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Examination Regulations

for

Bioengineering B.Sc.

Faculty of Life Sciences

Rhine-Waal University of Applied Sciences

Dated 28 November 2018

(Official Notice 36/2019)

As amended by the

First amending statutes

Dated 15/12/2022

(Official Notice 5/2023)

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Section 1

Scope

These examination regulations apply to the degree programme Bioengineering B.Sc., which is offered in English by the Faculty of Life Sciences of Rhine-Waal University of Applied Sciences, and are valid in conjunction with the General Examination Regulations for Bachelor's and Master's Degree Programmes ("RPO") of Rhine-Waal University of Applied Sciences. They govern the standard, seven-semester mode of study (full-time), the dual-vocational, eight-semester mode of study (dual) and the nine-semester mode of study for working professionals (part-time).

Section 2

Academic objectives; purpose of examination; degree awarded

(1) This degree programme concludes with the bachelor's examination, which forms the basis for the professionally qualifying nature of the degree. Academic aims and objectives are outlined in Section 3 RPO. In particular, this degree programme aims to impart expert qualifications in the fields of bioengineering and biotechnology. This goal is achieved via a broad curriculum designed to impart to students specialist knowledge and skills in the natural sciences and engineering, as well as general and practical skills in economics, project management, information technology and intercultural collaboration. A strong command of the English language is key to achieving success in this degree programme, as it provides the essential basis for the continuous goal of expanding and honing students' technical language and communication skills.

(2) The academic degree "Bachelor of Science", abbreviated as "B.Sc.", is awarded for successfully completing the bachelor's examination.

Section 3

Admission requirements

(1) General admission requirements are defined in Section 4 RPO.

(2) Applicants are ineligible for admission if they failed the final attempt at a mandatory examination in a previous degree programme that was very similar content-wise to this degree programme and offered by a university subject to German Basic Law.

(3) The requirements for proof of English language proficiency are set forth in Section 4a (6a) sentence 1 RPO.

(4) Applicants may request an exemption from the proof of proficiency requirement defined in subsection (3). These requests are justified, for example, for persons applying on the basis of a professionally-qualifying undergraduate degree that was taught in English and in a majority English-speaking country as defined in Annex 1. The Examination Board is responsible for deciding on exemption requests.

Section 4

Basic internship

In accordance with Section 4 (3) RPO, students in this degree programme are required to complete an eight-week basic internship outside of Rhine-Waal University of Applied Sciences, i.e. at an external company, public authority or other for-profit or not-for-profit organisation, which is active in areas relevant to the curriculum and familiarises students with questions and topics in the fields of the natural sciences or engineering. The internship may also be conducted at a company or other organisation in the manufacturing sector.

Section 5

Programme structure; volume of instruction hours; progression of studies

- (1) This degree programme has a total volume of instruction of 139 contact hours (SWS).
- (2) Participation in curricular excursions, language courses, practical training courses or tutorials is mandatory. These mandatory courses are marked with an asterisk (*) in the study and examination plan for the degree programme.

(2a) Mandatory courses have an attendance requirement of 75%. Successful completion is confirmed by certificate/attestation as defined by Section 20 (2) RPO. If a student is unable to fulfil the attendance requirement due to a long period of absence for justified reasons (for example illness, pregnancy or nursing leave), the responsible instructor can decide, upon request, if and how the student can make up for the period of absence and still pass the course. Section 16 (4) RPO applies with regard to compensatory arrangements.
- (3) In accordance with the European Credit Transfer Accumulation System (ECTS), one credit point (CP) in this degree programme is equivalent to a workload of 30 hours. The modules of this degree programme comprise a total sum of 210 CP in accordance with Section 6 (5) RPO.
- (4) The dual version of the degree programme integrates on-the-job vocational training during the first four semesters of study. Both the vocational training position and the training company must be in the same field as this degree programme. The faculty is responsible for judging the relevance of a proposed dual study arrangement. In the dual version of the degree programme, the content of the first two semesters for the full-time degree programme are taught over the first four semesters instead. The dual phase usually concludes before the start of the fifth semester with an examination at the Chamber of Industry and Commerce. From the fifth semester onwards, the degree programme then reverts back to the full-time version. The standard period of study for the dual degree programme is nine semesters.
- (5) The part-time version of the degree programme allows working professionals to pursue their degree alongside their career. The standard period of study for the part-time degree programme is nine semesters.
- (6) Additional information about the breakdown of this degree programme and the type, form and scope of modules can be available in the study and examination plan at the end of this document. Additional information about learning outcomes, qualification aims, contents and forms of examination is available in the corresponding module guide, which is available for viewing in the faculty's central office.
- (7) Examinations take place over the course of study. Registration for examinations requires proof of completion of any prerequisite modules / module examinations, insofar as

prerequisites for a module and/or for lectures offered as part of a module are given in the annex of these regulations.

