survey of building and surveying.

Third semester:
Design theory, geotechnics, basics of fire protection, interior work, building services, basics in construction industry and procurement procedure.
Fourth semester:
Steel and timber constructions, introduction to design, conditions of contract, legal building regulations, project management and turn-key building, Project: design and planning.
Fifth semester:
Reinforced concrete constructions, building physics, cost determination and calculation, interdisciplinary project, two additional modules on choice.
Sixth semester:
Skeleton structure and facades, building information modelling, construction method, controlling of projects and digital planning and building process, project: reinstatement of buildings, two additional modules on choice.
Seventh semester:
Safety training, practical training – internship, Bachelor Thesis

Civil Engineering (Ingenieurbau) as a profile: Programme of studies
First semester:
Introduction to construction management, legal basics, building construction and building physics, introduction to load bearing structure, mineral materials and concrete rehabilitation, building culture and art history, mathematics,
Second semester:
Technical drawing, CAD, 3 D modelling, construction and masonry, load bearing engineering and structural design, building materials, survey of buildings and surveying.
Third semester:
Load bearing engineering, basics of reinforced concrete constructions, geotechnics in engineering, basics of fire protection, timber engineering and repair, basics in construction industry and procurement procedure.
Fourth semester:
Steel constructions, traffic/road network, conditions of contract, legal building regulations, project management and turn-key building, project: design and planning.
Fifth semester:
Water supply and sanitation, reinforced concrete constructions, bridge constructions, cost determination and calculation, interdisciplinary project, two additional modules on choice.
Sixth semester:
Geotechnics in engineering, building information modelling, methods of constructions, controlling of projects and digital planning and building process, project: reinstatement of buildings, two additional modules on choice.
Seventh semester:
Safety training, practical training – internship, Bachelor Thesis

4.3 Programme details, individual credits gained and grades/marks obtained
Please refer to the Certificate (Masterzeugnis) for a list of courses and grades.

4.4 Grading system and , if available, grade distribution table
Absolute grading scheme: “Sehr Gut” (1,0; 1,3) = Very Good; “Gut” (1,7; 2,0; 2,3) = Good; “Befriedigend” (2,7; 3,0; 3,3) = Satisfactory; “Ausreichend” (3,7; 4,0) = Pass; “Nicht ausreichend” (5,0) = Fail
Statistical distribution of grades: **grading table**

4.5 Overall classification of the qualification **0,0**

The final grade is based on the grades awarded during the study programme and that of the final thesis (with oral component). Please refer to the Certificate (Masterzeugnis). When there are no marks given, not enough results are available yet to determine ECTS-grades.

5. Information on the function of the qualification

5.1 Access to further study
The degree entitles its holder to apply for admission for a doctoral thesis according to the regulations covering doctoral programmes, respectively.

5.2 Access to a regulated profession (if applicable)
The degree in Construction Management entitles its holder to the legally protected professional title Master of Arts and to exercise professional work in the field(s) for which the degree was awarded.

6. Additional information

6.1 Additional information
Non-academic acquired competencies were credited in an amount of **oo** credits in the following modules: ...

6.2 Further information sources
www.hawk.de

7. Certification

This Diploma Supplement refers to the following original documents:

Document on the award of the academic degree	
(Bachelorurkunde) dated from	**oo.oo.oooo**
Certificate (Bachelorzeugnis) dated from	**oo.oo.oooo**
Transcript of Records dated from	**oo.oo.oooo**
Certification Date:	**oo.oo.oooo**

(Official Seal / Stamp) Dean of Studies

8. National higher education system

The information on the national higher education system on the following pages provides a context for the qualification and the type of higher education institution that awarded it.

8. Information on the German Higher Education System[i]

8.1 Types of Institutions and Institutional Status

Higher education (HE) studies in Germany are offered at three types of Higher Education Institutions (HEI).[ii]

- *Universitäten* (Universities) including various specialized institutions, offer the whole range of academic disciplines. In the German tradition, universities focus in particular on basic research so that advanced stages of study have mainly theoretical orientation and research-oriented components.
- *Fachhochschulen (FH)/Hochschulen für Angewandte Wissenschaften (HAW)* (Universities of Applied Sciences, UAS) concentrate their study programmes in engineering and other technical disciplines, business-related studies, social work, and design areas. The common mission of applied research and development implies an application-oriented focus of studies, which includes integrated and supervised work assignments in industry, enterprises or other relevant institutions.
- *Kunst- und Musikhochschulen* (Universities of Art/Music) offer studies for artistic careers in fine arts, performing arts and music; in such fields as directing, production, writing in theatre, film, and other media; and in a variety of design areas, architecture, media and communication.

Higher Education Institutions are either state or state-recognized institutions. In their operations, including the organization of studies and the designation and award of degrees, they are both subject to higher education legislation.

8.2 Types of Programmes and Degrees Awarded

Studies in all three types of institutions have traditionally been offered in integrated "long" (one-tier) programmes leading to Diplom- or Magister Artium degrees or completed by a Staatsprüfung (State Examination).

Within the framework of the Bologna-Process one-tier study programmes are successively being replaced by a two-tier study system. Since 1998, two-tier degrees (Bachelor's and Master's) have been introduced in almost all study programmes. This change is designed to provide enlarged variety and flexibility to students in planning and pursuing educational objectives, they also enhance international compatibility of studies.

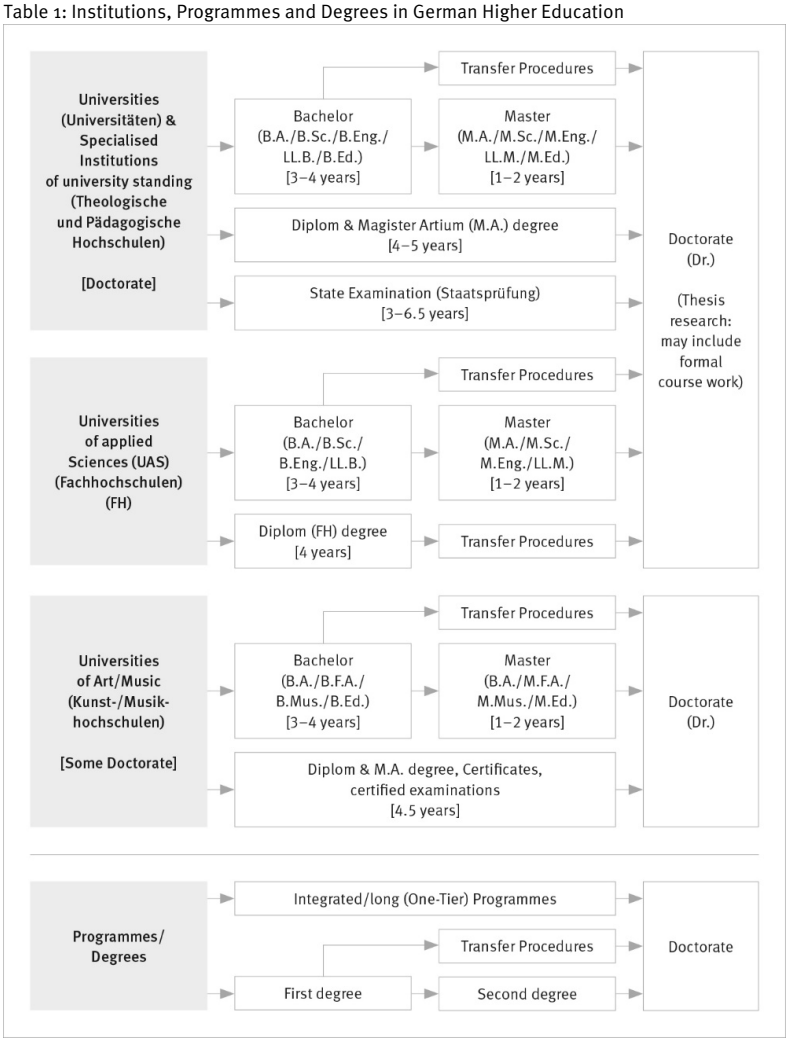
The German Qualifications Framework for Higher Education Qualifications (HQR)[iii] describes the qualification levels as well as the resulting qualifications and competences of the graduates. The three levels of the HQR correspond to the levels 6, 7 and 8 of the German Qualifications Framework for Lifelong Learning[iv] and the European Qualifications Framework for Lifelong Learning[v].

For details cf. Sec. 8.4.1, 8.4.2, and 8.4.3 respectively. Table 1 provides a synoptic summary.

8.3 Approval/Accreditation of Programmes and Degrees

To ensure quality and comparability of qualifications, the organisation of studies and general degree requirements have to conform to principles and regulations established by the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany (KMK).[vi] In 1999, a system of accreditation for Bachelor's and Master's programmes has become operational.. All new programmes have to be accredited under this scheme; after a successful accreditation they receive the quality-label of the Accreditation Council.[vii]

Table 1: Institutions, Programmes and Degrees in German Higher Education



8.4 Organisation and Structure of Studies

The following programmes apply to all three types of institutions. Bachelor's and Master's study programmes may be studied consecutively, at various higher education institutions, at different types of higher education institutions and with phases of professional work between the first and the second qualification. The organisation of the study programmes makes use of modular components and of the European Credit Transfer and Accumulation System (ECTS) with 30 credits corresponding to one semester.

8.4.1 Bachelor

Bachelor's degree study programmes lay the academic foundations, provide methodological competences and include skills related to the professional field. The Bachelor's degree is awarded after 3 to 4 years. The Bachelor's degree programme includes a thesis requirement. Study programmes leading to the Bachelor's degree must be accredited according to the Interstate study accreditation treaty.[viii]

First degree programmes (Bachelor) lead to Bachelor of Arts (B.A.), Bachelor of Science (B.Sc.), Bachelor of Engineering (B.Eng.), Bachelor of Laws (LL.B.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music (B.Mus.) or Bachelor of Education (B.Ed.).

The Bachelor's degree corresponds to level 6 of the German Qualifications Framework/ European Qualifications Framework.

8.4.2 Master

Master is the second degree after another 1 to 2 years. Master's programmes may be differentiated by the profile types "practice-oriented" and "research-oriented". Higher Education Institutions define the profile. The Master's degree programme includes a thesis requirement. Study programmes leading to the Master degree must be accredited according to the Interstate study accreditation treaty.[ix]

Second degree programmes (Master) lead to Master of Arts (M.A.), Master of Science (M.Sc.), Master of Engineering (M.Eng.), Master of Laws (L.L.M.), Master of Fine Arts (M.F.A.), Master of Music (M.Mus.) or Master of Education (M.Ed.). Master's programmes which are designed for continuing education may carry other designations (e.g. MBA).

The Master degree corresponds to level 7 of the German Qualifications Framework/ European Qualifications Framework.

8.4.3 Integrated "Long" Programmes (One-Tier): Diplom degrees, Magister Artium, Staatsprüfung

An integrated study programme is either mono-disciplinary (*Diplom* degrees, most programmes completed by a *Staatsprüfung*) or comprises a combination of either two major or one major and two minor fields (*Magister Artium*). The first stage (1.5 to 2 years) focuses on broad orientations and foundations of the field(s) of study. An Intermediate Examination (*Diplom-Vorprüfung* for *Diplom* degrees; *Zwischenprüfung* or credit requirements for the *Magister Artium*) is prerequisite to enter the second stage of advanced studies and specializations. Degree requirements include submission of a thesis (up to 6 months duration) and comprehensive final written and oral examinations. Similar regulations apply to studies leading to a *Staatsprüfung*. The level of qualification is equivalent to the Master's level.

