

These examination regulations have been worded carefully to be up to date; however, errors cannot be completely excluded. The official German text available at the Examinations Office is the version that is legally binding.

Note: Students who started their studies before the latest amendment came into effect are requested to also comply with previous amendments and the respective transitory provisions.

**Degree Programme and Examination Regulations for the
Bachelor's and Master's degree programme in
Life Science Engineering at the Faculty of Engineering at
Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)
– FPOLSE –
Dated 24 September 2007**

amended by statutes of
17 January 2008
5 August 2008
10 December 2008
3 December 2009
7 May 2010
7 July 2010
17 January 2011
30 July 2012
31 July 2012
3 July 2015
26 January 2016
24 July 2019
3 December 2019
28 August 2020

Based on Section 13 (1)(2), Section 43 (5), Section 58 (1) and Section 61 (2)(1) of the Bavarian Higher Education Act (Bayerisches Hochschulgesetz, BayHSchG), FAU enacts the following degree program and examination regulations:

Table of Contents:

Part I: General Provisions	2
Section 35 Scope	2
Section 36 Bachelor's Degree Programme, Related Degree Programmes	2
Section 37 Master's Degree Programme, Part-time Study, Start of Degree Programme, Teaching and Examination Language, Related Degree Programmes	2
Part II: Special Provisions	3
1. Bachelor's Examination	3
Section 38 Scope of the Grundlagen- und Orientierungsprüfung	3
Section 39 Scope and Structure of the Bachelor's Examination.....	3
Section 39a Elective Module from the University Module Catalogue – Module B9.....	3
Section 39b Compulsory Elective Modules – B26 and B27.....	3
Section 40 Bachelor's Thesis.....	3
2. Master's Examination	4

Section 41	Qualification for a Master’s Degree, Certificates and Admission Requirements	4
Section 41a	Scope and Structure of the Master’s Examination	5
Section 41b	Specialisation Modules – M1 - M3	5
Section 41c	Compulsory Elective Modules – M4 - M6	5
Section 41d	Compulsory Elective Modules – M7 - M10	5
Section 41e	Elective Module from those offered by the Faculty of Engineering or Faculty of Sciences – M11	6
Section 41f	Elective Module from the University Module Catalogue – M12	6
Section 42	Admission Requirements for the Master’s Thesis	6
Section 43	Master’s Thesis	6
Section 44	Degree Certificate	7
Part III: Transitory and Final Provisions		7
Section 45	Legal Validity and Transitory Provisions	7
Appendix 1:	Degree programme structure for Bachelor’s degree programme in Life Science Engineering	8
Appendix 2:	Degree programme structure for full-time Master’s degree programme in Life Science Engineering	11
Appendix 3:	Degree programme structure for part-time Master’s degree programme in Life Science Engineering	13

Part I: General Provisions

Section 35 Scope

¹The degree programme and examination regulations cover examinations for the Bachelor’s and Master’s degree programmes in Life Science Engineering leading to a Bachelor of Science and Master of Science degree. ²They complement the current version of the General Examination Regulations for the Bachelor’s and Master’s Degree Programmes of the Faculty of Engineering at FAU – **ABMPO/TechFak** – dated 18 September 2007 as amended from time to time.

Section 36 Bachelor’s Degree Programme, Related Degree Programmes

The provisions in Section 30 (3)(2) **ABMPO/TechFak** do not apply to related degree programmes.

Section 37 Master’s Degree Programme, Part-time Study, Start of Degree Programme, Teaching and Examination Language, Related Degree Programmes

(1) The Master’s degree programme in Life Science Engineering shall include a three-week project development course, an industrial internship lasting a minimum of twelve weeks and a period for completing the Master’s thesis.

(2) ¹The Master’s degree programme in Life Science Engineering can be completed as a full-time or as a part-time degree programme. ²The Master’s degree programme may be started in the summer semester or in the winter semester.

(3) ¹In deviation from Section 4 (5) **ABMPO/TechFak**, the teaching and examination language in the Master’s degree programme is German and English. ²This shall not affect the rest of Section 4 (5) **ABMPO/TechFak**.

