Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Chemistry as a Bachelor's with 1 major

with the degree "Bachelor of Science" (180 ECTS credits)

Responsible: Faculty of Chemistry and Pharmacy

Examination regulations version: 2015

Abbreviations used:

Course types: **E** = field trip, **K** = colloquium, **O** = conversatorium, **P** = placement/lab course, **R** = project, **S** = seminar, **T** = tutorial, **Ü** = exercise, **V** = lecture

Term: **SS** = summer semester, **WS** = winter semester

Methods of grading: **NUM** = numerical grade, **B/NB** = (not) successfully completed

Regulations: **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes), **FSB** = subject-specific provisions, **SFB** = list of modules

Other: **A** = thesis, **LV** = course(s), **PL** = assessment(s), **TN** = participants, **VL** = prerequisite(s)

Conventions for the modules in this SFB:

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Information on assessment procedures:

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should a module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with the general regulations governing the degree subject described in this module catalogue:

ASPO2015

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

22-Jul-2015 (2015-34)

??-???-2024 (2024-??)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.

Every module will be described using the following form:

Abbreviation	**Module title**							
	ECTS		Duration	(in semesters)	Method of grading		Module level	
	Courses	To be specified in the form X (y) with course type X abbreviated as specified above and number of weekly contact hours y						
	Method of assessment							
	Only after successful completion of	if applicable						
	Other prerequisites	if applicable						
	Participants and allocation of places	if applicable						
	Additional information	if applicable						
	Referred to in LPO I	if applicable (examination regulations for teaching-degree programmes)						

Compulsory Courses (150 ECTS credits)								
Subfield General and Inorganic Chemistry (47 ECTS credits)								
08-AC1-152-m01	**Principles of Inorganic Chemistry**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (4) + V (2)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English						
	Additional Information	according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh						
	Referred to in LPO I	§ 42 I Nr. 1 and § 22 II Nr. 1 h) § 62 I Nr. 1						
08-ACP1-152-m01	**Inorganic Chemistry 1 (lab)**							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (12) + S (2)						
	Method of assessment	[a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)] and Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical assignments (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, winter semester						
	Additional Information	according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 1st letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh						
08-AS1-152-m01	**Inorganic Chemistry of the Elements**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + V (2)						
	Method of assessment	a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English						
	Additional Information	according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh						
	Referred to in LPO I	§ 62 I Nr. 1						

08-ANP-152-m01	**Analytical Chemistry (lab)**							
	ECTS	6	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (12) + S (1)					
	Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, summer semester					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 1st letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh					
08-ACP2-152-m01	**Inorganic Chemistry 2 (lab)**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (12)					
	Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English					
	Modules successfully completed		(08-ACP1 or 08-ACP1-BC) and 08-AC1 and 08-AS1					
08-AC-FSE-152-m01	**Solid State Chemistry, Spectroscopic Methods, Organoelement Chemistry**							
	ECTS	12	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + V (2) + V (3) + Ü (1)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
Subfield Organic Chemistry (40 ECTS credits)								
08-OC1-152-m01	**Organic Chemistry 1**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (1)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter b) of annex 1 to the APOLmCh and No. 2 of annex 2 to the APOLmCh					
	Referred to in LPO I		§ 62 I Nr. 2					

08-OC2-152-m01	**Organic Chemistry 2 and analytical methods in organic chemistry**							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (1) + V (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
08-OCP1-152-m01	**Organic Chemistry - lab 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (14)					
	Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English					
	Modules successfully completed		08-OC1 and 08-ACP1					
08-OCP2-152-m01	**Organic Chemistry - advanced laboratory course for students of chemistry**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (11)					
	Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English					
	Modules successfully completed		08-OC2 and (08-OCP1 or OCP1-BC)					
08-OC3+4-152-m01	**Organic Chemistry 3 & 4**							
	ECTS	13	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2) + V (2) + Ü (2) + S (1)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					

Subfield Physical and Theoretical Chemistry (40 ECTS credits)								
08-PC-QMS-152-m01	**Principles of quantum mechanics and spectroscopy**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2) + V (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus					
08-PC-TKE-152-m01	**Thermodynamics, Kinetics, Electrochemistry**							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Referred to in LPO I		§ 62 I Nr. 1					
08-PCP-152-m01	**Physical Chemistry (lab)**							
	ECTS	9	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (6)					
	Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English					
	Modules successfully completed		08-PC-QMS or 08-PC-TKE					