- Integrated studies at *Universitäten (U)* last 4 to 5 years (*Diplom* degree, *Magister Artium*) or 3,5 to 6.5 years (*Staatsprüfung*). The *Diplom* degree is awarded in engineering disciplines, the natural sciences as well as economics and business. In the humanities, the corresponding degree is usually the *Magister Artium* (M.A.). In the social sciences, the practice varies as a matter of institutional traditions. Studies preparing for the legal, medical and pharmaceutical professions are completed by a *Staatsprüfung*. This applies also to studies preparing for teaching professions of some *Länder.*

The three qualifications (*Diplom*, *Magister Artium* and *Staatsprüfung*) are academically

equivalent and correspond to level 7 of the German Qualifications Framework/ European Qualifications Framework.
They qualify to apply for admission to doctoral studies. Further prerequisites for admission may be defined by the Higher Education Institution, cf. Sec. 8.5.
- Integrated studies at *Fachhochschulen (FH)*/ /Hochschulen für Angewandte Wissenschaften (HAW) Universities of Applied Sciences (UAS) last 4 years and lead to a *Diplom (FH)* degree which corresponds to level 6 of the German Qualifications Framework/ European Qualifications Framework.
Qualified graduates of FH/HAW/UAS may apply for admission to doctoral studies at doctorate-granting institutions, cf. Sec. 8.5.
- Studies at *Kunst- and Musikhochschulen* (Universities of Art/Music etc.) are more diverse in their organisation, depending on the field and individual objectives. In addition to *Diplom/Magister* degrees, the integrated study programme awards include certificates and certified examinations for specialized areas and professional purposes.

8.5 Doctorate

Universities as well as specialized institutions of university standing, some of the FH/HAW/UAS and some Universities of Art/Music are doctorate-granting institutions. Formal prerequisite for admission to doctoral work is a qualified Master's degree (UAS and U), a *Magister* degree, a *Diplom*, a *Staatsprüfung*, or a foreign equivalent. Comparable degrees from universities of art and music can in exceptional cases (study programmes such as music theory, musicology, pedagogy of arts and music, media studies) also formally qualify for doctoral work. Particularly qualified holders of a Bachelor's degree or a *Diplom (FH)* degree may also be admitted to doctoral studies without acquisition of a further degree by means of a procedure to determine their aptitude. The universities respectively the doctorate-granting institutions regulate entry to a doctorate as well as the structure of the procedure to determine aptitude. Admission further requires the acceptance of the Dissertation research project by a professor as a supervisor.
The doctoral degree corresponds to level 8 of the German Qualifications Framework/ European Qualifications Framework.

8.6 Grading Scheme

The grading scheme in Germany usually comprises five levels (with numerical equivalents; intermediate grades may be given): "*Sehr Gut*" (1) = Very Good; "*Gut*" (2) = Good; "*Befriedigend*" (3) = Satisfactory; "*Ausreichend*" (4) = Sufficient; "*Nicht ausreichend*" (5) = Non-Sufficient/Fail. The minimum passing grade is "*Ausreichend*" (4). Verbal designations of grades may vary in some cases and for doctoral degrees.
In addition, grade distribution tables as described in the ECTS Users' Guide are used to indicate the relative distribution of grades within a reference group.

8.7 Access to Higher Education

The General Higher Education Entrance Qualification (*Allgemeine Hochschulreife*, *Abitur*) after 12 to 13 years of schooling allows for admission to all higher educational studies. Specialized variants (*Fachgebundende Hochschulreife*) allow for admission at Fachhochschulen (FH)/Hochschulen für Angewandte Wissenschaften (HAW) (UAS), universities and equivalent higher education institutions, but only in particular disciplines. Access to study programmes at *Fachhochschulen* (FH)/Hochschulen für Angewandte Wissenschaften (HAW) (UAS), is also possible with a *Fachhochschulreife*, which can usually be acquired after 12 years of schooling. Admission to study programmes at Universities of Art/Music and comparable study programmes at other higher education institutions as well as admission to a study programme in sports may be based on other or additional evidence demonstrating individual aptitude.
Applicants with a qualification in vocational education and training but without a school-

based higher education entrance qualification are entitled to a general higher education entrance qualification and thus to access to all study programmes, provided they have obtained advanced further training certificates in particular state-regulated vocational fields (e.g. *Meister/Meisterin im Handwerk, Industriemeister/in, Fachwirt/in (IHK), Betriebswirt/in (IHK) und (HWK), staatlich gebrüfte/r Techniker/in, staatlich geprüfte/r Betriebswirt/in, staatlich geprüfte/r Gestalter/in, staatlich geprüfte/r Erzieher/in).* Vocationally qualified applicants can obtain a *Fachgebundende Hochschulreife* after completing a state-regulated vocational education of at least two years' duration plus professional practice of normally at least three years' duration, after having successfully passed an aptitude test at a higher education institution or other state institution; the aptitude test may be replaced by successfully completed trial studies of at least one year's duration.[x] Higher Education Institutions may **in certain cases** apply additional admission procedures.

8.8 National Sources of Information

- *Kultusministerkonferenz (KMK)* [Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany]; Graurheindorfer Str. 157, D-53117 Bonn; Phone: +49[0]228/501-0, www.kmk.org; E-Mail: hochschulen@kmk.org
- Central Office for Foreign Education (ZaB) as German NARIC; www.kmk.org; E-Mail: zab@kmk.org
- German information office of the *Länder* in the EURYDICE Network, providing the national dossier on the education system; www.kmk.org; E-Mail: eurydice@kmk.org
- Hochschulrektorenkonferenz (HRK) [German Rectors' Conference]; Leipziger Platz 11, D-10117 Berlin, Phone: +49 30 206292-11; www.hrk.de; E-Mail: post@hrk.de
- "Higher Education Compass" of the German Rectors' Conference features comprehensive information on institutions, programmes of study, etc. (www.higher-education-compass.de)

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i The information covers only aspects directly relevant to purposes of the Diploma Supplement.

ii *Berufsakademien* are not considered as Higher Education Institutions, they only exist in some of the *Länder*. They offer educational programmes in close cooperation with private companies. Students receive a formal degree and carry out an apprenticeship at the company. Some *Berufsakademien* offer Bachelor courses which are recognized as an academic degree if they are accredited by the Accreditation Council.

iii German Qualifications Framework for Higher Education Degrees. (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 16 February 2017).

iv German Qualifications Framework for Lifelong Learning (DQR). Joint resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, the German Federal Ministry of Education and Research, the German Conference of Economics Ministers and the German Federal Ministry of Economics and Technology (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany of 15 November 2012). More information at www.dqr.de

v Recommendation of the European Parliament and the European Council on the establishment of a European Qualifications Framework for Lifelong Learning of 23 April 2008 (2008/C 111/01 – European Qualifications Framework for Lifelong Learning – EQF).

vi Specimen decree pursuant to Article 4, paragraphs 1 – 4 of the interstate study accreditation treaty (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany of 7 December 2017).

vii Interstate Treaty on the organization of a joint accreditation system to ensure the quality of teaching and learning at German higher education institutions (Interstate study accreditation treaty) (Decision of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany of 8 December 2016), Enacted on 1 January 2018.

viii See note No. 7.

[ix] See note No. 7.

[x] Access to higher education for applicants with a vocational qualification, but without a school-based higher education entrance qualification (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 6 March 2009).

HAWK
HOCHSCHULE
FÜR ANGEWANDTE WISSENSCHAFT UND KUNST
Hildesheim/Holzminden/Göttingen
University of Applied Sciences and Arts

Prüfungsordnung für den Bachelorstudiengang Green Building – Gebäudetechnik, Energieeffizienz, Mensch und Umwelt (Besonderer Teil)

Fakultät Management, Soziale Arbeit, Bauen

Die Prüfungsordnung Besonderer Teil für den Bachelorstudiengang Green Building – Gebäudetechnik, Energieeffizienz, Mensch und Umwelt der Fakultät Management, Soziale Arbeit, Bauen vom 25. November 2019 in der Fassung vom 16. September 2022 tritt gemäß Fakultätsratsbeschluss vom 16. September 2022 der Fakultät Management, Soziale Arbeit, Bauen der HAWK Hochschule für angewandte Wissenschaft und Kunst Hildesheim/Holzminden/Göttingen und Genehmigung des Präsidiums vom 20. September 2022 nach ihrer hochschulöffentlichen Bekanntmachung in Kraft. Die hochschulöffentliche Bekanntmachung erfolgte am 30. September 2022.

Inhaltsübersicht

§ 1 Dauer und Verlauf des Studiums

(1) Die Regelstudienzeit des Bachelorstudiengangs Green Building – Gebäudetechnik, Energieeffizienz, Mensch und Umwelt beträgt sieben Semester.

(2) Der Gesamtumfang der Pflicht- und Wahlpflichtbereiche beträgt 210 Leistungspunkte (Credits). Das Studium setzt sich aus Pflichtmodulen im Umfang von 171 Leistungspunkten sowie Wahlpflichtmodulen im Umfang von 39 Leistungspunkten zusammen (QM I bis IV 24 Leistungspunkte, WPM I bis III neun Leistungspunkte, HAWK plus sechs Leistungspunkte). Studienverlauf und Workload der Module werden in Anlage 1 aufgezeigt. Er gilt für Studierende, die zum Wintersemester in das erste Fachsemester immatrikuliert werden. Für Studierende, die zum Sommersemester in das erste Fachsemester immatrikuliert werden, werden die in der Anlage 1 dargestellten Module gemäß zugehörigem Studienverlaufsplan in anderer Reihenfolge studiert.

(3) Wählbare Studienprofile sind „Baukonstruktion und Bautechnik“ und „TGA - Digitale Planung“. Insgesamt sind 24 Leistungspunkte aus dem Angebot der Qualifizierungsmodule zu absolvieren. Ein Studienprofil wird im Abschlusszeugnis bescheinigt, wenn mindestens 18 Leistungspunkte im entsprechenden Studienprofil absolviert wurden.

§ 2 Prüfungen

(1) Die für die Bachelorprüfung zu erbringenden Prüfungen werden studienbegleitend erbracht. Der Modulübersicht (Anlage 1) ist zu entnehmen, welche Prüfungsformen einem Modul zugeordnet sind und ob es sich um benotete Prüfungs- oder unbenotete Studienleistungen handelt. Neben der Art der Prüfung ist in den Modulbeschreibungen bei zusammengesetzten Modulprüfungen die Gewichtung ausgewiesen, mit der die Gesamtmodulnote zu berechnen ist.

(2) Ist in den Modulbeschreibungen eine Studienleistung als Prüfungsvorleistung (PVL) vorgesehen, so ist das Bestehen dieser Prüfungsvorleistung neben dem Vorliegen der Voraussetzungen gemäß § 8 des Allgemeinen Teils der Prüfungsordnung für die Zulassung zur Noten bildenden Modulabschlussprüfung erforderlich.

(3) Für die Vergabe der Noten gemäß Absatz 4 gilt – unter Beachtung der Rundung auf eine Nachkommastelle - folgendes Bewertungsschema:

bei 95,5 % bis 100 % der erreichbaren Leistung	= 1,0	
bei 90,9 % bis 95,4 % der erreichbaren Leistung	= 1,3	
bei 84,8 % bis 90,8 % der erreichbaren Leistung	= 1,7	
bei 80,3 % bis 84,7 % der erreichbaren Leistung	= 2,0	
bei 75,8 % bis 80,2 % der erreichbaren Leistung	= 2,3	
bei 69,7 % bis 75,7 % der erreichbaren Leistung	= 2,7	
bei 65,2 % bis 69,6 % der erreichbaren Leistung	= 3,0	
bei 60,6 % bis 65,1 % der erreichbaren Leistung	= 3,3	
bei 54,5% bis 60,5% der erreichbaren Leistung	= 3,7	
bei 50,0 % bis 54,4 % der erreichbaren Leistung	= 4,0	
und bei weniger als 50 % der erreichbaren Leistung	= 5,0	(nicht bestanden)

(4) Abweichend von § 15 Absatz 2 der Prüfungsordnung Allgemeiner Teil 2019 findet keine Pflichtanmeldung zur ersten Wiederholungsprüfung statt. Eine nicht bestandene Modulprüfung nach § 15 Absatz 1 der Prüfungsordnung Allgemeiner Teil soll jedoch in der Regel im Rahmen der regulären Prüfungstermine innerhalb der nächsten beiden Semester in der gleichen Art und Dauer wiederholt werden.

§ 3 Praxismodul

(1) Die Zulassung zum Praxismodul (Modul GB7 604) erfolgt auf Antrag, welcher in Form einer Modulanmeldung innerhalb der hierfür laut Semesterzeitplan vorgesehenen Fristen in der Prüfungsverwaltung einzureichen ist.