(4) The provisions in Section 30 (3)(2) **ABMPO/TechFak** do not apply to related degree programmes.

Part II: Special Provisions

1. Bachelor's Examination

Section 38 Scope of the Grundlagen- und Orientierungsprüfung

(1) ¹The Grundlagen und Orientierungsprüfung, GOP, shall consist of the modules set forth in **Appendix 1**

1. B1: Mathematics for LSE 1
2. B2: Experimental physics
3. B3: General and inorganic chemistry
4. B4: Microbiology
5. B5: Bioanalytics
6. B8: Bioprocess engineering with advanced seminar.

²The ECTS credits allocated to each module and the type and scope of the examinations are stipulated in **Appendix 1**.

(2) The GOP shall have been passed if at least 30 ECTS credits (from a total of 40 ECTS credits) have been earned from the modules listed in paragraph 1.

Section 39 Scope and Structure of the Bachelor's Examination

¹The Bachelor's examination shall consist of the modules set forth in **Appendix 1**. ²The length and type of examination for each module are also specified in **Appendix 1**.

Section 39a Elective Module from the University Module Catalogue – Module B9

¹Students select one of the modules offered at FAU as their elective module B9, worth 5 ECTS credits. ²The type and scope of the lectures and seminars and the examination are dependent on the skills for the chosen module according to the relevant **degree programme and examination regulations** and the module handbook.

Section 39b Compulsory Elective Modules – B26 and B27

(1) ¹The learning outcome of the compulsory elective modules B26 and B27 is for students to consolidate and/or expand their subject-related skills in life science engineering and/or traditional process engineering. ²Choosing compulsory elective modules gives students the opportunity to tailor their profile in view of their future career.

(2) ¹The type and scope of examinations are dependent on the skills for the relevant module according to paragraph 1 and the module handbook. ²Possible examination achievements for each module are: written examination (60 min, 90 min or 120 min) or an oral examination (30 min). ³The module handbook is published before the beginning of the semester in accordance with local practice.

(3) ¹Compulsory elective modules normally amount to 5 ECTS credits and usually consist of a lecture worth 2 SWS and a tutorial worth 2 SWS or a lecture worth 2 SWS and a tutorial worth 3 SWS. ²Any exceptions are detailed in the module handbook.

Section 40 Bachelor's Thesis

(1) ¹The aim of the Bachelor's thesis is to enable students to learn to solve life science engineering problems independently. ²Requirements for the thesis shall be such that it

can be completed with a workload of approximately 360 hours. ³The results of the Bachelor's thesis shall be presented in a presentation with a maximum length of 30 minutes followed by a discussion within the context of an advanced seminar. ⁴The date of the presentation shall be determined by the supervising lecturer either after the student has submitted their Bachelor's thesis or during the final stage of thesis work and the student shall be informed of the date in good time.

(2) ¹The topic of the Bachelor's thesis shall be allocated by a university lecturer from the Department of CBI at FAU. ²Deviations from this shall be subject to the approval of the chairperson of the Degree Programme Committee.

(3) The Bachelor's thesis may be written in German or English.

2. Master's Examination

Section 41 Qualification for a Master's Degree, Certificates and Admission Requirements

(1) A relevant degree within the meaning of Section 29 (1)(1) **ABMPO/TechFak** is a Bachelor's degree completed according to these examination regulations or an equivalent degree from Germany or another country that leads to a learning outcome equivalent to the Bachelor's degree in Life Science Engineering completed according to these examination regulations.

(2) Applicants shall be required to submit evidence of proficiency in German and English equivalent to level B2 of the Common European Framework of Reference as a further document within the meaning of paragraph 2 (4)(3) **Appendix ABMPO/TechFak** in conjunction with Section 29 (1)(2) **ABMPO/TechFak**.

