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

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 examination regulations:

Table of Contents:

Part I: General Provisions

Section 35 Scope

[1]The 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. [2]They 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 Bachelor's degree programmes in Chemical and Biological Engineering and Chemical Engineering – Sustainable Chemical Technologies are considered related degree programmes within the meaning of Section 24 (1)(2)(2) **ABMPO/TechFak**.

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

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

(4) The Master's degree programmes in Chemical and Biological Engineering and Chemical Engineering – Sustainable Chemical Technologies are considered related degree programmes within the meaning of Section 30 (3)(2) **ABMPO/TechFak**.

Part II: Special Provisions

1. Bachelor's Examination

Section 38 Scope of the Grundlagen- und Orientierungsprüfung

(1) [1]The 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. B6: Bioprocess engineering with introductory project.

[2]The 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

[1]The Bachelor's examination shall consist of the modules set forth in **Appendix 1**. [2]The 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

[1]Students select one of the modules offered at FAU as their elective module B9, worth 5 ECTS credits. [2]The 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) [1]The 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. [2]Choosing compulsory elective modules gives students the opportunity to tailor their profile in view of their future career.

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

(3) [1]Compulsory 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 3 SWS and a tutorial worth 1 SWS. [2]Any exceptions are detailed in the module handbook.

Section 40 Bachelor's Thesis

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

can be completed with a workload of approximately 360 hours. [3]The results of the Bachelor's thesis shall be presented in a presentation with a maximum length of 30 minutes followed by a discussion. [4]The 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. [5]12 ECTS credits shall be awarded for the Bachelor's thesis and 3 ECTS credits shall be awarded for the presentation.

(2) [1]The topic of the Bachelor's thesis shall be allocated by a university lecturer from the Department of CBI at FAU. [2]Deviations 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) [1]In 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).

[2]The 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

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

Section 41b Specialisation Modules – M1 - M3

(1) [1]The 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. [2]This should enable them to acquire skills of relevance to research. [3]The 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. [4]The laboratory courses allow students to put the theory they have covered into practice.

(2) [1]The type and scope of the examination are dependent on the skills for the relevant module according to paragraph 1 and the module handbook. [2]Students 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. [3]Further details are stipulated in the module handbook.

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

Section 41c Compulsory Elective Modules – M4 - M6

(1) [1]The 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. [2]The 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. [3]The laboratory courses allow students to put the theory they have covered into practice.

(2) [1]The type and scope of the examination are dependent on the skills for the relevant module according to paragraph 1 and the module handbook. [2]Students 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. [3]Further details are stipulated in the module handbook.

(3) [1]Compulsory 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). [2]Any exceptions are detailed in the module handbook.

Section 41d Compulsory Elective Modules – M7 - M10

(1) [1]The 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. [2]The 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) [1]The 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. [2]The module handbook is published before the beginning of the semester in accordance with local practice.

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

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

[1]Students 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. [2]The 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

[1]Students select one of the modules offered at FAU as their elective module M12, worth 5 ECTS credits. [2]The 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

[1]In 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. [2]The chairperson of the Degree Programme Committee may grant exceptions upon the student's request.

Section 43 Master's Thesis

(1) [1]The topic of the Master's thesis shall be allocated by a university lecturer from the Department of Chemical and Biological Engineering. [2]The 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. [3]Deviations from this shall be subject to the Degree Programme Committee's approval.

(2) [1]The findings of the Master's thesis shall be presented in a presentation with a maximum length of 30 minutes followed by a discussion. [2]The 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]27 ECTS credits shall be awarded for the Master's thesis and 3 ECTS credits shall be awarded for the presentation.

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

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

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

No.	Module name	Teaching unit	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)**	General and inorganic chemistry	4				7.5	7.5						EA (WE, 180 min) and CA (LA)[1]
		Seminar on inorganic analytical chemistry course for CBI, LSE, CEN				1								
		Inorganic analytical chemistry course for beginners			2									
B4	**Microbiology (GOP)**		3				5	5						EA (WE, 90 min)
B5	**Bioanalytics (GOP)**	Bioanalytics	2	1			7.5		5					EA (WE, 90 min) and CA (LA)
		Bioanalytics laboratory course			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 introductory project (GOP)**	Bioprocess engineering	2				5		5					EA (WE, 120 min) and CA
		Introductory project				3								
B9	**Elective module from the university module catalogue, cf. Section 39a**	cf. Section 39a					5		5					EA[2]
B10	**Organic chemistry**	Organic chemistry	4				7.5			7.5				EA (WE, 180 min) and CA (LA)[1]
		Seminar on organic chemistry laboratory course for CBI, LSE, CEN				1								
		Organic chemistry laboratory course for CBI, LSE, CEN			3									
B11	**Biochemistry**	Biochemistry 1	2				5			2.5				EA (WE, 120 min)[3]

No.	Module name	Teaching unit	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.	
		Biochemistry 2	2								2.5			
B12	**Mathematics for LSE 3**		4	2			7.5			7.5				EA (WE, 90 min)
B13	**Biotechnology 1: Introduction to cell bioengineering**	Biotechnology 1: Introduction to cell bioengineering	2	2			7.5			7.5				EA (WE, 90 min) and CA (LA)
		Laboratory course			3									
B14	**Thermodynamics and heat transfer**		3	1			5			5				EA (WE, 90 min)
B15	**Technical drawing**			3			2.5	2.5						CA (TA)
B16	**Machine design**		2	1			5				5			EA (WE, 120 min)
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	2			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	2			5					5		EA (WE, 90 min)
B23	**Mechanical process engineering**		2	2			5					5		EA (WE, 120 min)
B24	**Bioseperation**		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**		(2–3)	(1–2)			5					5		EA[4]
B27	**Compulsory elective module 2, cf. Section 39b**		(2–3)	(1–2)			5						5	EA[4]