(2) Zum Praxismodul wird zugelassen, wer bis dahin alle Module der ersten beiden Fachsemester bestanden und mindestens 132 Leistungspunkte erreicht hat. Näheres regeln Modulbeschreibung sowie Praxisleitfaden in ihrer jeweils gültigen Form.

§ 4 Bachelorarbeit und Kolloquium

(1) Die Bearbeitungszeit für die Bachelorarbeit (Modul GB7 904) beträgt sieben Wochen.

(2) Eine Zulassung zum Modul Bachelorarbeit ist erst möglich, wenn alle Leistungspunkte bis auf die Leistungspunkte der Abschlussarbeit selbst, die Leistungspunkte der Module des Abschlusssemesters sowie die Leistungspunkte eines weiteren Moduls erbracht sind. Das offene Modul darf nicht aus den ersten beiden Fachsemestern stammen. Für das im letzten Fachsemester angesiedelte Praxismodul muss die Zulassung erteilt worden sein. Es muss ferner durch einen aussagekräftigen Nachweis (z.B. Praktikumsvertrag) erkennbar sein, dass der Pflichtteil des Praktikums rechtzeitig vor Ausgabe des Bachelorthemas abgeschlossen sein wird. Dieser Nachweis ist gemeinsam mit dem Zulassungsantrag zur Bachelorarbeit in der Prüfungsverwaltung einzureichen.

(3) Im Antrag auf Zulassung zur Bachelorarbeit (Modulanmeldung) ist der Themenbereich der Aufgabenstellung für die Bachelorarbeit sowie die/der Erstprüfende zu nennen. Es ist ferner die Unterschrift der/des Erstprüfenden einzuholen.

(4) Zum Kolloquium wird zugelassen, wessen Bachelorarbeit von beiden Prüfenden vorläufig mit mindestens ausreichend bewertet wurde. Eine Zulassung zum Kolloquium ist bereits dann möglich, wenn die Modulprüfung im gemäß Absatz 2 zulässigerweise noch offenen weiteren Fachmodul aussteht.

(5) Das Kolloquium soll in der Regel innerhalb von sechs Wochen nach Abgabe der Bachelorarbeit durchgeführt werden.

(6) § 21 Absatz 4 der Prüfungsordnung Allgemeiner Teil 2019 wird ersetzt durch folgenden Text: Die Betreuung der Abschlussarbeit kann von jedem Mitglied der Professor/inn/engruppe der Fakultät übernommen werden. Mit Zustimmung der Prüfungskommission kann die Betreuung auch von einer/einem Professor/in vorgenommen werden, die oder der nicht Mitglied dieser Fakultät ist. Sie kann auch von anderen Prüfer/inne/n nach § 5 Absatz 1 und 2 der der Prüfungsordnung Allgemeiner Teil 2019 übernommen werden. In der Regel muss die oder der Erstprüfende lehrende/r Professor/in sein.

§ 5 Hochschulgrad, Zeugnis

(1) Der Studiengang schließt mit dem Kolloquium zur Bachelorarbeit oder mit dem Abschluss des im gemäß Absatz 2 zulässigerweise noch offenen Fachmoduls ab.

(2) Die Hochschule verleiht zum Abschluss den Hochschulgrad Bachelor of Engineering, abgekürzt B.Eng. Hierüber stellt die Hochschule eine Urkunde mit dem Datum des Zeugnisses aus (Anlage 2). Ein Muster des Bachelorzeugnisses enthält Anlage 3. Gleichzeitig mit dem Zeugnis wird der/dem Studierenden ein englisches Diploma Supplement (Anlage 4) gemäß der aktuellen HRK-Vorlage ausgehändigt.

§ 6 Inkrafttreten und Übergangsregelungen

(1) Diese Änderung der Prüfungsordnung tritt am Tag nach ihrer hochschulöffentlichen Bekanntmachung in Kraft.

(2) Studierende, die sich an der HAWK in den Bachelorstudiengang Green Building eingeschrieben haben, unterliegen ab Inkrafttreten den Regelungen dieser Prüfungsordnung. Über Ausnahmen entscheidet auf begründeten Antrag, der innerhalb von drei Monaten nach Inkrafttreten dieser Prüfungsordnung zu stellen ist, die Prüfungskommission.

Anlage 1: Modulübersicht

a) Modulübersicht (siehe § 1 Absatz 2 Sätze 5 und 6)

Modul-Nr.	Modulname	LP/Semester							Work-load	Prüfungsform
		1	2	3	4	5	6	7		
GB1_016	DV und CAD in der Gebäudetechnik	6							180	K3/K1,5+ST/ST
GB1_012	Mathematik	6							180	K2
GB1_130	Green Building - Mensch, Umwelt, Gebäude	6							180	PF+LB*/IR+LB*
GB1_011	Grundlagen des Rechts	3							90	K1,5/ST
GB1_7XX	Wahlpflichtmodul IPS I	3							90	*individuell*
GB1_017	Grundlagen der Elektro- und Messtechnik	6							180	K2+R+LB*/K2+LB*
GB2_131	Energieoptimiertes Bauen		6						180	ST/PA
GB2_132	Thermodynamik und Wärmeübertragung		6						180	K3/M
GB2_133	Bauphysik – Brandschutz, Raumklima, Schallschutz		6						180	K2+LB*
GB2_134	Sanitär- und Lichttechnik		6						180	ST/PA
GB2_511	Projekt Energieoptimiertes Bauen		6						180	PA
GB3_135	Heizung und Kälte			6					180	K3+LB*/M+LB*
GB3_201	Einführung in das Baumanagement und AVA			6					180	K2
GB3_41X	Qualifizierungsmodul QM I			6					180	*s. Tabelle unter b)*
GB3_136	Lüftung und Klima			6					180	K3/M
GB3_512	Projekt TGA			6					180	R/ST/EDRP/PB
GB4_137	Grundlagen der Energietechnik				6				180	K3+LB*/K1,5+PR+LB*/R+LB*
GB4_138	Energetische Bilanzierung und Gebäudesimulation				6				180	EDRP/M/K2/M+EDRP/K2+EDRP
GB4_42X	Qualifizierungsmodul QM II				6				180	*s. Tabelle unter b)*
GB4_202	Vertragsrecht				3				90	K1,5/ST
GB4_8XX	Wahlpflichtmodul WPM I				3				90	*s. Tabelle unter c)*
GB4_513	Projekt Gebäude und Anlagen				6				180	FS+PR/PA+PR/R
GB5_139	Ressourcenschonende Energietechnik					6			180	K3/K1,5+PR/R
GB5_205	Kostenrechnung/Kalkulation					6			180	K2/K1+ST
GB5_43X	Qualifizierungsmodul QM III					6			180	*s. Tabelle unter b)*
GB5_211	Wirtschaftlichkeitsanalysen					3			90	R/ST/M/K1,5
GB5_8XX	Wahlpflichtmodul WPM II					3			90	*s. Tabelle unter c)*
GB5_514	Projekt Simulation					6			180	R/ST/EDRP/PB
GB6_140	Energieeffizienz						6		180	PA/R/K1,5+PR
GB6_141	Nachhaltigkeitsbewertung						6		180	K2/R/M
GB6_44X	Qualifizierungsmodul QM IV						6		180	*s. Tabelle unter b)*

GB6_7XX	Wahlpflichtmodul IPS II						3		90	*individuell*
GB6_7XX	Wahlpflichtmodul WPM III						3		90	*s. Tabelle unter c)*
GB6_515	Projekt Nachhaltigkeit						6		180	R/ST/EDRP/PB
GB7_604	Praxismodul							18	540	PB+PR
GB7_904	Bachelorarbeit							12	360	Bachelorarbeit mit Kolloquium

b) Modulübersicht über die Qualifizierungsmodule QM I, QM II, QM III, QM IV (siehe § 1 Absatz 3)

Modul-Nr.	Modulname	LP/Semester							Work-load	Prüfungsform
		1	2	3	4	5	6	7		
Studienprofil Baukonstruktion und Bautechnik										
GB3_411	Grundlagen der Tragwerkslehre			6					180	K2+ST
GB4_421	Nachhaltigkeit von Baustoffen				6				180	K2+LB*/ST+LB*
GB5_431	Nachhaltigkeit von Konstruktionen					6			180	K3+LB*/R+LB*/ M+LB*
GB6_441	Tragwerkslehre/ Konstruktives Entwerfen						6		180	K2+ST
Studienprofil TGA – Digitale Planung										
GB3_412	Fluidmechanik und Strömungsmaschinen			6					180	K2+LB*/M+LB*
GB4_422	Energie- und Anlagenplanung				6				180	EDRP/M/R
GB5_432	Gebäudeautomation und angewandte Regelungstechnik					6			180	K2+LB*/R+LB*/ M+LB*
GB6_442	Wärmepumpentechnik und Anlagensimulation						6		180	K2+PA/M+PA/ K2+R

c) Modulübersicht über die Wahlpflichtmodule WPM I, WPM II, WPM III (siehe § 1 Absatz 2)**.

Modul-Nr.	Modulname	LP/Semester							Work-load	Prüfungsform
		1	2	3	4	5	6	7		
GB4_811	Ausgewählte Kapitel des nachhaltigen Bauens				3				90	R/PR/PB/M/K2
GB4_812	IT-Tutorials				3				90	R/PR/EDRP/M/K 1,5
GB4_813	Technisches Englisch				3				90	K1
GB5_821	Ausgewählte Kapitel des Bauwesen					3			90	R/K2/PF
GB5_822	Elektrotechnik im Gebäude					3			90	R+LB*/ST+LB*/ M+LB*/K1,5+LB*
GB5_823	Technisches Facility Management					3			90	K1,5/ST/R
GB6_831	Ausgewählte Kapitel der Lüftungs- und Klimatechnik						3		90	R/PR/M/PB/K2
GB6_832	Ausgewählte Kapitel der Heizungs- und Kältetechnik						3		90	R+LB*/PR+LB*/ M+LB*/K2+LB*
GB6_833	Ausgewählte Kapitel der regenerativen Energieerzeugung						3		90	R/PR/PA/M

**Das konkrete Modulangebot richtet sich nach Studierendenzahlen und Personalverfügbarkeit.

d) Abkürzungen für die Prüfungsformen (siehe § 8 Absatz 3 Prüfungsordnung Allgemeiner Teil):

Abkürzung	Bezeichnung
*	Studienleistung (alle anderen sind Prüfungsleistungen)
/	Der Schrägstrich trennt alternative Varianten der vorgesehenen Prüfungsformen.
FS	Fallstudie
IR	Internetrecherche
K2	Klausur (2 Stunden)
LB	Laborbericht
M	Mündliche Prüfung
PR	Präsentation
PA	Projektarbeit
PB	Praktikumsbericht
PF	Portfolio
R	Referat
EDRP	Erstellung und Dokumentation von Rechnerprogrammen
ST	Studienarbeit

Anlage 2: Bachelorurkunde (Muster)

BACHELORURKUNDE

Die HAWK
Hochschule für angewandte Wissenschaft und Kunst
Hildesheim/Holzminden/Göttingen
Fakultät Management, Soziale Arbeit, Bauen

verleiht mit dieser Urkunde

«Vorname» «Nachname»

geboren am «Geburtsdatum» in «Geburtsort»

den Hochschulgrad **Bachelor of Engineering**
abgekürzt B. Eng.,
nachdem die Abschlussprüfung im Studiengang

Green Building –
Gebäudetechnik, Energieeffizienz, Mensch und Umwelt

bestanden wurde.

Holzminden, den «Datum»

«Dekan*in»
Dekan*in

«Studiendekan*in»
Studiendekan*in

Anlage 3: Bachelorzeugnis (Muster)

BACHELORZEUGNIS

«Vorname» «Nachname»
geboren am «Geburtsdatum» in «Geburtsort»

hat die Bachelorprüfung im Studiengang

Green Building –
Gebäudetechnik, Energieeffizienz, Mensch und Umwelt

der Fakultät Management, Soziale Arbeit, Bauen
bestanden.

Thema der Bachelorarbeit:

	Credits	**Gesamtnote**
Gesamtbewertung	**000**	**0,0 (in Worten)**

Die Gesamtnote ergibt sich aus den Modulnoten gemäß Anlage zum Bachelorzeugnis.