(3) Applicants shall be deemed as qualified for the Master's degree programme in Life Science Engineering according to paragraph 5 (2)(2) **Appendix ABMPO/TechFak** if they have passed at least four of the modules B13, B14, B19 to B21, B23, B24 and B29 of the Bachelor's degree programme with an average module grade of 3.0 or better.

(4) ¹In the oral admission examination according to paragraph 5 (3) et seq of the **Appendix ABMPO/TechFak**, applicants shall be evaluated according to the following criteria:

1. Ability to analyse complex issues from the area of life science engineering taking relevant process and measuring techniques into consideration, work out solutions and critically discuss results (40 percent),
2. Standard of fundamental knowledge acquired during the Bachelor's degree programme corresponding to a subject specialisation in the Master's degree programme (30 percent),
3. Ability to give an opinion on issues relating to current research using the correct technical terms (30 percent).

²The oral admission examination does not affect the student's choice of specialisation in the Master's degree programme.

Section 41a Scope and Structure of the Master's Examination

¹The Master's examination consists of the modules pursuant to **Appendix 2** (full-time) or **Appendix 3** (part-time). ²The length and type of examination for each module are also specified in **Appendix 2** or **3**.

Section 41b Specialisation Modules – M1 - M3

(1) ¹The learning outcome of the specialisation modules M1 to M3 is for students to expand their subject-related skills and gain more advanced knowledge in the areas of (medical) biological engineering and process engineering by using scientific methods in theory and in laboratory practice. ²This should enable them to acquire skills of relevance to research. ³The learning outcome for the specialisation modules M1 to M3 is to give students the opportunity to choose their individual focus and tailor their profile in view of their future career and/or personal development. ⁴The laboratory courses allow students to put the theory they have covered into practice.

(2) ¹The type and scope of the examination are dependent on the skills for the relevant module according to paragraph 1 and the module handbook. ²Students have to complete one (ungraded) laboratory achievement and one examination achievement for each module, depending on the specific manner in which the module is taught. ³Further details are stipulated in the module handbook. ⁴The module handbook is published before the beginning of the semester in accordance with local practice.

(3) ¹The specialisation modules are generally worth 7.5 ECTS credits and usually consist of a lecture (3 SWS), a tutorial (2 SWS) and a laboratory course (3 SWS). ²Any exceptions are detailed in the module handbook.

Section 41c Compulsory Elective Modules – M4 - M6

(1) ¹The learning outcome of the compulsory elective modules M4 to M6 is for students to expand their subject-related skills and gain more advanced knowledge in the theory and laboratory practice of life science engineering. ²The choice of compulsory elective modules, in particular in combination with the choice of specialisation modules M1-M3, gives students the opportunity to tailor their profile in view of their future careers. ³The laboratory courses allow students to put the theory they have covered into practice.

(2) ¹The type and scope of the examination are dependent on the skills for the relevant module according to paragraph 1 and the module handbook. ²Students have to complete one (ungraded) laboratory achievement and one examination achievement for each module, depending on the specific manner in which the module is taught. ³Further details are stipulated in the module handbook. ⁴The module handbook is published before the beginning of the semester in accordance with local practice.

(3) ¹Compulsory elective modules are generally worth 7.5 ECTS credits and generally consist of a lecture (2 SWS), a tutorial (1 SWS) and a laboratory course (3 SWS). ²Any exceptions are detailed in the module handbook.

Section 41d Compulsory Elective Modules – M7 - M10

(1) ¹The learning outcome of the compulsory elective modules M7 to M10 is to enable students to expand and/or consolidate their knowledge of information relevant to the field of life science engineering. ²The choice of compulsory elective modules M7-M10 should

allow students to steer their own career prospects by specialising in one or several areas of life science engineering.

(2) ¹The type and scope of the examination are dependent on the skills for the relevant module according to paragraph 1 and are stipulated in the module handbook. ²Students have to complete one examination achievement for each module, depending on the specific manner in which the module is taught. ³Possible examination achievements for each module are: written examination (60, 90 or 120 min) or oral examination (30 min). ⁴The module handbook is published before the beginning of the semester in accordance with local practice.