08-TC-152-m01	**Quantum Chemistry**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (1)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Referred to in LPO I		§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)					
08-PC-SBL-152-m01	**Symmetry, chemical bonding and light**							
	ECTS	9	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (2) + V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
Subfield Basics of Natural Sciences (23 ECTS credits)								
08-BC1-152-m01	**Biochemistry 1**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (1)					
	Method of assessment		written examination (approx. 60 to 90 minutes)					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. II 2nd letter e) and No. II 1st letter c) of annex 1 to the APOLmCh and No. 3 of annex 3 to the APOLmCh					
	Referred to in LPO I		§ 42 I Nr. 2 § 62 I Nr. 2					
10-M-MCB-152-m01	**Mathematics for students in Chemistry and Biology**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 120 minutes) and written exercises (approx. 25)					
	Additional Information		Pursuant to Section 2 Subsection 2 Sentence 2 Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker (Regulation on the training and examination of state-certified food chemists, APOLmCh) in conjunction with No. I 2. Letter f) of Annex 1 of APOLmCh.					

11-EFNF-152-m01	**Introduction to Physics for Students of other Disciplines**							
	ECTS	7	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + V (3)					
	Method of assessment		written examination (60 to 120 minutes)					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter d) and No. I 1st letter d) of annex 1 to the APOLmCh and No. 4 of annex 2 to the APOLmCh					
11-PFNF-152-m01	**Laboratory Course Physics for Students of other Disciplines**							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (4)					
	Method of assessment		a) practical assignment with oral test (approx. 15 minutes, during experiments) and b) written examination (approx. 90 minutes). Each experiment comprises preparation, performance and evaluation. Test as well as performance of experiments can each be repeated once.					
	Participants and allocation of places		Only as part of pool of general transferable skills (ASQ): 10 places (lottery)					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter d) and No. I 1st letter d) of annex 1 to the APOLmCh and No. 4 of annex 2 to the APOLmCh					
03-TR-152-m01	**Toxicology and legal studies**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (1) + V (1)					
	Method of assessment		written examination (approx. 90 minutes)					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. II 2nd letter g) and i) and No. II 1st letter d) of annex 1 to the APOLmCh and No. 5 and 6 of annex 3 to the APOLmCh					
	Referred to in LPO I		§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)					
Key Skills Area (20 ECTS credits)								
General Key Skills (5 ECTS credits) Students may select modules offered as part of the pool of general transferable skills (ASQ) of JMU.								
Subject-specific Key Skills (15 ECTS credits)								
Subject-specific Key Skills, Compulsory Courses (5 ECTS credits)								
08-VP-152-m01	**Advanced laboratory course**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (10)					
	Method of assessment		talk (approx. 15 minutes) Language of assessment: German and/or English					
	Additional Information		Additional information on module duration: block placement / block taught practical course with a duration of 20 days.					

Subject-specific Key Skills, Compulsory Electives (10 ECTS credits)								
08-BC2-152-m01	**Biochemistry 2**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (1)					
	Method of assessment		written examination (approx. 60 to 90 minutes)					
	Additional Information		Pursuant to Section 2 Subsection 2 Sentence 2 Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker (Regulation on the training and examination of state-certified food chemists, APOLmCh) in conjunction with No. II 2. Letter e) and No. II 1. Letter c) of Annex 1 of APOLmCh and No. 3 of Annex 3 of APOLmCh.					
08-BCP-152-m01	**Practical course of Biochemistry**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (6)					
	Method of assessment		Log (approx. 30 pages) Assessment offered: Once a year, summer semester					
	Modules successfully completed		08-BC1					
	Participants and allocation of places		Students of the Bachelor's degree programme Biochemie (Biochemistry, 180 ECTS credits): no restrictions with regard to available places. Students of the Bachelor's degree programme Chemie (Chemistry, 180 ECTS credits): no more than 6 places; places will be allocated according to the number of subject semesters, among applicants with the same number of subject semesters, places will be allocated by lot; a waiting list will be maintained and places re-allocated by lot as they become available.					
08-PS3-152-m01	**Applied Spectroscopy 3**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
08-PKC-152-m01	**Programming and numerical methods**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English Assessment offered: Once a year, summer semester					