Göttingen, den «PruefDatum»

«Studiendekan*in»
Studiendekan*in

ANLAGE ZUM BACHELORZEUGNIS

Studiengang

Vorname Nachname
geboren am 00.00.0000 in «Ort»

Module	Credits	Note
Pflicht- und Wahlpflichtmodule		
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
Individuelles Profilstudium		
		0,0
		0,0
Bachelorarbeit		
		0,0

Gesamtnote

Anlage 4: Diploma Supplement (Muster)

DIPLOMA SUPPLEMENT

This Diploma Supplement model was 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)	**Nachname**	1.2	First name(s)	**Vorname**
1.3	Date of birth	**00.00.0000**	1.4	Student ID Number or code	**000000**

2. Information identifying the qualification

2.1 Name of Qualification and (if applicable) title conferred (in original language)
Bachelor of Engineering/B.Eng. Green Building – Gebäudetechnik, Energieeffizienz, Mensch und Umwelt
(Bachelor of Engineering/B.Eng. Green Building– Building Services, Energy Efficiency, Human and Environment)

2.2 Main field(s) of study for the qualification
Green building engineering - building services engineering, energy efficiency, human and environment

2.3 Name and status of awarding institution (in original language)
HAWK Hochschule für angewandte Wissenschaft und Kunst
Hildesheim/Holzminden/Göttingen
Fakultät Management, Soziale Arbeit, Bauen
Status (Type / Control)
University of Applied Sciences and Arts / State Institution

2.4 Name and status of institution administering studies (in original language)
[as above]

2.5 Language(s) of instruction/examination
German

3. Information on the level and duration of the qualification

3.1 Level of the qualification
Bachelor programme, undergraduate, first degree, by research with thesis

3.2 Official duration of programme in credits and/or years
Three and a half years, 7 semesters, 210 ECTS

3.3 Access requirement(s)
General Higher Education Entrance Qualification or Entrance Qualification to Universities of Applied Sciences, or foreign equivalent.

4. Information on the programme completed and the results obtained

4.1 Mode of Study
Full Time Study
In the event of part-time study (individual application required), the official length of the programme will be extended accordingly.

4.2 Programme learning outcomes
Planning, projecting and managing of high efficient sustainable buildings are the main abilities of the graduates which can

be intensified by passing one of two offered profiles:
Common Competences:
Common competences of the graduates of both profiles are coordination, presentation and organization in relation to all building systems, planning duties, general skills in language (technical English), methods (mathematics, statistics, data processing) and individual abilities (decision-making, conflict-solving, team work, presentation).
The graduate is able to analyse and to assess problems from technical and economical point of view without neglecting social and ecological interests.
Due to the interdisciplinary aspect of the study, graduates have the ability to coordinate different fields of planning, designing and operating as well as managing buildings and technical service installations by respecting energy efficiency.
The graduate of the profile Sustainability has special knowledge of planning and evaluating the sustainability of materials, buildings and quarters.
Furthermore the graduate has the knowledge of designing buildings and to apply building efficiency calculations in the context of Information Modelling (BIM).
The graduate of the profile Digital Planning has special knowledge of planning building technologies, building services and energy supply and is able to apply thermal and plant simulations as well as heat transfer calculations.
Hereinafter graduates knowledge and abilities are explained in detail.
Common competences:
Mathematics, data handling, CAD, building physics, electrical engineering, thermodynamics and heat flux, human resources.
Energy efficiency building, Heating and Cooling, Ventilation and air conditioning, energy engineering, energy calculation and simulation, energy efficiency, renewable energies.
Building management, economics and accounting.

Profile Building Construction and Building Technologies:
Theoretical knowledge and practical skills related to planning, layout and operation sustainable buildings in following disciplines:
Green Building engineering, structural design, sustainability of materials and constructions, construction drafting, Sustainable building evaluation.

Profile Digital Planning of Building Services:
Theoretical knowledge and practical skills related to planning, layout and operation of technical systems and plants in following disciplines:
Fluid mechanics and flow machines, Energy and plant design, Building automation and applied cybernetics, Heat pump technologies, Energy technics, energy efficiency, energy management, Heating, ventilation and air conditioning (HVAC), Thermal building simulation, Plant simulation.

39 credits of personal choice (including chosen profile).
10 weeks of external practical training and a bachelor thesis.

4.3 Programme details, individual credits gained and grades/marks obtained
Please refer to the Certificate (Bachelorzeugnis) for a list of courses and grades.

4.4 Grading system and , if available, grade distribution table
Absolute grading scheme: “Sehr Gut” (1,0; 1,3) = Very Good; “Gut” (1,7; 2,0; 2,3) = Good; “Befriedigend” (2,7; 3,0; 3,3) = Satisfactory; “Ausreichend” (3,7; 4,0) = Pass; “Nicht ausreichend” (5,0) = Fail
Statistical distribution of grades: **grading table**

4.5 Overall classification of the qualification **0,0**
The final grade is based on the grades awarded during the study programme and that of the final thesis (with oral component). Please refer to the Certificate (Bachelorzeugnis).
When there are no marks given, not enough results are available yet to determine ECTS-grades.

5. Information on the function of the qualification

5.1 Access to further study
Qualifies to apply for admission for master programs – Prerequisite: In compliance with the requirements of the respective universities or universities of applied sciences and arts.

5.2 Access to a regulated profession (if applicable)
The Bachelor-degree in Green Building entitles its holder to the legally protected professional title “Bachelor of Science” and to exercise professional work in the field(s) for which the degree was awarded.

6. Additional information

6.1 Additional information
Non-academic acquired competencies were credited in an amount of **oo** credits in the following modules: ...

6.2 Further information sources
www.hawk.de

7. Certification

This Diploma Supplement refers to the following original documents:

Document on the award of the academic degree (Bachelorurkunde)	**00.00.0000**
Certificate (Bachelorzeugnis)	**00.00.0000**
Transcript of Records dated from	
Certification Date:	**00.00.0000**
(Official Seal / Stamp)	Dean of Studies

8. National higher education system

The information on the national higher education system on the following pages provides a context for the qualification and the type of higher education institution that awarded it.

8. Information on the German higher education system[i]

8.1 Types of institutions and institutional status

Higher education (HE) studies in Germany are offered at three types of Higher Education Institutions (HEI).[ii]

- *Universitäten* (Universities) including various specialized institutions, offer the whole range of academic disciplines. In the German tradition, universities focus in particular on basic research so that advanced stages of study have mainly theoretical orientation and research-oriented components.
- *Fachhochschulen (FH)/Hochschulen für Angewandte Wissenschaften (HAW)* (Universities of Applied Sciences, UAS) concentrate their study programmes in engineering and other technical disciplines, business-related studies, social work, and design areas. The common mission of applied research and development implies an application-oriented focus of studies, which includes integrated and supervised work assignments in industry, enterprises or other relevant institutions.
- *Kunst- und Musikhochschulen* (Universities of Art/Music) offer studies for artistic careers in fine arts, performing arts and music; in such fields as directing, production, writing in theatre, film, and other media; and in a variety of design areas, architecture, media and communication.

Higher Education Institutions are either state or state-recognized institutions. In their operations, including the organization of studies and the designation and award of degrees, they are both subject to higher education legislation.

8.2 Types of programmes and degrees awarded

Studies in all three types of institutions have traditionally been offered in integrated "long" (one-tier) programmes leading to *Diplom-* or *Magister Artium* degrees or completed by a *Staatsprüfung* (State Examination).

Within the framework of the Bologna-Process one-tier study programmes are successively being replaced by a two-tier study system. Since 1998, two-tier degrees (Bachelor's and Master's) have been introduced in almost all study programmes. This change is designed to provide enlarged variety and flexibility for students in planning and pursuing educational objectives; it also enhances international compatibility of studies.

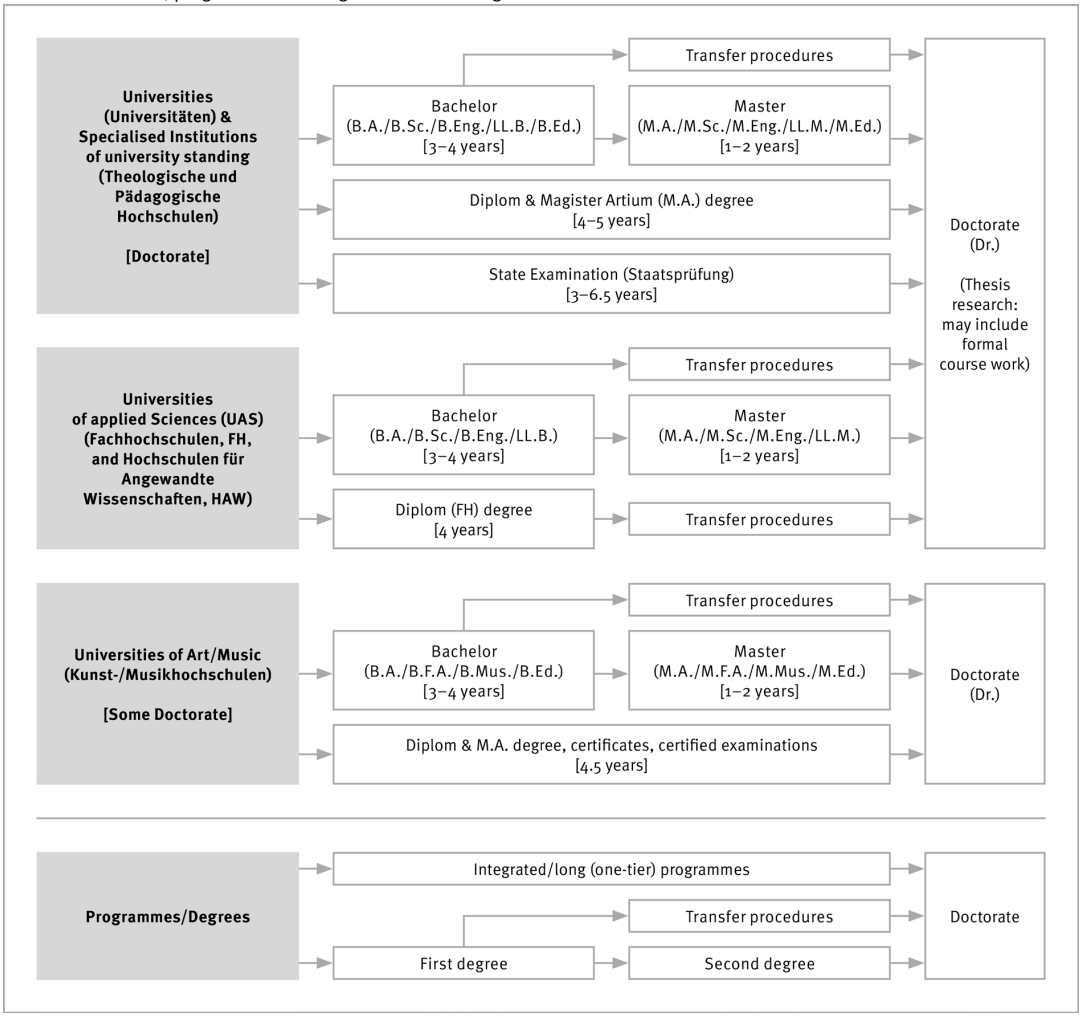
The German Qualifications Framework for Higher Education Qualifications (HQR)[iii] describes the qualification levels as well as the resulting qualifications and competences of the graduates. The three levels of the HQR correspond to the levels 6, 7 and 8 of the German Qualifications Framework for Lifelong Learning[iv] and the European Qualifications Framework for Lifelong Learning[v].

For details cf. Sec. 8.4.1, 8.4.2, and 8.4.3 respectively. Table 1 provides a synoptic summary.

8.3 Approval/Accreditation of programmes and degrees

To ensure quality and comparability of qualifications, the organisation of studies and general degree requirements have to conform to principles and regulations established by the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany (KMK).[vi] In 1999, a system of accreditation for Bachelor's and Master's programmes has become operational. All new programmes have to be accredited under this scheme; after a successful accreditation they receive the seal of the Accreditation Council.[vii]

Table 1: Institutions, programmes and degrees in German higher education



8.4 Organisation and structure of studies

The following programmes apply to all three types of institutions. Bachelor's and Master's study programmes may be studied consecutively, at various higher education institutions, at different types of higher education institutions and with phases of professional work between the first and the second qualification. The organisation of the study programmes makes use of modular components and of the European Credit Transfer and Accumulation System (ECTS) with 30 credits corresponding to one semester.