(8) In addition to the general prerequisites for admission to the internship or semester abroad (Section 21 (2) RPO), students in this degree programme must have successfully completed all modules and module examinations scheduled in the first year of study.

Section 6

Scope of examinations

(1) The time allotted for a written examination depends on the number of contact hours (SWS) for the corresponding lecture. As a rule, 60 minutes are allotted for every two contact hours (SWS).

(2) An oral examination generally lasts between 30 and 45 minutes.

(3) The text portion of an assignment, term paper or project should not exceed 30 DIN A4 pages.

Section 7

Scope and form of the thesis

(1) The text portion of the thesis should generally be between 40 and 100 pages (DIN A4) in length. The thesis may also be supplemented with other media as well, provided their use as additional documentation is appropriate and helpful within the context of the assigned task. In this case, the length of the text portion of the thesis may deviate from the aforementioned minimum requirement.

(2) The thesis can also be submitted as group work if each student's individual contribution fulfils the requirements set forth in Section 23 (1) RPO and is clearly distinguishable (and thus assessable) thanks to clear and distinct delimitation by sections, page numbers or other criteria.

(3) Contrary to Section 25 (2) RPO, the allotted period for completing the thesis for part-time students is six months.

Section 8

Admission to the thesis and colloquium

(1) In addition to the thesis admission requirements set forth in Section 24 (1) RPO, students must have obtained at least 180 credits.

(2) In addition to the colloquium admission requirements set forth in Section 27 (2) RPO, candidates must have obtained 207 CP.

Section 9
Credit values for the thesis and colloquium

- (1) Twelve credits are awarded for passing the undergraduate thesis.
- (2) Three credits are awarded for passing the colloquium.

Section 10
Awarding of the bachelor's degree

The bachelor's degree specified in Section 2 (2) is officially conferred upon issuing of the bachelor's degree certificate defined in Section 30 (1) RPO.

Section 11
Entry into force / transitional provisions

(1) These examination regulations will enter into force on the day after publication in the Official Notices (*Amtliche Bekanntmachungen*) of Rhine-Waal University of Applied Sciences. They apply to students who first enrolled in Bioengineering B.Sc. of the Faculty of Life Sciences of Rhine-Waal University of Applied Sciences in or after winter semester 2019-20.

(2) Students who first enrolled in Bioengineering B.Sc. before winter semester 2019-20 may continue their studies under the examination regulations dated 13 January 2013 (Official Notice 03/2013) until no later than 28 February 2026. Accordingly, the examination regulations dated 9 July 2014 (Official Notice 26/2014) will expire on 1 March 2026.

(3) Alternatively, students currently studying under the examination regulations dated 13 January 2013 (Official Notice 03/2013) may submit a written request to the Examination Board to switch to the examination regulations defined in this document. The Examination Board is responsible for all credit recognition decisions for modules and examinations completed under previous examination regulations.

(4) Students who passed the module "BE 4 4303 Nanobiotechnology" in the form intended by the examination regulations dated 28 November 2018 (Official Notice 36/2019) will receive full credit for it under the new examination regulations.

Note: *These examination regulations entered into force on 1 March 2023.*

Annex 1

Countries considered majority English-speaking

- Antigua and Barbuda
- Australia
- Bahamas
- Barbados
- Belize
- Dominica
- Grenada
- Guyana
- Ireland
- Jamaica
- Canada
- New Zealand
- St. Kitts and Nevis
- St. Lucia
- St. Vincent and the Grenadines
- Trinidad and Tobago
- The United Kingdom of Great Britain and Northern Ireland
- United States of America

Anhang 2 // Annex 2

Prüfungs- und idealtypischer Studienverlaufspläne (Vollzeit) für den Bachelorstudiengang
Bioengineering (Bioingenieurwesen / Biotechnologie) „Bachelor of Science“, abgekürzt „B. Sc.“, //
Recommended study and examination plan for Bioengineering B.Sc., full-time:

Module Code / Modulecode	Modules/Module	Module Requirements / Modulvoraussetzungen	CH SWS	Type						Ex/Prü graded/ benotet	attestation/ Testat	ECTS points	SWS / CH									
				L/V	S	E/Ü	LC/Pr	Pro	WT / WS 1				ST / SS 2	WT / WS 3	ST / SS 4	WT / WS 5	ST / SS 6	WT / WS 7				
BE 1 4211	Cell Biology and Microbiology / Zellbiologie und Mikrobiologie		4	2				2		P	T	5	4									*
BE 1 4209	Fundamentals of Chemistry / Grundlagen der Chemie		4	2				2		P	T	5	4									*
BE 1 4212	Bioengineering Physics I / Bioengineering Physik I		4	2		1	1			P	T	5	4									*
BE 1 4205	Mathematics / Mathematik		6	2	1	3				P		5	6									
BE 1 4213	International Project Management / Internationales Projektmanagement		5	1	3	1					T	5	5									
BE 1 4204	Basics of Economic Sciences and Law / Grundlagen der Wirtschafts- und Rechtswissenschaften		5	1	3	1				P		5	5									
BE 2 4230	Genetics and Molecular Biology / Genetik und Molekularbiologie	BE 1 4211	4	2				2		P	T	5		4								*
BE 2 4227	Applied Chemistry / Angewandte Chemie	BE 1 4209	6	2	1	2	1			P	T	5		6								*
BE 2 4231	Biochemistry / Biochemie	BE 1 4209	4	2				2		P	T	5	4									*
BE 2 4232	Bioengineering Physics II / Bioengineering Physik II	BE 1 4212	4	2		1	1			P	T	5		4								*
BE 2 4233	Applied Microbiology / Angewandte Mikrobiologie	BE 1 4211	4	2				2		P	T	5		4								*
BE 2 4234	Applied Mathematics / Angewandte Mathematik	BE 1 4205	4	2		2				P		5		4								
BE 3 4251	Physical Chemistry / Physikalische Chemie	BE 1 4212 BE 2 4232	4	2		1	1			P	T	5		4								*
BE 3 4252	Instrumental Analytics / Instrumentelle Analyse	BE 1 4212	4	2		2				P		5		4								
BE 3 4253	Measurement and Control Engineering / Mess- und Regelungstechnik	BE 1 4205	3	2		1				P		5		3								
BE 3 4254	Process Engineering / Chemische Verfahrenstechnik	BE 1 4205	6	2		2	2			P	T	5		6								*
BE 3 4255	Current Topics in Biology / Aktuelle Themen der Biologie		4		4						T	5		4								
BE 3 4245	Data Analysis and Applied Statistics / Datenanalyse und angewandte Statistik		4	2				2		P		5		4								
BE 4 4277	Bioprocess Engineering / Bioverfahrenstechnik	BE 2 4233 BE 3 4254	4	2			2			P	T	5			4							*
BE 4 4278	Enzyme Engineering / Enzym Engineering	BE 2 4231	4	2	1	1				P		5		4								
BE 4 4274	Project / Projekt	BE 1 4213	4					4			T	5		4								
BE 4 4279	Bioinformatics / Bioinformatik	BE 1 4205	4	2		2				P		5		4								
	Elective modules 1 / Wahlpflichtkatalog 1		8	4	4					P		10		8								
BE 5 4326	Downstream Processing / Produktaufarbeitung	BE 2 4231 BE 4 4277	4	2	2					P		5		4								
BE 5 4327	Industrial Biotechnology / Industrielle Biotechnologie	BE 2 4231 BE 2 4233	4	2	2					P		5		4								
BE 5 4324	Integrated Management Systems and Quality Management / Integrierte Managementsysteme und Qualitätsmanagement		4	1	2	1				P		5		4								
	Elective modules 2 / Wahlpflichtkatalog 2		12	4	4	4				P		15		12								
BE 6 4391	Internship or study abroad / Praxissemester oder Auslandsstudiensemester	min. 90 ECTS points **									T	30								X		
BE 7 4392	Academic Methods and Principles / Wissenschaftliches Arbeiten		4		2	2					T	5									4	
	Elective Modules 3 / Wahlpflichtkatalog 3		8		4			4			T	10										8
BE 7 4393	Bachelor Thesis / Bachelorarbeit	min. 180 ECTS points								P		12										X
BE 7 4394	Colloquium / Kolloquium	207 ECTS points								P		3										X
	total credit hours // Semesterwochenstunden		139	49	35	27	18	10					28	26	25	24	24	0	12			
													30	30	150	30	30	30	30	30	30	30
																						210