(3) ¹The compulsory elective modules are generally worth 5 ECTS credits and usually consist of a lecture (2 SWS) and a tutorial (2 SWS). ²Any exceptions are detailed in the module handbook.

Section 41e Elective Module from those offered by the Faculty of Engineering or Faculty of Sciences – M11

¹Students select one of the modules offered at the Faculty of Engineering or the Faculty of Sciences as their elective module M11, worth 5 ECTS credits. ²The type and scope of the lectures and seminars and the examination are dependent on the skills for the chosen module according to the relevant **degree programme and examination regulations** and the module handbook.

Section 41f Elective Module from the University Module Catalogue – M12

¹Students select one of the modules offered at FAU as their elective module M12, worth 5 ECTS credits. ²The type and scope of the lectures and seminars and the examination are dependent on the skills for the chosen module according to the relevant **degree programme and examination regulations** and the module handbook.

Section 42 Admission Requirements for the Master's Thesis

¹In order to qualify for admission to the Master's thesis (Module M15 in **Appendix 2**), students shall be required to successfully complete modules pursuant to **Appendix 2** or **Appendix 3** worth 90 ECTS credits. ²The chairperson of the Degree Programme Committee may grant exceptions upon the student's request.

Section 43 Master's Thesis

(1) ¹The topic of the Master's thesis shall be allocated by a university lecturer from the Department of Chemical and Biological Engineering. ²The topic of the Master's thesis may also be allocated by a university lecturer at FAU who is responsible for one of the modules M1 to M3. ³Deviations from this shall be subject to the Degree Programme Committee's approval.

(2) ¹The results of the Master's thesis shall be presented in a presentation with a maximum length of 30 minutes followed by a discussion within the context of an advanced seminar. ²The date of the presentation shall be determined by the supervising lecturer either after the student has submitted their Master's thesis or during the final stage of thesis work and the student shall be informed of the date in good time.

(3) The student shall choose whether to write the Master's thesis in German or English.

Section 44 Degree Certificate

[revoked]

Part III: Transitory and Final Provisions

Section 45 Legal Validity and Transitory Provisions

(1) These degree programme and examination regulations shall come into effect on 1 October 2007.

(2) ¹The twelfth amendment statute shall come into effect on the day after its publication. ²It shall apply to all students starting a degree programme from the winter semester 2019/2020 onwards.

(3) ¹The thirteenth amendment statute shall come into effect on the day after its publication. ²It shall apply to all students starting a degree programme from the summer semester 2020 onwards.

(4) ¹The fourteenth amendment statute shall come into effect on the day after its publication. ²It shall apply to all students who have started and who will start a degree programme from the winter semester 2019/2020 onwards. ³Examinations in accordance with previous versions of these degree programme and examination regulations will be offered for the last time in the summer semester 2025 for the Bachelor's degree programme and in the summer semester 2024 for the Master's degree programme. ⁴From the date stated in sentence 3, those students who are affected by the examination regulations becoming invalid shall take their examinations in accordance with the version of the degree programme and examination regulations valid from this date on.

Appendix 1: Degree programme structure for Bachelor's degree programme in Life Science Engineering