8.4.1 Bachelor

Bachelor's degree programmes lay the academic foundations, provide methodological competences and include skills related to the professional field. The Bachelor's degree is awarded after 3 to 4 years. The Bachelor's degree programme includes a thesis requirement. Study programmes leading to the Bachelor's degree must be accredited according to the Interstate study accreditation treaty.[viii]

First degree programmes (Bachelor) lead to Bachelor of Arts (B.A.), Bachelor of Science (B.Sc.), Bachelor of Engineering (B.Eng.), Bachelor of Laws (LL.B.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music (B.Mus.) or Bachelor of Education (B.Ed.). The Bachelor's degree corresponds to level 6 of the German Qualifications Framework/ European Qualifications Framework.

8.4.2 Master

Master is the second degree after another 1 to 2 years. Master's programmes may be differentiated by the profile types "practice-oriented" and "research-oriented". Higher Education Institutions define the profile. The Master's degree programme includes a thesis requirement. Study programmes leading to the Master degree must be accredited according to the Interstate study accreditation treaty.[ix]

Second degree programmes (Master) lead to Master of Arts (M.A.), Master of Science (M.Sc.), Master of Engineering (M.Eng.),

Master of Laws (L.L.M.), Master of Fine Arts (M.F.A.), Master of Music (M.Mus.) or Master of Education (M.Ed.). Master's programmes which are designed for continuing education may carry other designations (e.g. MBA).
The Master degree corresponds to level 7 of the German Qualifications Framework/ European Qualifications Framework.

8.4.3 Integrated "long" programmes (one-tier): *Diplom* degrees, *Magister Artium, Staatsprüfung*
An integrated study programme is either mono-disciplinary (*Diplom* degrees, most programmes completed by a *Staatsprüfung*) or comprises a combination of either two major or one major and two minor fields *(Magister Artium)*. The first stage (1.5 to 2 years) focuses on broad orientations and foundations of the field(s) of study. An Intermediate Examination (*Diplom-Vorprüfung* for *Diplom* degrees; *Zwischenprüfung* or credit requirements for the *Magister Artium*) is prerequisite to enter the second stage of advanced studies and specialisations. Degree requirements include submission of a thesis (up to 6 months duration) and comprehensive final written and oral examinations. Similar regulations apply to studies leading to a *Staatsprüfung*. The level of qualification is equivalent to the Master's level.
- Integrated studies at *Universitäten (U)* last 4 to 5 years (*Diplom* degree, *Magister Artium*) or 3.5 to 6.5 years *(Staatsprüfung)*. The *Diplom* degree is awarded in engineering disciplines, the natural sciences as well as economics and business. In the humanities, the corresponding degree is usually the *Magister Artium* (M.A.). In the social sciences, the practice varies as a matter of institutional traditions. Studies preparing for the legal, medical and pharmaceutical professions are completed by a *Staatsprüfung*. This applies also to studies preparing for teaching professions of some *Länder.*
The three qualifications (*Diplom, Magister Artium* and *Staatsprüfung*) are academically equivalent and correspond to level 7 of the German Qualifications Framework/ European Qualifications Framework.
They qualify to apply for admission to doctoral studies. Further prerequisites for admission may be defined by the Higher Education Institution, cf. Sec. 8.5.
- Integrated studies at *Fachhochschulen (FH)/ /Hochschulen für Angewandte Wissenschaften (HAW)* Universities of Applied Sciences (UAS) last 4 years and lead to a *Diplom (FH)* degree which corresponds to level 6 of the German Qualifications Framework/ European Qualifications Framework.
Qualified graduates of FH/HAW/UAS may apply for admission to doctoral studies at doctorate-granting institutions, cf. Sec. 8.5.
- Studies at *Kunst- and Musikhochschulen* (Universities of Art/Music etc.) are more diverse in their organisation, depending on the field and individual objectives. In addition to *Diplom/Magister* degrees, the integrated study programme awards include certificates and certified examinations for specialised areas and professional purposes.

8.5 Doctorate
Universities as well as specialised institutions of university standing, some of the FH/HAW/UAS and some Universities of Art/Music are doctorate-granting institutions. Formal prerequisite for admission to doctoral work is a qualified Master's degree (UAS and U), a *Magister* degree, a *Diplom*, a *Staatsprüfung*, or a foreign equivalent. Comparable degrees from universities of art and music can in exceptional cases (study programmes such as music theory, musicology, pedagogy of arts and music, media studies) also formally qualify for doctoral work. Particularly qualified holders of a Bachelor's degree or a *Diplom (FH)* degree may also be admitted to doctoral studies without acquisition of a further degree by means of a procedure to determine their aptitude. The universities respectively the doctorate-granting institutions regulate entry to a doctorate as well as the structure of the procedure to determine aptitude. Admission further requires the acceptance of the Dissertation research project by a professor as a supervisor.
The doctoral degree corresponds to level 8 of the German Qualifications Framework/ European Qualifications Framework.

8.6 Grading scheme
The grading scheme in Germany usually comprises five levels (with numerical equivalents; intermediate grades may be given): "*Sehr Gut*" (1) = Very Good; "*Gut*" (2) = Good; "*Befriedigend*" (3) = Satisfactory; "*Ausreichend*" (4) = Sufficient; "*Nicht ausreichend*" (5) = Non-Sufficient/Fail. The minimum passing grade is "*Ausreichend*" (4). Verbal designations of grades may vary in some cases and for doctoral degrees.
In addition, grade distribution tables as described in the ECTS Users' Guide are used to indicate the relative distribution of grades within a reference group.

8.7 Access to higher education
The General Higher Education Entrance Qualification (*Allgemeine Hochschulreife, Abitur*) after 12 to 13 years of schooling allows for admission to all higher educational studies. Specialised variants (*Fachgebundende Hochschulreife*) allow for admission at *Fachhochschulen (FH)/Hochschulen für Angewandte Wissenschaften (HAW)* (UAS), universities and equivalent higher education institutions, but only in particular disciplines. Access to study programmes at *Fachhochschulen (FH)/Hochschulen für Angewandte Wissenschaften (HAW)* (UAS), is also possible with a *Fachhochschulreife*, which can usually be acquired after 12 years of schooling. Admission to study programmes at Universities of Art/Music and comparable study programmes at other higher education institutions as well as admission to a study programme in sports may be based on other or additional evidence demonstrating individual aptitude.
Applicants with a qualification in vocational education and training but without a school-based higher education entrance qualification are entitled to a general higher education entrance qualification and thus to access to all study programmes, provided they have obtained advanced further training certificates in particular state-regulated vocational fields (e.g. *Meis-*

ter/Meisterin im Handwerk, Industriemeister/in, Fachwirt/in (IHK), Betriebswirt/in (IHK) und (HWK), staatlich gebrüfte/r Techniker/in, staatlich geprüfte/r Betriebswirt/in, staatlich geprüfte/r Gestalter/in, staatlich geprüfte/r Erzieher/in). Vocationally qualified applicants can obtain a *Fachgebundende Hochschulreife* after completing a state-regulated vocational education of at least two years' duration plus professional practice of normally at least three years' duration, after having successfully passed an aptitude test at a higher education institution or other state institution; the aptitude test may be replaced by successfully completed trial studies of at least one year's duration.[x]

Higher Education Institutions may in certain cases apply additional admission procedures.

8.8 National sources of information

- *Kultusministerkonferenz (KMK)* [Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany]; Graurheindorfer Str. 157, D-53117 Bonn;
  Phone: +49[0]228/501-0, www.kmk.org; E-Mail: hochschulen@kmk.org
- Central Office for Foreign Education (ZaB) as German NARIC; www.kmk.org; E-Mail: zab@kmk.org
- German information office of the *Länder* in the EURYDICE Network, providing the national dossier on the education system; www.kmk.org; E-Mail: eurydice@kmk.org
- *Hochschulrektorenkonferenz* (HRK) [German Rectors' Conference]; Leipziger Platz 11, D-10117 Berlin,
  Phone: +49 30 206292-11; www.hrk.de; E-Mail: post@hrk.de
- "Higher Education Compass" of the German Rectors' Conference features comprehensive information on institutions, programmes of study, etc. (www.higher-education-compass.de)

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[i] The information covers only aspects directly relevant to purposes of the Diploma Supplement.

[ii] *Berufsakademien* are not considered as Higher Education Institutions, they only exist in some of the *Länder.* They offer educational programmes in close cooperation with private companies. Students receive a formal degree and carry out an apprenticeship at the company. Some *Berufsakademien* offer Bachelor courses which are recognised as an academic degree if they are accredited by the Accreditation Council.

[iii] German Qualifications Framework for Higher Education Degrees. (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 16 February 2017).

[iv] German Qualifications Framework for Lifelong Learning (DQR). Joint resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany, the German Federal Ministry of Education and Research, the German Conference of Economics Ministers and the German Federal Ministry of Economics and Technology (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 15 November 2012). More information at www.dqr.de

[v] Recommendation of the European Parliament and the European Council on the establishment of a European Qualifications Framework for Lifelong Learning of 23 April 2008 (2008/C 111/01 – European Qualifications Framework for Lifelong Learning – EQF).

[vi] Specimen decree pursuant to Article 4, paragraphs 1 – 4 of the interstate study accreditation treaty (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 7 December 2017).

[vii] Interstate Treaty on the organisation of a joint accreditation system to ensure the quality of teaching and learning at German higher education institutions (Interstate study accreditation treaty) (Decision of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 8 December 2016), Enacted on 1 January 2018.

[viii] See note No. 7.

[ix] See note No. 7.

[x] Access to higher education for applicants with a vocational qualification, but without a school-based higher education entrance qualification (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 6 March 2009).

HAWK
HOCHSCHULE
FÜR ANGEWANDTE WISSENSCHAFT UND KUNST
Hildesheim/Holzminden/Göttingen
University of Applied Sciences and Arts

Prüfungsordnung für den konsekutiven Masterstudiengang Energieeffizientes und Nachhaltiges Bauen (Besonderer Teil)

Fakultät Management, Soziale Arbeit, Bauen

Die Prüfungsordnung Besonderer Teil für den konsekutiven Masterstudiengang Energieeffizientes und Nachhaltiges Bauen der Fakultät Management, Soziale Arbeit, Bauen vom 25. November 2019 (i.d.F.v. 16. Februar 2021) tritt in der geänderten Fassung vom 16. September 2022 gemäß Fakultätsratsbeschluss vom 16. September 2022 der Fakultät Management, Soziale Arbeit, Bauen der HAWK Hochschule für angewandte Wissenschaft und Kunst Hildesheim/Holzminden/Göttingen und Genehmigung des Präsidiums vom 20. September 2022 nach ihrer hochschulöffentlichen Bekanntmachung in Kraft. Die hochschulöffentliche Bekanntmachung erfolgte am 30. September 2022.

Inhaltsübersicht

§ 1 Dauer und Verlauf des Studiums

(1) Die Regelstudienzeit des Masterstudiengangs Energieeffizientes und Nachhaltiges Bauen beträgt drei Semester. Für Absolvent*innen einschlägiger sechssemestriger Bachelorstudiengänge ist dem Masterstudiengang ein einsemestriges Angleichungssemester im Umfang von 30 Leistungspunkten vorangestellt. Das Angleichungssemester ist gemäß Studienverlaufsplan zu absolvieren, wobei die zu absolvierenden Module je nach Art und Ausrichtung des vorausgegangenen Bachelorstudiengangs variieren können.

(2) Das Studium des dreisemestrigen Masterstudiengangs setzt sich aus Pflichtmodulen im Umfang von 60 Leistungspunkten sowie Wahlpflichtmodulen im Umfang von 30 Leistungspunkten zusammen. Studienverlauf und Workload werden in Anlage 1 aufgezeigt. Wählbare Studienprofile sind „Planen und Bauen“, „Gebäude- und Energietechnik“ und „Baumanagement“.