Abbreviations: // Abkürzungen

CH = credit hours per week // SWS = Semesterwochenstunden

WS = winter term // Wintersemester

SS = summer term // Sommersemester

Ex/Prü = type of examination // Prüfungsart

ECTS points = European Credit Transfer System credit points // Leistungspunkte nach dem Europäisches System zur Übertragung und Akkumulierung von Studienleistungen

L/V = Lecture // Vorlesung

E/Ü = exercise // Übung

LC/Pr = lab course // Praktikum

Pro = project // Projekt

T = certificate // Testat (unbenotet)

P = examination (marked) // benotete Prüfung

** In addition to the General Examination Regulations for Bachelor's Degree Programmes regarding the admission to the internship or study abroad the student has to show the successful completion of all modules/module examinations of the first study year of the study programme.

** Ergänzend zu den Voraussetzungen der Rahmenprüfungsordnung zur Zulassung zum Praxis- oder Auslandsstudiensemester hat der/die Studierende das erfolgreiche Ableisten sämtlicher Module/Modulprüfungen des 1. Studienjahres des Studiengangs nachzuweisen.

Wahlpflichtkatalog // Elective Catalogue

Elective modules 1 Wahlpflichtkatalog 1	CH	Type					Ex/Prü		ECTS points
		L/V	S	E/Ü	LC/Pr	Pro	graded/ benotet	attestati on/ Testat	
BE 4 4301 Technical enzymology and Biocatalysis Technische Enzymologie und Biokatalyse	4		4					P	5
BE 4 4302 Agricultural Biotechnology and Biofuels Grüne Biotechnologie und Biobrennstoffe	4		4					P	5
BE 4 4303 Nanobiotechnology Nanobiotechnologie	3		3					P	5
BE 4 4304 Fluid Mechanics and Systems Dynamics Strömungsmechanik und Systemdynamik	4	2			2			P	5
BE 4 WPF_1 Module from any bachelor study course of Faculty of Life Sciences at Rhine-Waal University of Applied Sciences Wahlmöglichkeit Angebot Fakultät Life Sciences Bachelorstudiengänge	4	4						P	5
2 elective modules amount to	8								10

Elective modules 2 Wahlpflichtkatalog 2	CH	Type					Ex/Prü		ECTS points
		L/V	S	E/Ü	LC/Pr	Pro	graded/ benotet	attestati on/ Testat	
BE 5 4351 Metabolic Engineering Metabolische Engineering	4		4					P	5
BE 5 4352 Biological Physics Biologische Physik	4	2			2			P	5
BE 5 4353 Environmental Biotechnology and Microalgae Umweltbiotechnologie und Mikroalgen	4		4					P	5
BE 5 4354 Pharmaceutical Biotechnology and Immunology Pharmazeutische Biotechnologie und Immunologie	4	4						P	5
BE 5 4355 Biopolymers Biopolymere	4	2	1		1			P	5
BE 5 WPF_2 Module from any bachelor study course of Faculty of Life Sciences at Rhine-Waal University of Applied Sciences Wahlmöglichkeit Angebot Fakultät Life Sciences Bachelorstudiengänge	4	4						P	5
3 elective modules amount to	12								15

Elective modules 3 Wahlpflichtkatalog 3	SWS	Type					Ex/Prü		ECTS points
		L/V	S	E/Ü	LC/Pr	Pro	graded/ benotet	attestati on/ Testat	
BE 7 4371 Project reg. Academic Principles and Methods in preparation of Bachelor Thesis Projekt zum Wissenschaftlichen Arbeit in der Vorbereitung der Bachelorarbeit	8					8		T	10
550 Language Course Sprachkurs	4			4				T	5
BE 7 WPF_3 Module from catalogue 1 and 2 of study programme Wahlmöglichkeit aus Wahlpflichtkatalog 1 und 2 des Studiengangs	4	4						P	5
BE 7 WPF_4 Module from any Bachelor Study Course at Rhine-Waal University of Applied Sciences Wahlmöglichkeit Angebot HRW Bachelorstudiengänge	4	4						P	5
1-2 elective modules amount to	8								10