No.	Module name	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits						Type and scope of the examination/course achievement
		L	T	P	S		1. sem.	2. sem.	3. sem.	4. sem.	5. sem.	6. sem.	
B1	Mathematics for LSE 1 (GOP)	4	2			7.5	7.5						EA (WE, 90 min)
B2	Experimental physics (GOP)	4	1			7.5	7.5						EA (WE, 120 min)
B3	General and inorganic chemistry (GOP)	4				7.5	5						EA (WE, 180 min) and CA (LA) ¹
				2	1		2.5						
B4	Microbiology (GOP)	3				5	5						EA (WE, 90 min)
B5	Bioanalytics (GOP)	2	1			7.5		5					EA (WE, 90 min) and CA (LA)
				2			2.5						
B6	Physical chemistry	2	1			5		5					EA (WE, 90 min)
B7	Mathematics for LSE 2	4	2			7.5		7.5					EA (WE, 90 min)
B8	Bioprocess engineering with advanced seminar (GOP)	2				5		5					EA (WE, 120 min) and CA (SA)
				1	2								
B9	Elective module from the university module catalogue cf. Section 39a	cf. Section 39a				5		5					EA ²
B10	Organic chemistry	4				7.5			5				EA (WE, 180 min) and CA (LA) ¹
				3	1		2.5						
B11	Biochemistry	4				5			2.5				EA (WE, 120 min) ³
										2.5			
B12	Mathematics for LSE 3	4	2			7.5			7.5				EA (WE, 90 min)
B13	Biotechnology 1: Introduction to cell bioengineering	2	2			7.5			5				EA (WE, 90 min) and CA (LA)
				3			2.5						
B14	Thermodynamics and heat transfer	3	2			5			5				EA (WE, 90 min)
B15	Technical drawing			3		2.5	2.5						CA (LA)
B16	Machine design	2	1			5				5			EA (WE, 120 min)

No.	Module name	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits						Type and scope of the examination/course achievement
		L	T	P	S		1. sem.	2. sem.	3. sem.	4. sem.	5. sem.	6. sem.	
B17	Computational techniques in process engineering 1	2		3		5				5			EA (WE, 90 min)
B18	Bioinformatics	2	1			5				5			EA (WE, 45 min)
B19	Biotechnology 2: Bioreaction & bioprocess engineering	2	2			5				5			EA (WE, 120 min)
B20	Thermo-fluid dynamics in biotechnology	3	3			7.5				7.5			EA (WE, 90 min)
B21	Biotechnology 3: Medical biotechnology	2	2			5				5			EA (WE, 120 min)
B22	Process engineering interfaces in biotechnology	2	3			5				5			EA (WE, 90 min)
B23	Mechanical process engineering	2	4			5				5			EA (WE, 120 min)
B24	Bioseparation	2	2			5				5			EA (WE, 120 min)
B25	Laboratory course: Life Science Engineering 1			5		5				5			CA (LA)
B26	Compulsory elective module 1, cf. Section 39b	2	(2-3)			5				5			EA ⁴
B27	Compulsory elective module 2, cf. Section 39b	2	(2-3)			5					5		EA ⁴
B28	Laboratory course: Life Science Engineering 2			5		5					5		CA (LA)
B29	Biotechnology 4: Metabolic engineering	2	3			5					5		EA (WE, 120 min)
B30	Bachelor's thesis					15						12	EA (BT, 80 %) and EA (presentation 20-30 min and discussion, 20 %)
					2							3	
Total SWS and ECTS credits:		67	38-40	27	6	180	30	30	30	30	30	30	
Total SWS:		138-140											

¹ Students must pass the written examination before they can take part in the laboratory course.

² cf. Section 39a. The type and scope of the examination depend on the specific manner in which the respective module is taught; see module handbook for details. Notwithstanding Section 28 (2)(2) **ABMPO/TechFak**, failed attempts are not counted and these modules do not have to be repeated within the set deadline if failed.

³ Students may choose to take either one written examination lasting 120 minutes or two separate written examinations on the individual areas (Biochemistry 1 and Biochemistry 2) lasting 60 minutes each; Section 28 (1)(2) and (2)(1) **ABMPO/TechFak** apply.

⁴ cf. Section 39b. The type and scope of the examination depend on the specific manner in which the respective module is taught; see module handbook for details.