§ 2 Prüfungen

(1) Die für die Masterprüfung zu erbringenden Prüfungen werden studienbegleitend erbracht. Der Modulübersicht (Anlage 1) ist zu entnehmen, welche Prüfungsformen einem Modul zugeordnet sind und ob es sich um Prüfungs- oder Studienleistungen handelt. Neben der Art der Prüfung ist in den Modulbeschreibungen bei zusammengesetzten Modulprüfungen die Gewichtung ausgewiesen, mit der die Gesamtmodulnote zu berechnen ist.

(2) Ist in den Modulbeschreibungen eine Studienleistung als Prüfungsvorleistung (PVL) vorgesehen, so ist das Bestehen dieser Prüfungsvorleistung neben dem Vorliegen der Voraussetzungen gemäß § 8 des Allgemeinen Teils der Prüfungsordnung für die Zulassung zur Noten bildenden Modulabschlussprüfung erforderlich.

(3) Für die Vergabe der Noten gemäß Absatz 4 gilt – unter Beachtung der Rundung auf eine Nachkommastelle - folgendes Bewertungsschema:

bei 95,5 % bis 100 % der erreichbaren Leistung	= 1,0	
bei 90,9 % bis 95,4 % der erreichbaren Leistung	= 1,3	
bei 84,8 % bis 90,8 % der erreichbaren Leistung	= 1,7	
bei 80,3 % bis 84,7 % der erreichbaren Leistung	= 2,0	
bei 75,8 % bis 80,2 % der erreichbaren Leistung	= 2,3	
bei 69,7 % bis 75,7 % der erreichbaren Leistung	= 2,7	
bei 65,2 % bis 69,6 % der erreichbaren Leistung	= 3,0	
bei 60,6 % bis 65,1 % der erreichbaren Leistung	= 3,3	
bei 54,5% bis 60,5% der erreichbaren Leistung	= 3,7	
bei 50,0 % bis 54,4 % der erreichbaren Leistung	= 4,0	
und bei weniger als 50 % der erreichbaren Leistung	= 5,0	(nicht bestanden)

(4) Abweichend von § 15 Absatz 2 der Prüfungsordnung Allgemeiner Teil 2019 findet keine Pflichtanmeldung zur ersten Wiederholungsprüfung statt. Eine nicht bestandene Modulprüfung nach § 15 Absatz 1 der Prüfungsordnung Allgemeiner Teil soll jedoch in der Regel im Rahmen der regulären Prüfungstermine innerhalb der nächsten beiden Semester in der gleichen Art und Dauer wiederholt werden.

§ 3 Masterarbeit und Kolloquium

(1) Die Bearbeitungszeit für die Masterarbeit (Modul EN3 905) beträgt 12 Wochen.

(2) Eine Zulassung zum Modul Masterarbeit ist erst möglich, wenn alle Leistungspunkte bis auf die Leistungspunkte der Abschlussarbeit selbst sowie die Leistungspunkte eines weiteren Moduls erbracht sind.

(3) Im Antrag auf Zulassung zur Masterarbeit (Modulanmeldung) ist der Themenbereich der Aufgabenstellung für die Masterarbeit sowie die/der Erstprüfende zu nennen. Es ist ferner die Unterschrift der/des Erstprüfenden einzuholen.

(4) Zum Kolloquium wird zugelassen, wessen Masterarbeit von beiden Prüfenden vorläufig mit mindestens ausreichend bewertet wurde. Eine Zulassung zum Kolloquium ist bereits dann möglich, wenn die Modulprüfung im gemäß Absatz 2 zulässigerweise noch offenen weiteren Fachmodul aussteht.

(5) Das Kolloquium soll in der Regel innerhalb von acht Wochen nach Abgabe der Masterarbeit durchgeführt werden.

(6) § 21 Absatz 4 der Prüfungsordnung Allgemeiner Teil 2019 wird ersetzt durch folgenden Text: Die Betreuung der Abschlussarbeit kann von jedem Mitglied der Professor*innengruppe der Fakultät übernommen werden. Mit Zustimmung der Prüfungskommission kann die Betreuung auch von einer bzw. einem Professor*in vorgenommen werden, die oder der nicht Mitglied dieser Fakultät ist. Sie kann auch von anderen Prüfer*innen nach § 5 Absatz 1 und 2 der der Prüfungsordnung Allgemeiner Teil 2019 übernommen werden. In der Regel muss die oder der Erstprüfende lehrende*r Professor*in sein.

§ 4 Hochschulgrad, Zeugnis

(1) Der Studiengang schließt mit dem Kolloquium zur Masterarbeit oder mit dem Abschluss des im gemäß § 3 Absatz 2 zulässigerweise noch offenen Fachmoduls ab.

(2) Die Hochschule verleiht zum Abschluss den Hochschulgrad Master of Engineering, abgekürzt M.Eng. Hierüber stellt die Hochschule eine Urkunde mit dem Datum des Zeugnisses aus (Anlage 2). Ein Muster des Masterzeugnisses enthält Anlage 3. Gleichzeitig mit dem Zeugnis wird der/dem Studierenden ein englisches Diploma Supplement (Anlage 4) gemäß der aktuellen HRK-Vorlage ausgehändigt.

§ 5 Inkrafttreten und Übergangsregelungen

(1) Diese Änderung der Prüfungsordnung (in der Fassung der letzten Änderung vom 16.Februar 2021) tritt am Tag nach ihrer hochschulöffentlichen Bekanntmachung in Kraft.

(2) Studierende, die sich an der HAWK in den Masterstudiengang Energieeffizientes und nachhaltiges Bauen eingeschrieben haben, unterliegen ab Inkrafttreten den Regelungen dieser Prüfungsordnung. Über Ausnahmen entscheidet auf begründeten Antrag, der innerhalb von drei Monaten nach Inkrafttreten dieser Prüfungsordnung zu stellen ist, die Prüfungskommission.

Anlage 1: Modulübersicht

a) Modulangebot für das Angleichungssemester**

Modul-Nr.	Modulname	LP	Workload	Prüfungsform
ENA_142	Massivbau/Baukonstruktion	6	180	K2/M
ENA_143	Baustoffkunde	6	180	K2/ST
ENA_144	Baukonstruktion/Bauphysik	6	180	ST+LB*/R+LB*
ENA_023	Grundlagen CAD - 2D, 3D, Visualisierung	6	180	PA
ENA_145	Gebäudeenergietechnik	6	180	K1,5+PR+LB*/GL+LB*
ENA_200	Einführung in das Baumanagement	3	90	K1
ENA_011	Grundlagen des Rechts	3	90	K1,5/ST
ENA_XXX	Individuelles Austauschmodul (Studienberatung)	6	180	*individuell*

**Gemäß § 1 Absatz 1 sind je nach Art und Ausrichtung des Bachelorabschlusses 30 LP zu erbringen.

b) Modulübersicht für den dreisemestrigen Masterstudiengang

Modul-Nr.	Modulname	LP/Semester			Workload	Prüfungsform
		1	2	3		
EN1_150	Energetisches Bauen/regenerative Energien	6			180	PF+R/PF+ST/PF+K1/K2/ K1+R/K1+ST
EN1_220	Bauvertragsmanagement	6			180	K2/M
EN1_XX1	Wahlpflichtmodul WPM 1	6			180	*s. Tabelle unter c)*
EN1_YY4	Profil-Wahlpflichtmodul WPM 4	6			180	*s. Tabelle unter c)*
EN1_521	Projekt 1	6			180	PA+PF*/PA+PR/PA+PR+PF*
EN2_151	Nachhaltiges Planen und Bauen/Zertifizierung		6		180	ST+K1/K2/ST+R/ST+PF
EN2_XX2	Wahlpflichtmodul WPM 2		6		180	*s. Tabelle unter c)*
EN2_XX3	Wahlpflichtmodul WPM 3		6		180	*s. Tabelle unter c)*
EN2_YY5	Profil-Wahlpflichtmodul WPM 5		6		180	*s. Tabelle unter c)*
EN2_522	Projekt 2		6		180	PA+PF*/PA+PR/PA+PR+PF*
EN3_905	Masterarbeit			30	900	Masterarbeit mit Kolloquium

c) Angebot der Wahlpflichtmodule und Profil-Wahlpflichtmodule***:

Modul-Nr.	Modulnamen	LP	Workload	Prüfungsform
Angebot Wahlpflichtmodule WPM 1, WPM 2, WPM 3				
EN_152	Brandschutz	6	180	K2/ST
EN_153	Gebäude- und Anlagensimulation	6	180	EDRP/M/K2/M+EDRP/K2+EDRP
EN_154	Moderne Methoden der Tragwerksanalyse	6	180	ST/R
EN_155	Stahlbeton- und Spannbetonbau	6	180	K2/ST
EN_157	Bauschäden und Bausanierung	6	180	K2+R+LB*/M+R+LB*/ST+R+LB*
EN_158	Blockheizkraftwerke	3	90	EDRP+LP*/R+LP*/FS+LP*/K2+LP*
EN_159	Innovative Anwendungen der regenerativen Energietechnik	3	90	R/PA/PR/M
EN_161	Innovationen der technischen Gebäudeausrüstung	6	180	K2/R/FS
EN_162	Energieberatung	6	180	ST/R/ST+PF*
EN_163	Ausgewählte Konstruktionen des Stahl- und Ingenieurholzbaus	6	180	K2
EN_164	Bauwerkserhaltung	6	180	M+H/ST
EN_165	Baubiologie	6	180	K2+R+LB*/M+R+LB*/ST+R+LB*
EN_166	Baustoffe – Struktur und Zusammensetzung	6	180	K2+H/ST
EN_167	Moderne Baustoffe	6	180	K1+ST/K2+ST/M
EN_020	Investition und Finanzierung	6	180	K3/K1,5+R
EN_021	Visualisierung und 3D-Techniken	6	180	PA
EN_221	Bauleitplanung/Bauordnungen	6	180	K2/R/ST
EN_222	Wirtschaftlichkeit gebäudetechnischer Anlagen	6	180	K2/R/FS/PA

Modul-Nr.	Modulnamen	LP	Workload	Prüfungsform
Angebot Profil-Wahlpflichtmodule WPM 4, WPM 5				
EN_164	Bauwerkserhaltung	6	180	M+H/ST
EN_165	Baubiologie	6	180	K2+R+LB*/M+R+LB*/ST+R+LB*
EN_169	Gebäudeentwurf Schwerpunkt Konstruktion	6	180	R+ST
EN_171	Optimierung gebäudetechnischer Anlagen	6	180	K2/R/FS
EN_172	Integrale Planung/BIM	6	180	EDRP/R/FS
EN_162	Energieberatung	6	180	ST/R/ST+PF*
EN_222	Wirtschaftlichkeit gebäudetechnischer Anlagen	6	180	K2/R/FS/PA
EN_161	Innovationen der technischen Gebäudeausrüstung	6	180	K2/R/FS
EN_223	Angewandtes Projektmanagement	6	180	ST+PR
EN_224	Claim-Management	6	180	ST+PR/K2
EN_225	Sonderthemen des Baumanagements	6	180	ST+PR/K2/M/R
EN_170	Gebäudeentwurf Schwerpunkt Gebäudelehre	6	180	R+ST
EN_226	Bauwirtschaft, -kalkulation und -controlling	6	180	K2/M/ST+R

*** Es sind 18 LP im Wahlpflichtbereich und 12 LP im Profil-Wahlpflichtbereich zu absolvieren. Einige Module sind beiden Bereichen zugeordnet. Die Module werden im jährlichen Rhythmus angeboten. Das konkrete Modulangebot richtet sich nach Studierendenzahlen und Personalverfügbarkeit.

d) Abkürzungen für die Prüfungsformen (siehe § 8 Absatz 3 Prüfungsordnung Allgemeiner Teil):

Abkürzung	Bezeichnung
*	Studienleistung (alle anderen sind Prüfungsleistungen)
/	Der Schrägstrich trennt alternative Varianten der vorgesehenen Prüfungsformen.
EDRP	Erstellung und Dokumentation von Rechnerprogrammen
FS	Fallstudie
GL	Gestaltung eines Lehrsegments
H	Hausarbeit
IR	Internetrecherche
K2	Klausur (2 Std.)
LB	Laborbericht
LP	Laborpraktikum
M	Mündliche Prüfung
PA	Projektarbeit
PB	Praktikumsbericht
PF	Portfolio
PR	Präsentation
R	Referat
ST	Studienarbeit

Anlage 2: Masterurkunde (Muster)

MASTERURKUNDE

Die HAWK
Hochschule für angewandte Wissenschaft und Kunst
Hildesheim/Holzminden/Göttingen
Fakultät Management, Soziale Arbeit, Bauen

verleiht mit dieser Urkunde

Frau/Herrn **«Vorname» «Nachname»**
geboren am «Geburtsdatum» in «Geburtsort»

den Hochschulgrad **Master of Engineering**
abgekürzt M. Eng.,
nachdem sie/er die Abschlussprüfung im Studiengang

Energieeffizientes und Nachhaltiges Bauen

bestanden hat.