The faculty reserves the right to determine a minimum number of participants for offering an elective subject. Admission to mandatory modules is subject to available capacities. The possibility to obtain the required number of credit points remains unaffected. / Die Fakultät behält sich das Recht vor, eine Mindestteilnehmerzahl für das Zustandekommen eines Wahlpflichtkurses festzulegen. Die Zulassung zu Pflichtmodulen erfolgt vorbehaltlich freier Kapazitäten. Die Möglichkeit des Erreichens der

In case of new developments in the different fields of Bioengineering the faculty reserves the right to expand the range of elective modules by further study courses over the time. / Die Fakultät behält sich vor, das Wahlpflichtangebot im Laufe der Zeit bei neuen Entwicklungen in verschiedenen Feldern der Biotechnologie durch weitere Fächer zu erweitern.

*** The actual selection from any study programme of the Rhine-Waal University has to be approved by the Examination Committee of the Faculty of Life Sciences. Module code and module description of the module chosen will be used. // Die konkrete Auswahl aus dem Studienangebot der Hochschule bedarf der Zustimmung des Prüfungsausschussvorsitzenden. Modulcode und Modulbezeichnung entsprechen dem gewählten Modul.

Prüfungs- und idealtypischer Studienverlaufspläne für den Bachelorstudiengang Bioengineering
(Bioingenieurwesen / Biotechnologie) „Bachelor of Science“, abgekürzt „B. Sc.“, (berufsbegleitendes Studium) //
Recommended study and examination plan for Bioengineering B.Sc., part-time:

Module Code /Modulcode	Modules/Module	Module Requirements /Modulvoraussetzungen	CH SWS	Type					ExPrü		ECTS points	part time study/berufsbegleitendes Studium																																			
				LV	S	EÜ	LC/Pr	Pro	graded/benotet	testat/ion/ Testat		WT / WS 1	ST / SS 2	WT / WS 3	ST / SS 4	SWS / CH WT / WS 5	ST / SS 6	WT / WS 7	ST / SS 8	WT / WS 9																											
BE 1 4211	Cell Biology and Microbiology		4	2			2		P	T	5	4																																			
BE 1 4209	Fundamentals of Chemistry		4	2			2		P	T	5	4																																			
BE 1 4212	Bioengineering Physics		4	2		1	1		P	T	5	4																																			
BE 1 4205	Mathematics		6	2	1	3			P		5	6																																			
BE 1 4213	International Project Management		5	1	3	1				T	5			5																																	
BE 1 4204	Basics of Economic Sciences and Law		5	1	3	1			P		5					5																															
BE 2 4230	Genetics and Molecular Biology	BE 1 4211	4	2			2		P	T	5	4																																			
BE 2 4227	Applied Chemistry	BE 1 4209	6	2	1	2	1		P	T	5			6																																	
BE 2 4231	Biochemistry	BE 1 4209	4	2			2		P	T	5		4																																		
BE 2 4232	Bioengineering Physics I	BE 1 4212	4	2		1	1		P	T	5	4																																			
BE 2 4233	Bioengineering Physics II																																														
BE 2 4234	Applied Microbiology	BE 1 4211	4	2			2		P	T	5				4																																
BE 2 4234	Applied Mathematics	BE 1 4205	4	2	2	0	0		P		5		4																																		
BE 3 4251	Physical Chemistry	BE 1 4212	4	2		1	1		P	T	5			4																																	
BE 3 4252	Physikalische Chemie	BE 2 4232	4	2		2			P		5				4																																
BE 3 4253	Instrumental Analysis	BE 1 4212	4	2	2				P		5				4																																
BE 3 4253	Mess- und Regelungslehre	BE 1 4205	3	2		1			P		5			3																																	
BE 3 4254	Process Engineering	BE 1 4205	6	2		2	2		P	T	5			6																																	
BE 3 4254	Chemische Verfahrenstechnik																																														
BE 3 4256	Current Topics in Biology		4	4						T	5										4																										
BE 3 4245	Data Analysis and Applied Statistics		4	2			2	2	P		5				4																																
BE 4 4277	Bioprocess Engineering	BE 2 4233 BE 3 4254	4	2			2		P	T	5			4																																	
BE 4 4278	Bioprocess Engineering	BE 2 4231	4	2	1	1			P		5			4																																	
BE 4 4274	Enzym Engineering	BE 1 4213	4					4		T	5										4																										
BE 4 4279	Projekt	BE 1 4205	4	2		2			P		5										4																										
BE 4 4279	Bioinformatics																																														
BE 5 4326	Bioinformatics		8	4	4				P		10				8																																
BE 5 4326	Elective modules 1																																														
BE 5 4326	Wahlpflichtkatalog 1																																														
BE 5 4326	Downstream Processing	BE 2 4231 BE 4 4277	4	2	2				P		5			4																																	
BE 5 4327	Produktentwicklung																																														
BE 5 4327	Industrial Biotechnology	BE 2 4231 BE 2 4233	4	2	2				P		5				4																																
BE 5 4327	Integrierte Managementsysteme und Qualitätsmanagement		4	1	2	1			P		5				4																																
BE 5 4324	Integrated Management Systems and Quality Management																																														
BE 5 4324	Integrierte Managementsysteme und Qualitätsmanagement																																														
BE 6 4391	Elective modules 2		12	4	4	4			P		15										4						8																				
BE 6 4391	Wahlpflichtkatalog 2																																														
BE 6 4391	Internship or study abroad	min. 90 ECTS points**								T	30				X																																
BE 7 4392	Praxissemester oder Auslandsstudiensemester																																														
BE 7 4392	Academic Methods and Principles		4		2	2				T	5																4																				
BE 7 4392	Wissenschaftliches Arbeiten																																														
BE 7 4392	Elective Modules 3		8		4			4		T	10																8																				
BE 7 4392	Wahlpflichtkatalog 3																																														
BE 7 4393	Bachelor Thesis	min. 180 ECTS points								P		12														X																					
BE 7 4393	Bachelorarbeit																																														
BE 7 4394	Kolloquium	207 ECTS points								P		3															X																				
BE 7 4394	Kolloquium																																														
total credit hours // Semesterwochenstunden											139	49	35	27	18	10																															