Key:

GOP = Grundlagen- und Orientierungsprüfung; Preliminary examination

EA = graded examination achievement, see Section 6 (3)(7) **ABMPO/TechFak**

CA = ungraded course achievement, see Section 6 (3)(8) **ABMPO/TechFak**

WE = written examination

o = oral examination

TA = tutorial achievement, see Section 6 (3) sentence 3 and 5 **ABMPO/TechFak** and module handbook

LA = laboratory achievement, see Section 6 (3) sentence 3 and 5 **ABMPO/TechFak** and module handbook

SA = seminar achievement, see Section 6 (3) sentence 4 to 7 **ABMPO/TechFak** and module handbook

BT = Bachelor's thesis

Appendix 2: Degree programme structure for full-time Master's degree programme in Life Science Engineering

No.	Module name ¹	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits				Type and scope of the examination/ course achievements
		L	T	P	S		1. sem.	2. sem.	3. sem.	4. sem.	
M1	Specialisation module 1, cf. Section 41b	3	2			7.5	5				EA (o, 30 or WE, 120 min) and CA (LA) ²
				3			2.5				
M2	Specialisation module 2, cf. Section 41b	3	2			7.5	5				EA (o, 30 or WE, 120 min) and CA (LA) ²
				3			2.5				
M3	Specialisation module 3, cf. Section 41b	3	2			7.5		5			EA (o, 30 or WE, 120 min) and CA (LA) ²
				3				2.5			
M4	Compulsory elective module with laboratory course 1 cf. Section 41c	2	2			7.5		5			EA (o, 30 or WE, 120 min) and CA (LA) ²
				3				2.5			
M5	Compulsory elective module with laboratory course 2 cf. Section 41c	2	2			7.5			5		EA (o, 30 or WE, 120 min) and CA (LA) ²
				3				2.5			
M6	Compulsory elective module with laboratory course 3 cf. Section 41c	2	2			7.5			5		EA (o, 30 or WE, 120 min) and CA (LA) ²
				3				2.5			
M7	Compulsory elective module 1 cf. Section 41d	2	2			5	5				EA (o, 30 or WE, 120 min) ²
M8	Compulsory elective module 2, cf. Section 41d	2	2			5	5				EA (o, 30 or WE, 120 min) ²
M9	Compulsory elective module 3, cf. Section 41d	2	2			5		5			EA (o, 30 or WE, 120 min) ²
M10	Compulsory elective module 4, cf. Section 41d	2	2			5		5			EA (o, 30 or WE, 120 min) ²

No.	Module name ¹	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits				Type and scope of the examination/ course achievements
		L	T	P	S		1. sem.	2. sem.	3. sem.	4. sem.	
M11	Elective module from those offered by the Faculty of Engineering or Faculty of Sciences, cf. Section 41e	(2-3)	(1-2)		(2)	5	5				EA ³
M12	Elective module from the university module catalogue, cf. Section 41f	cf. Section 41f				5		5			EA ³
M13	Project development course				5	5			5		CA (SA)
M14	Industrial internship	min. 12 weeks				10			10		CA (LA)
M15	Master's thesis					30				27	EA (MT, 90 %) and EA (presentation, 20-30 min and discussion, 10 %)
					2					3	
Total SWS and ECTS credits:		25-26	21-22	18	7-9	120	30	30	30	30	
Total SWS:		71-75									

¹ Due to the specific subject knowledge that must be acquired as part of the qualification goals of the Master's degree programme, as detailed in the module descriptions, modules that have been completed in a previous Bachelor's degree programme may not generally be accredited for the Master's examination.

² cf. Section 41b, 41c and 41d respectively. The type and scope of the examination depend on the specific manner in which the respective module is taught; see module handbook for details.

³ cf. Section 41e and 41f. The type and scope of the examination depend on the specific manner in which the respective module is taught; see module handbook for details. Notwithstanding Section 28 (2)(2) **ABMPO/TechFak**, failed attempts are not counted and these modules do not have to be repeated within the set deadline if failed.