Holzminden, den «Datum»

«Dekan/in»
Dekan/in

«Studiendekan/in»
Studiendekan/in

Anlage 3: Masterzeugnis (Muster)

MASTERZEUGNIS

Frau **«Vorname» «Nachname»**
geboren am «Geburtsdatum» in «Geburtsort»

hat die Masterprüfung im Studiengang

Energieeffizientes und Nachhaltiges Bauen

der Fakultät Management, Soziale Arbeit, Bauen
bestanden.

Thema der Masterthesis:

Abschlussprüfung	Credits	Gesamtnote
	000	**0,0 (in Worten)**

Die Gesamtnote ergibt sich aus den Modulnoten (gemäß Anlage zum Bachelorzeugnis), die im Verhältnis der auf sie entfallenden Credits gewichtet werden.

Holzminden, den «PruefDatum»

«Studiendekan/in»
Studiendekan/in

Notenstufen: 1,0 bis 1,5 = Sehr Gut; 1,6 bis 2,5 = Gut; 2,6 bis 3,5 = Befriedigend; 3,6 bis 4,0 = Ausreichend

ANLAGE ZUM MASTERZEUGNIS (TRANSCRIPT OF RECORDS)

Energieeffizientes und Nachhaltiges Bauen

(«Studienprofil»)

Herr/Frau **Vorname Nachname**
geboren am 00.00.0000 in Geburtsort

Module	Credits	Note
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
		0,0
Wahlpflichtmodule		
		0,0
		0,0
		0,0
Profil-Wahlpflichtmodule		
		0,0
		0,0
IPS		
		0,0
		0,0
Masterarbeit und Kolloquium		
Thema: «Thema»		0,0

Holzminden, den «PruefDatum»

Anlage 4: Diploma Supplement (Muster)

DIPLOMA SUPPLEMENT

This Diploma Supplement model was 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)	**Nachname**
1.2	First name(s)	**Vorname**
1.3	Date of birth	**oo.oo.oooo**
1.4	Student ID Number or code	**oooooo**

2. Information identifying the qualification

2.1 Name of Qualification and (if applicable) title conferred (in original language)
Master of Engineering– M.Eng.

Master of Engineering/M.Eng. Energieeffizientes und Nachhaltiges Bauen
Master of Engineering/M.Eng. Energy efficient and Sustainable Construction

2.2 Main field(s) of study for the qualification
Energy efficient and sustainable construction
with
planning and building or
management in construction or
building services engineering and energy engineering
as a possible profile to be chosen

2.3 Name and status of awarding institution (in original language)
HAWK Hochschule für angewandte Wissenschaft und Kunst
Hildesheim/Holzminden/Göttingen
Fakultät Management, Soziale Arbeit, Bauen
Status (Type / Control)
University of Applied Sciences and Arts / State Institution

2.4 Name and status of institution administering studies (in original language)
[as above]
Status (Type / Control)
[as above]

2.5 Language(s) of instruction/examination
German

3. Information on the level and duration of the qualification

3.1 Level of the qualification

Master programme, graduate, second degree, by research with thesis

3.2 Official duration of programme in credits and/or years
1,5 years or 2 years, including Master Thesis (30 credit points)

3.3 Access requirement(s)
Diploma or Bachelor degree in engineering, architecture, real estate management or similar disciplines related to design, building and building services engineering.

4. Information on the programme completed and the results obtained

4.1 Mode of Study
1.5 years for Bachelor graduates who studied in a 7-semester course and
2 years for Bachelor graduates who studied in a 6-smester course, full time studies .
In the event of part-time study (individual application required), the official length of the programme will be extended accordingly.

4.2 Programme learning outcomes
Due to interdisciplinary and subject-linked aspects of the study, graduates have the ability to develop sound concepts in the broad field of energy-efficient and sustainable building and, with respect to the chosen profile, these concepts are continued up to the necessary planning details and are realized in building practice.
Having finished the Master studies, graduates have the competences of applying scientific methods and from these they develop solution concepts for practice.
Graduates have the abilities to deal with complex assignments of energy-efficient and sustainable building in a comprehensive and goal-directed way. They know how to link own competences to those of other fields and then to work out and to submit appropriate solutions.
The Master program „Energy Efficient and Sustainable Constructions“ links within the construction industry the planning and execution competences with consideration to economic aspects as well as energy efficiency, sustainability and environmental protection.
The use of renewable energies and the protection of natural resources have to be taken into consideration for the fairness of future generations. The program, which is a combination of technical, economic and legal subjects, is set up interdisciplinary and focuses in particular on energy efficiency and sustainability in the curriculum. Students acquire the following knowledge and skills in the compulsory modules: refurbishment, energetic building, building contract management, management skills, sustainable planning and construction, certification according to Green Building standards. There is a wide range on offer of optional modules so that students deepen and broaden their knowledge according to their skills and interests. The current developments in the construction sector show that more and more complex projects can only be controlled in future by abilities of subject linked understanding. The co-operation of different departments has become daily business for many projects and the demand on all people involved is team spirit. Without giving up the demands of professional competences in each field of the previous Bachelor studies, the term “Interdisciplinary skills” is emphasized by teaching of key-qualifications, such as creativity, thinking abstract, working in interdisciplinary context, teamwork and communication skills.
Energy efficient and sustainable constructions offer a combination of technical, economical and legal contents and modules which compose an interdisciplinary course in building design and engineering. Energy efficiency and sustainability are forming the core of lectures and assignments.
Lectures and research are placed in the fields: low energy building, renewable energy technologies, sustainability in planning and design, real estate management.

Programme for students in a 2-year course:
It starts with an interim semester where there is a pool of modules to be chosen depending on the student's Bachelor programme:
Structural engineering and building construction, building materials, building construction and physics, basics of CAD, 2 D, 3 D and visualization, building services, introduction to management in construction, legal basics.
Following 1.5-years: see programme for students in a 1.5-year course (semester 1 to 3) below.
Profile: Planning and Building
Conservation of buildings, building biology, design and structural engineering.
Profile: Building Services Engineering and Energy Engineering
Optimizing of building installations, integral planning, energy consultancy, economic efficiency of building services, innovation of building services (TGA)
Profile: Management in Construction
Applied project management, claim management, special aspects of management in construction.
List of additional modules on choice:
Structural fire protection – special constructions, visualization of fire concepts, structural simulation of buildings and plants, modern methods of load bearing analysis, reinforced and prestressed concrete constructions, planning of road network and its operation, building damages and its refurbishment, central furnace plant, innovative application of regenerative energy technology, green building, innovation of building services (TGA), energy consultancy, steel and timber constructions, reinstatement of buildings, building biology, building materials and their specifications and mixtures, modern materials for works, research methods and statistics, investment and financing, visualization methods and 3 D, physical planning, building regulations, economic efficiency of building services.

4.3 Programme details, individual credits gained and grades/marks obtained
Please refer to the Certificate (Masterzeugnis) for a list of courses and grades.

4.4 Grading system and , if available, grade distribution table
Absolute grading scheme: "Sehr Gut" (1,0; 1,3) = Very Good; "Gut" (1,7; 2,0; 2,3) = Good; "Befriedigend" (2,7; 3,0; 3,3) = Satisfactory; "Ausreichend" (3,7; 4,0) = Pass; "Nicht ausreichend" (5,0) = Fail
Statistical distribution of grades: **grading table**

4.5 Overall classification of the qualification **0,0**
The final grade is based on the grades awarded during the study programme and that of the final thesis (with oral component). Please refer to the Certificate (Masterzeugnis). When there are no marks given, not enough results are available yet to determine ECTS-grades.

5. Information on the function of the qualification

5.1 Access to further study
The degree entitles its holder to apply for admission for a doctoral thesis according to the regulations covering doctoral programmes, respectively.

5.2 Access to a regulated profession (if applicable)
The Master degree entitles its holder to work professionally in private and public companies, authorities, especially in jobs of the chosen profile.

6. Additional information

6.1 Additional information

Non-academic acquired competencies were credited in an amount of **oo** credits in the following modules: …

6.2 Further information sources
www.hawk.de

7. Certification

This Diploma Supplement refers to the following original documents:

Document on the award of the academic degree (Masterurkunde) dated from	**oo.oo.oooo**
Certificate (Masterzeugnis) dated from	**oo.oo.oooo**
Transcript of Records dated from	**oo.oo.oooo**
Certification Date:	**oo.oo.oooo**

(Official Seal / Stamp) Dean of Studies

8. National higher education system

The information on the national higher education system on the following pages provides a context for the qualification and the type of higher education institution that awarded it.

8. Information on the German Higher Education System[i]

8.1 Types of Institutions and Institutional Status

Higher education (HE) studies in Germany are offered at three types of Higher Education Institutions (HEI).[ii]

- *Universitäten* (Universities) including various specialized institutions, offer the whole range of academic disciplines. In the German tradition, universities focus in particular on basic research so that advanced stages of study have mainly theoretical orientation and research-oriented components.
- *Fachhochschulen (FH)/Hochschulen für Angewandte Wissenschaften (HAW)* (Universities of Applied Sciences, UAS) concentrate their study programmes in engineering and other technical disciplines, business-related studies, social work, and design areas. The common mission of applied research and development implies an application-oriented focus of studies, which includes integrated and supervised work assignments in industry, enterprises or other relevant institutions.
- *Kunst- und Musikhochschulen* (Universities of Art/Music) offer studies for artistic careers in fine arts, performing arts and music; in such fields as directing, production, writing in theatre, film, and other media; and in a variety of design areas, architecture, media and communication.

Higher Education Institutions are either state or state-recognized institutions. In their operations, including the organization of studies and the designation and award of degrees, they are both subject to higher education legislation.

8.2 Types of Programmes and Degrees Awarded

Studies in all three types of institutions have traditionally been offered in integrated "long" (one-tier) programmes leading to Diplom- or Magister Artium degrees or completed by a Staatsprüfung (State Examination).

Within the framework of the Bologna-Process one-tier study programmes are successively being replaced by a two-tier study system. Since 1998, two-tier degrees (Bachelor's and Master's) have been introduced in almost all study programmes. This change is designed to provide enlarged variety and flexibility to students in planning and pursuing educational objectives, they also enhance international compatibility of studies.