Abbreviations: // Abkürzungen
CH = credit hours per week // SWS = Semesterwochenstunden
WS = winter term // Wintersemester
SS = summer term // Sommersemester
ExPrü = type of examination // Prüfungsart
ECTS points = European Credit Transfer System credit points // Leistungspunkte nach dem Europäischen System zur Übertragung und Akkumulierung von Studienleistungen
LV = lecture // Vorlesung
E/U = exercise // Übung
LC/Pr = lab course // Praktikum
Pro = project // Projekt
T = certificate // Testat (unbenotet)
P = examination (marked) // benotete Prüfung

	total	1.Sem	2.Sem	3.Sem	4.Sem	5.Sem	6.Sem	7.Sem	8.Sem	9.Sem
SWS	139	49	35	27	18	10				
ECTS points	210	20	20	20	20	20	20	20	20	20

** In addition to the General Examination Regulations for Bachelor's Degree Programmes regarding the admission to the internship or study abroad the student has to show the successful completion of module/module examinations of the first study year of the study programme.
** Ergänzend zu den Voraussetzungen der Rahmenprüfungsordnung zur Zulassung zum Praxis- oder Auslandsstudiensemester hat der/die Studierende das erfolgreiche Ableisten sämtlicher Modul/Modulprüfungen des 1. Studienjahres des Studiengangs nachzuweisen.

The full-time elective catalogue also applies to part-time students.

Prüfungs- und idealtypischer Studienverlaufspläne für den Bachelorstudiengang
 Bioengineering (Bioingenieurwesen / Biotechnologie) „Bachelor of Science“, abgekürzt „B. Sc.“, (duales Studium) //
 Recommended study and examination plan for Bioengineering B.Sc., dual:

Module Code /Modulecode	Modules/Module	Module Requirements /Modulvoraussetzungen	CH / SWS	Type						Exp/Prüfungsart / grad/benotet	ECTS points	Cooperative Study / duales Studium										
				LV	S	EU	LC/Pr	Pro	DUAL				SWS / CH									
									WS 1			SS 2	WS 3	SS 4	WS 1	SS 1	WS 2	SS 2	WS 3	SS 3	WS 4	SS 4
BE 1 4211	Cell Biology and Microbiology		4	2			2	P	T	5	4											
BE 1 4209	Fundamentals of Chemistry		4	2			2	P	T	5	4											
BE 1 4212	Bioengineering Physics		4	2	1	1		P	T	5			4									
BE 1 4205	Mathematics		6	2	1	3		P		5	6											
BE 1 4213	International Project Management		5	1	3	1			T	5			5									
BE 1 4204	Basics of Economic Sciences and Law		5	1	3	1		P		5			5									
BE 2 4230	Genetics and Molecular Biology	BE 1 4211	4	2			2	P	T	5		4										
BE 2 4227	Applied Chemistry	BE 1 4209	6	2	1	2	1	P	T	5				6								
BE 2 4231	Biochemistry	BE 1 4209	4	2			2	P	T	5		4										
BE 2 4232	Bioengineering Physics I	BE 1 4212	4	2		1	1	P	T	5					4							
BE 2 4233	Applied Microbiology	BE 1 4211	4	2			2	P	T	5				4								
BE 2 4234	Applied Mathematics	BE 1 4205	4	2			2	P		5		4										
BE 3 4251	Physical Chemistry	BE 1 4212 BE 2 4232	4	2		1	1	P	T	5						4						
BE 3 4252	Instrumental Analysis	BE 1 4212	4	2			2	P		5				4								
BE 3 4253	Measurement and Control Engineering	BE 1 4205	3	2		1		P		5											3	
BE 3 4254	Process Engineering	BE 1 4205	6	2	2	2		P	T	5						6						
BE 3 4255	Current Topics in Biology		4	4					T	5					4							
BE 3 4245	Data Analysis and Applied Statistics		4	2			2	P		5					4							
BE 4 4277	Bioprocess Engineering	BE 2 4233 BE 3 4254	4	2			2	P	T	5							4					
BE 4 4278	Enzyme Engineering	BE 2 4231	4	2	1	1		P		5					4							
BE 4 4274	Project	BE 1 4213	4						T	5					4							
BE 4 4270	Bioinformatics	BE 1 4205	8	2		2		P		5					4							
BE 5 4326	Downstream Processing	BE 2 4231 BE 4 4277	4	2	2			P		5											4	
BE 5 4327	Industrial Biotechnology	BE 2 4231 BE 2 4233	4	2				P		5											4	
BE 5 4324	Integrated Management Systems and Quality Management		4	1	2	1		P		5											4	
Elective modules 2			12	4	4	4			P	15											12	
BE 6 4391	Wahlpflichtkatalog 2	min. 90 ECTS points**							T	30											X	
BE 7 4392	Wahlpflichtkatalog 2		4	2	2				T	5											4	
Elective Modules 3			8	4					T	10												8
BE 7 4393	Wahlpflichtkatalog 3								T	10												8
BE 7 4394	Bachelor Thesis	min. 180 ECTS points							P	12												X
BE 7 4394	Bachelorarbeit	207 ECTS points							P	3												X
BE 7 4394	Kolloquium								P	3												X
total credit hours // Semesterwochenstunden			139	49	35	27	18	10				14	12	14	14	14	25	24	24	0	12	
											15	15	15	15	15	30	30	30	30	30	60	
											210											

Abbreviations: // Abkürzungen
 CH = credit hours per week // SWS = Semesterwochenstunden
 WS = winter term // Wintersemester
 SS = summer term // Sommersemester
 Exp/Prüfungsart = type of examination // Prüfungsart
 ECTS points = European Credit Transfer System credit points // Leistungspunkte nach dem Europäisches System zur Übertragung und Akkumulierung von Studienleistungen
 LV = Lecture // Vorlesung
 EU = exercise // Übung
 LC/Pr = lab course // Praktikum
 Pro = project // Projekt
 T = certificate // Testat (unbenotet)
 P = examination (marked) // benotete Prüfung

	total	1. Sem	2. Sem	3. Sem	4. Sem	5. Sem	6. Sem	7. Sem	8. Sem	9. Sem
SWS	139	14	12	14	14	25	24	24	0	12
ECTS points	210	15	15	15	15	30	30	30	30	30

** In addition to the General Examination Regulations for Bachelor's Degree Programmes regarding the admission to the internship or study abroad the student has to show the successful completion of:
 module/module examinations of the first study year of the study programme.
 ** Ergänzend zu den Voraussetzungen der Rahmenprüfungsordnung zur Zulassung zum Praxis- oder Auslandsstudiensemester hat der/die Studierende das erfolgreiche Ableisten sämtlicher
 Module/Modulprüfungen des 1. Studienjahres des Studiengangs nachzuweisen.

The full-time elective catalogue also applies to part-time students.