Key:

EA = graded examination achievement, see Section 6 (3)(7) **ABMPO/TechFak**

CA = ungraded course achievement, see Section 6 (3)(8) **ABMPO/TechFak**

WE = written examination

o = oral examination

LA = laboratory achievement, see Section 6 (3) sentence 3 and 5 **ABMPO/TechFak** and module handbook

SA = seminar achievement, see Section 6 (3) sentence 4 to 7 **ABMPO/TechFak** and module handbook

MT = Master's thesis

Appendix 3: Degree programme structure for part-time Master's degree programme in Life Science Engineering

No.	Module name ¹	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits								Type and scope of the examination/ course achievements
		L	T	P	S		1. sem.	2. sem.	3. sem.	4. sem.	5. sem.	6. sem.	7. sem.	8. sem.	
M1	Specialisation module 1, cf. Section 41b	3	2			7.5	5								EA (o, 30 or WE, 120 min) and CA (LA) ²
				3			2.5								
M2	Specialisation module 2, cf. Section 41b	3	2			7.5	5								EA (o, 30 or WE, 120 min) and CA (LA) ²
				3			2.5								
M3	Specialisation module 3, cf. Section 41b	3	2			7.5		5							EA (o, 30 or WE, 120 min) and CA (LA) ²
				3				2.5							
M4	Compulsory elective module with laboratory course 1, cf. Section 41c	2	2			7.5		5							EA (o, 30 or WE, 120 min) and CA (LA) ²
				3				2.5							
M5	Compulsory elective module with laboratory course 2, cf. Section 41c	2	2			7.5			5						EA (o, 30 or WE, 120 min) and CA (LA) ²
				3				2.5							
M6	Compulsory elective module with laboratory course 3, cf. Section 41c	2	2			7.5			5						EA (o, 30 or WE, 120 min) and CA (LA) ²
				3				2.5							
M7	Compulsory elective module 1, cf. Section 41d	2	2			5				5					EA (o, 30 or WE, 120 min) ²
M8	Compulsory elective module 2, cf. Section 41d	2	2			5				5					EA (o, 30 or WE, 120 min) ²
M9	Compulsory elective module 3, cf. Section 41d	2	2			5				5					EA (o, 30 or WE, 120 min) ²
M10	Compulsory elective module 4, cf. Section 41d	2	2			5					5				EA (O, 30 or WE, 120 min) ²
M11	Elective module from those offered by the Faculty of Engineering or Faculty of	(2–3)	(1–2)		(2)	5					5				EA ³

No.	Module name ¹	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits								Type and scope of the examination/ course achievements	
		L	T	P	S		1. sem.	2. sem.	3. sem.	4. sem.	5. sem.	6. sem.	7. sem.	8. sem.		
	Sciences, cf. Section 41e															
M12	Elective modules from the university module catalogue, cf. Section 41f	cf. Section 41f				5					5					EA ³
M13	Project development course				5	5						5			CA (SA)	
M14	Industrial internship	min. 12 weeks				10						10				CA (LA)
M15	Master's thesis					30								27	EA (MT, 90 %) and EA (presentation, 20-30 min and discussion, 10 %)	
					2									3		
Total SWS and ECTS credits:		25-26	21-22	18	7-9	120	15	15	15	15	15	15	15	15		
Total SWS:		71-75														

¹ Due to the specific subject knowledge that must be acquired as part of the qualification goals of the Master's degree programme, as detailed in the module descriptions, modules that have been completed in a previous Bachelor's degree programme may not generally be accredited for the Master's examination.

² cf. Section 41b, 41c and 41d respectively. The type and scope of the examination depend on the specific manner in which the respective module is taught; see module handbook for details.

³ cf. Section 41e and 41f. The type and scope of the examination depend on the specific manner in which the respective module is taught; see module handbook for details. Notwithstanding Section 28 (2)(2) **ABMPO/TechFak**, failed attempts are not counted and these modules do not have to be repeated within the set deadline if failed.

Key:

EA = graded examination achievement, see Section 6 (3)(7) **ABMPO/TechFak**

CA = ungraded course achievement, see Section 6 (3)(8) **ABMPO/TechFak**

WE = written examination

o = oral examination

LA = laboratory achievement, see Section 6 (3) sentence 3 and 5 **AMBPO/TechFak** and module handbook

SA = seminar achievement, see Section 6 (3) sentence 4 to 7 **ABMPO/TechFak** and module handbook

MT = Master's thesis