No.	Module name	Teaching unit	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.	
B28	**Laboratory course: Life Science Engineering 2**				5		5						5	CA (LA)
B29	**Biotechnology 4: Metabolic engineering**		2	2			5						5	EA (WE, 120 min)
B30	**Bachelor's thesis**	Bachelor's thesis					15						12	EA (BT, 80 %) and EA (presentation, 20-30 min and discussion, 20 %)
		Presentation											3	
	Total SWS and ECTS credits:		67-69	36-38	20	5	180	30	30	30	30	30	30	
	Total SWS		128-132											

[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 **AMBPO/TechFak** and module handbook
SA = seminar achievement, see Section 6 (3) sentence 4 and 5 **ABMPO/TechFak** and module handbook
BT = Bachelor's thesis

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

No.	Module name[1]	Teaching unit	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**	Specialisation module 1	3	1			7.5	5				EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for specialisation module 1			3			2.5				
M2	**Specialisation module 2, cf. Section 41b**	Specialisation module 2	3	1			7.5	5				EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for specialisation module 2			3			2.5				
M3	**Specialisation module 3, cf. Section 41b**	Specialisation module 3	3	1			7.5		5			EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for specialisation module 3			3				2.5			
M4	**Compulsory elective module with laboratory course 1, cf. Section 41c**	Compulsory elective module with laboratory course 1	2	1			7.5		5			EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for compulsory elective module with laboratory course 1			3				2.5			
M5	**Compulsory elective module with laboratory course 2, cf. Section 41c**	Compulsory elective module with laboratory course 2	2	1			7.5			5		EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for compulsory elective module with laboratory course 2			3					2.5		
M6	**Compulsory elective module with laboratory course 3, cf. Section 41c**	Compulsory elective module with laboratory course 3	2	1			7.5			5		EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for compulsory elective module with laboratory course 3			3					2.5		
M7	**Compulsory elective module 1, cf. section 41d**		2	1			5	5				EA (o, 30 or WE, 120 min)[2]
M8	**Compulsory elective module 2, cf. Section 41d**		2	1			5	5				EA (o, 30 or WE, 120 min)[2]
M9	**Compulsory elective module 3, cf. Section 41d**		2	1			5		5			EA (o, 30 or WE, 120 min)[2]

No.	Module name[1]	Teaching unit	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.	
M10	**Compulsory elective module 4, cf. Section 41d**		2	1			5		5			EA (o, 30 or WE, 120 min)[2]
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		EA (SA)
M14	**Industrial internship**		min. 12 weeks				10			10		CA (LA)
M15	**Master's thesis**	Master's thesis					30				27	EA (MT, 90 %) and EA (presentation 20-30 min and discussion, 10 %)
		Presentation									3	
	Total SWS and ETCS credits:		25-26	11-12	18	5-7	120	30	30	30	30	
	Total SWS		59–63									

[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 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. 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 and 5 **ABMPO/TechFak** and module handbook
MT = Master's thesis

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

No.	Module name[1]	Teaching unit	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits								Type and scope of the examination/ course achieve-ments
			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**	Specialisation module 1	3	1			7.5	5								EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for specialisation module 1			3			2.5								
M2	**Specialisation module 2, cf. Section 41b**	Specialisation module 2	3	1			7.5	5								EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for specialisation module 2			3			2.5								
M3	**Specialisation module 3, cf. Section 41b**	Specialisation module 3	3	1			7.5		5							EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for specialisation module 3			3				2.5							
M4	**Compulsory elective module with laboratory course 1, cf. Section 41c**	Compulsory elective module with laboratory course 1	2	1			7.5		5							EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for compulsory elective module with laboratory course 1			3				2.5							
M5	**Compulsory elective module with laboratory course 2, cf. Section 41c**	Compulsory elective module with laboratory course 2	2	1			7.5			5						EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for compulsory elective module with laboratory course 2			3					2.5						
M6	**Compulsory elective module with laboratory course 3, cf. Section 41c**	Compulsory elective module with laboratory course 3	2	1			7.5			5						EA (o, 30 or WE, 120 min) and CA (LA)[2]
		Laboratory course for compulsory elective module with laboratory course 3			3					2.5						
M7	**Compulsory elective module 1, cf. Section 41d**		2	1			5				5					EA (o, 30 or WE, 120 min)[2]
M8	**Compulsory elective module 2, cf. Section 41d**		2	1			5				5					EA (o, 30 or WE, 120 min)[2]
M9	**Compulsory elective module 3, cf. Section 41d**		2	1			5				5					EA (o, 30 or WE, 120 min)[2]
M10	**Compulsory elective module 4, cf. Section 41d**		2	1			5					5				EA (o, 30 or WE, 120 min)[2]

No.	Module name[1]	Teaching unit	SWS (semester hours)				Total ECTS credits	Distribution of workload per semester in ECTS credits								Type and scope of the examination/ course achieve-ments
			L	T	P	S		1. sem.	2. sem.	3. sem.	4. sem.	5. sem.	6. sem.	7. sem.	8. 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			EA (SA)
M14	**Industrial internship**		min. 12 weeks				10						10			CA (LA)
M15	**Master's thesis**	Master's thesis					30								27	EA (MT, 90 %) and EA (presentation, 20-30 min and discussion, 10 %)
		Presentation													3	
	Total SWS and ECTS credits:		25–26	11–12	18	5–7	120	15	15	15	15	15	15	15	15	
	Total SWS		59–63													

[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] see 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 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. 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 and 5 **ABMPO/TechFak** and module handbook
MT = Master's thesis