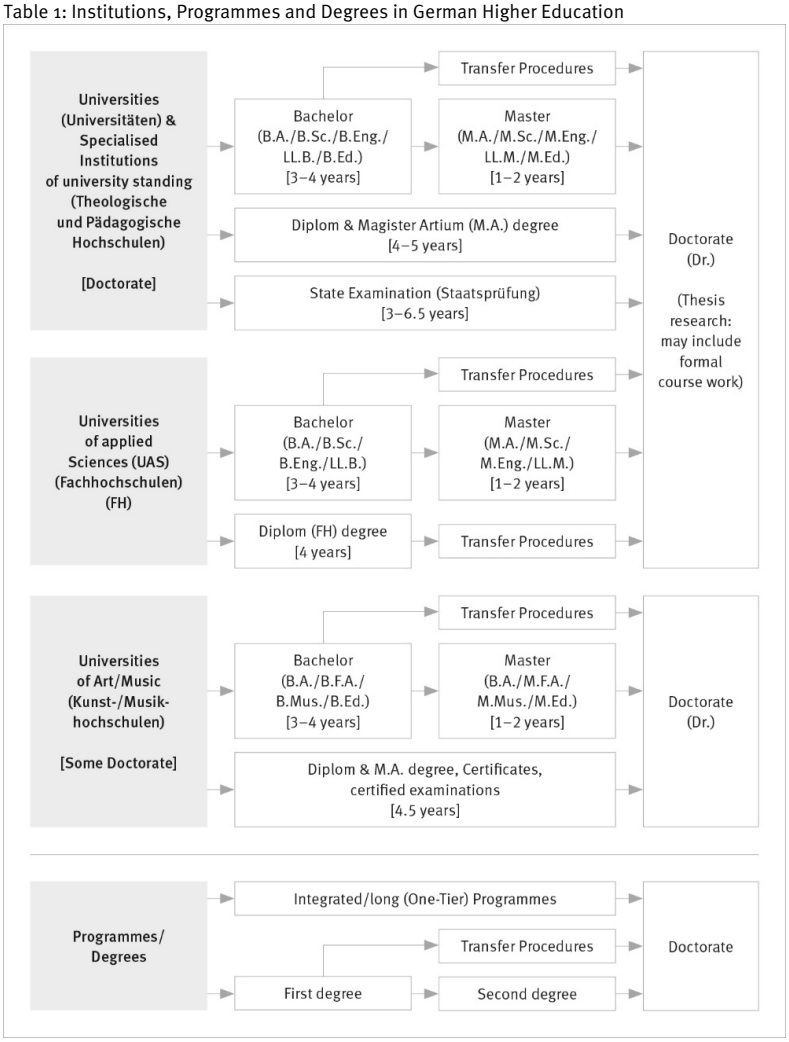
The German Qualifications Framework for Higher Education Qualifications (HQR)[iii] describes the qualification levels as well as the resulting qualifications and competences of the graduates. The three levels of the HQR correspond to the levels 6, 7 and 8 of the German Qualifications Framework for Lifelong Learning[iv] and the European Qualifications Framework for Lifelong Learning[v].

For details cf. Sec. 8.4.1, 8.4.2, and 8.4.3 respectively. Table 1 provides a synoptic summary.

8.3 Approval/Accreditation of Programmes and Degrees

To ensure quality and comparability of qualifications, the organisation of studies and general degree requirements have to conform to principles and regulations established by the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany (KMK).[vi] In 1999, a system of accreditation for Bachelor's and Master's programmes has become operational.. All new programmes have to be accredited under this scheme; after a successful accreditation they receive the quality-label of the Accreditation Council.[vii]

Table 1: Institutions, Programmes and Degrees in German Higher Education



8.4 Organisation and Structure of Studies

The following programmes apply to all three types of institutions. Bachelor's and Master's study programmes may be studied consecutively, at various higher education institutions, at different types of higher education institutions and with phases of professional work between the first and the second qualification. The organisation of the study programmes makes use of modular components and of the European Credit Transfer and Accumulation System (ECTS) with 30 credits corresponding to one semester.

8.4.1 Bachelor

Bachelor's degree study programmes lay the academic foundations, provide methodological competences and include skills related to the professional field. The Bachelor's degree is awarded after 3 to 4 years. The Bachelor's degree programme includes a thesis requirement. Study programmes leading to the Bachelor's degree must be accredited according to the Interstate study accreditation treaty.[viii]

First degree programmes (Bachelor) lead to Bachelor of Arts (B.A.), Bachelor of Science (B.Sc.), Bachelor of Engineering (B.Eng.), Bachelor of Laws (LL.B.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music (B.Mus.) or Bachelor of Education (B.Ed.).

The Bachelor's degree corresponds to level 6 of the German Qualifications Framework/ European Qualifications Framework.

8.4.2 Master

Master is the second degree after another 1 to 2 years. Master's programmes may be differentiated by the profile types "practice-oriented" and "research-oriented". Higher Education Institutions define the profile. The Master's degree programme includes a thesis requirement. Study programmes leading to the Master degree must be accredited according to the Interstate study accreditation treaty.[ix]

Second degree programmes (Master) lead to Master of Arts (M.A.), Master of Science (M.Sc.), Master of Engineering (M.Eng.), Master of Laws (L.L.M.), Master of Fine Arts (M.F.A.), Master of Music (M.Mus.) or Master of Education (M.Ed.). Master's programmes which are designed for continuing education may carry other designations (e.g. MBA).

The Master degree corresponds to level 7 of the German Qualifications Framework/ European Qualifications Framework.

8.4.3 Integrated "Long" Programmes (One-Tier): Diplom degrees, Magister Artium, Staatsprüfung

An integrated study programme is either mono-disciplinary (*Diplom* degrees, most programmes completed by a *Staatsprüfung*) or comprises a combination of either two major or one major and two minor fields (*Magister Artium*). The first stage (1.5 to 2 years) focuses on broad orientations and foundations of the field(s) of study. An Intermediate Examination (*Diplom-Vorprüfung* for *Diplom* degrees; *Zwischenprüfung* or credit requirements for the *Magister Artium*) is prerequisite to enter the second stage of advanced studies and specializations. Degree requirements include submission of a thesis (up to 6 months duration) and comprehensive final written and oral examinations. Similar regulations apply to studies leading to a *Staatsprüfung*. The level of qualification is equivalent to the Master's level.

- Integrated studies at *Universitäten (U)* last 4 to 5 years (*Diplom* degree, *Magister Artium*) or 3,5 to 6.5 years (*Staatsprüfung*). The *Diplom* degree is awarded in engineering disciplines, the natural sciences as well as economics and business. In the humanities, the corresponding degree is usually the *Magister Artium* (M.A.). In the social sciences, the practice varies as a matter of institutional traditions. Studies preparing for the legal, medical and pharmaceutical professions are completed by a *Staatsprüfung*. This applies also to studies preparing for teaching professions of some *Länder.*

The three qualifications (*Diplom*, *Magister Artium* and *Staatsprüfung*) are academically

equivalent and correspond to level 7 of the German Qualifications Framework/ European Qualifications Framework.
They qualify to apply for admission to doctoral studies. Further prerequisites for admission may be defined by the Higher Education Institution, cf. Sec. 8.5.
- Integrated studies at *Fachhochschulen (FH)*/ /Hochschulen für Angewandte Wissenschaften (HAW) Universities of Applied Sciences (UAS) last 4 years and lead to a *Diplom (FH)* degree which corresponds to level 6 of the German Qualifications Framework/ European Qualifications Framework.
Qualified graduates of FH/HAW/UAS may apply for admission to doctoral studies at doctorate-granting institutions, cf. Sec. 8.5.
- Studies at *Kunst- and Musikhochschulen* (Universities of Art/Music etc.) are more diverse in their organisation, depending on the field and individual objectives. In addition to *Diplom/Magister* degrees, the integrated study programme awards include certificates and certified examinations for specialized areas and professional purposes.

8.5 Doctorate

Universities as well as specialized institutions of university standing, some of the FH/HAW/UAS and some Universities of Art/Music are doctorate-granting institutions. Formal prerequisite for admission to doctoral work is a qualified Master's degree (UAS and U), a *Magister* degree, a *Diplom*, a *Staatsprüfung*, or a foreign equivalent. Comparable degrees from universities of art and music can in exceptional cases (study programmes such as music theory, musicology, pedagogy of arts and music, media studies) also formally qualify for doctoral work. Particularly qualified holders of a Bachelor's degree or a *Diplom (FH)* degree may also be admitted to doctoral studies without acquisition of a further degree by means of a procedure to determine their aptitude. The universities respectively the doctorate-granting institutions regulate entry to a doctorate as well as the structure of the procedure to determine aptitude. Admission further requires the acceptance of the Dissertation research project by a professor as a supervisor.
The doctoral degree corresponds to level 8 of the German Qualifications Framework/ European Qualifications Framework.

8.6 Grading Scheme

The grading scheme in Germany usually comprises five levels (with numerical equivalents; intermediate grades may be given): "*Sehr Gut*" (1) = Very Good; "*Gut*" (2) = Good; "*Befriedigend*" (3) = Satisfactory; "*Ausreichend*" (4) = Sufficient; "*Nicht ausreichend*" (5) = Non-Sufficient/Fail. The minimum passing grade is "*Ausreichend*" (4). Verbal designations of grades may vary in some cases and for doctoral degrees.
In addition, grade distribution tables as described in the ECTS Users' Guide are used to indicate the relative distribution of grades within a reference group.

8.7 Access to Higher Education

The General Higher Education Entrance Qualification (*Allgemeine Hochschulreife*, *Abitur*) after 12 to 13 years of schooling allows for admission to all higher educational studies. Specialized variants (*Fachgebundende Hochschulreife*) allow for admission at Fachhochschulen (FH)/Hochschulen für Angewandte Wissenschaften (HAW) (UAS), universities and equivalent higher education institutions, but only in particular disciplines. Access to study programmes at *Fachhochschulen* (FH)/Hochschulen für Angewandte Wissenschaften (HAW) (UAS), is also possible with a *Fachhochschulreife*, which can usually be acquired after 12 years of schooling. Admission to study programmes at Universities of Art/Music and comparable study programmes at other higher education institutions as well as admission to a study programme in sports may be based on other or additional evidence demonstrating individual aptitude.
Applicants with a qualification in vocational education and training but without a school-

based higher education entrance qualification are entitled to a general higher education entrance qualification and thus to access to all study programmes, provided they have obtained advanced further training certificates in particular state-regulated vocational fields (e.g. *Meister/Meisterin im Handwerk, Industriemeister/in, Fachwirt/in (IHK), Betriebswirt/in (IHK) und (HWK), staatlich gebrüfte/r Techniker/in, staatlich geprüfte/r Betriebswirt/in, staatlich geprüfte/r Gestalter/in, staatlich geprüfte/r Erzieher/in).* Vocationally qualified applicants can obtain a *Fachgebundende Hochschulreife* after completing a state-regulated vocational education of at least two years' duration plus professional practice of normally at least three years' duration, after having successfully passed an aptitude test at a higher education institution or other state institution; the aptitude test may be replaced by successfully completed trial studies of at least one year's duration.[x] Higher Education Institutions may **in certain cases** apply additional admission procedures.

8.8 National Sources of Information

- *Kultusministerkonferenz (KMK)* [Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany]; Graurheindorfer Str. 157, D-53117 Bonn; Phone: +49[0]228/501-0, www.kmk.org; E-Mail: hochschulen@kmk.org
- Central Office for Foreign Education (ZaB) as German NARIC; www.kmk.org; E-Mail: zab@kmk.org
- German information office of the *Länder* in the EURYDICE Network, providing the national dossier on the education system; www.kmk.org; E-Mail: eurydice@kmk.org
- Hochschulrektorenkonferenz (HRK) [German Rectors' Conference]; Leipziger Platz 11, D-10117 Berlin, Phone: +49 30 206292-11; www.hrk.de; E-Mail: post@hrk.de
- "Higher Education Compass" of the German Rectors' Conference features comprehensive information on institutions, programmes of study, etc. (www.higher-education-compass.de)

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i The information covers only aspects directly relevant to purposes of the Diploma Supplement.

ii *Berufsakademien* are not considered as Higher Education Institutions, they only exist in some of the *Länder.* They offer educational programmes in close cooperation with private companies. Students receive a formal degree and carry out an apprenticeship at the company. Some *Berufsakademien* offer Bachelor courses which are recognized as an academic degree if they are accredited by the Accreditation Council.

iii German Qualifications Framework for Higher Education Degrees. (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 16 February 2017).

iv German Qualifications Framework for Lifelong Learning (DQR). Joint resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, the German Federal Ministry of Education and Research, the German Conference of Economics Ministers and the German Federal Ministry of Economics and Technology (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany of 15 November 2012). More information at www.dqr.de

v Recommendation of the European Parliament and the European Council on the establishment of a European Qualifications Framework for Lifelong Learning of 23 April 2008 (2008/C 111/01 – European Qualifications Framework for Lifelong Learning – EQF).

vi Specimen decree pursuant to Article 4, paragraphs 1 – 4 of the interstate study accreditation treaty (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany of 7 December 2017).

vii Interstate Treaty on the organization of a joint accreditation system to ensure the quality of teaching and learning at German higher education institutions (Interstate study accreditation treaty) (Decision of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany of 8 December 2016), Enacted on 1 January 2018.

viii See note No. 7.

[ix] See note No. 7.

[x] Access to higher education for applicants with a vocational qualification, but without a school-based higher education entrance qualification (Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany of 6 March 2009).