08-OP-152-m01	**Advanced chemical practical course**							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (10)					
	Method of assessment		a) talk (approx. 15 minutes) or b) log (approx. 10 to 20 pages) Language of assessment: German and/or English					
	Additional Information		Additional information on module duration: block placement / block taught practical course with a duration of 20 days.					
08-GC-242-m01	**Green and sustainable (organic) chemistry**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (1) Module taught in: German or English					
	Method of assessment		a) portfolio (approx. approx. 40 hours total) or b) written examination (approx. 60 to 90 minutes) Language of assessment: German and/or English Assessment offered: Once a year, winter semester					
Thesis (10 ECTS credits)								
08-BA-152-m01	**Bachelor Thesis**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		No courses assigned to module					
	Method of assessment		Bachelor's thesis (approx. 40 pages) Language of assessment: German and/or English					
	other prerequisites		The supervisor may make the successful completion of certain modules that are relevant for the respective topic a prerequisite for the assignment of the topic.					
	Additional Information		Time to complete: 8 weeks.					
Compulsory Electives, Appendix DA (170 ECTS credits)								
Subfield General and Inorganic Chemistry (35 ECTS credits)								
08-AC1-152-m01	**Principles of Inorganic Chemistry**							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + V (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh					
	Referred to in LPO I		§ 42 I Nr. 1 and § 22 II Nr. 1 h) § 62 I Nr. 1					

08-ACP1-152-m01	**Inorganic Chemistry 1 (lab)**							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (12) + S (2)					
	Method of assessment		[a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes)] and Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical assignments (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, winter semester				
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 1st letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh					
08-AS1-152-m01	**Inorganic Chemistry of the Elements**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + V (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh					
	Referred to in LPO I		§ 62 I Nr. 1					
08-ANP-152-m01	**Analytical Chemistry (lab)**							
	ECTS	6	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (12) + S (1)					
	Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English Assessment offered: Once a year, summer semester					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 1st letter a) of annex 1 to the APOLmCh and No. 1 of annex 2 to the APOLmCh					

08-AC-FS-DA-152-m01	**Solid State Chemistry, Spectroscopic Methods (DD)**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + V (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
Subfield Organic Chemistry (28 ECTS credits)								
08-OC1-152-m01	**Organic Chemistry 1**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (1)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter b) of annex 1 to the APOLmCh and No. 2 of annex 2 to the APOLmCh					
	Referred to in LPO I		§ 62 I Nr. 2					
08-OC2-152-m01	**Organic Chemistry 2 and analytical methods in organic chemistry**							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (1) + V (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
08-OCP1-152-m01	**Organic Chemistry - lab 1**							
	ECTS	8	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (14)					
	Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English					
	Modules successfully completed		08-OC1 and 08-ACP1					

08-OC-OC3-DA-152-m01	**Organic Chemistry 3 (DD)**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
Subfield Physical and Theoretical Chemistry (37 ECTS credits)								
08-PC-QMS-152-m01	**Principles of quantum mechanics and spectroscopy**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2) + V (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus					
08-PC-TKE-152-m01	**Thermodynamics, Kinetics, Electrochemistry**							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Referred to in LPO I		§ 62 I Nr. 1					
08-PCP-152-m01	**Physical Chemistry (lab)**							
	ECTS	9	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (6)					
	Method of assessment		Vortestate/Nachtestate (pre and post-experiment examination talks approx. 15 minutes each, log approx. 5 to 10 pages each) and assessment of practical performance (2 to 4 random examinations) Language of assessment: German and/or English					
	Modules successfully completed		08-PC-QMS or 08-PC-TKE					

08-TC-152-m01	**Quantum Chemistry**							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (1)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English creditable for bonus					
	Referred to in LPO I		§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)					
08-PC-SBL-DA-152-m01	**Symmetry, chemical bonding and light (DD)**							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (2)					
	Method of assessment		a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English					
Subfield Basics of Natural Sciences (20 ECTS credits)								
08-BC1-152-m01	**Biochemistry 1**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (1)					
	Method of assessment		written examination (approx. 60 to 90 minutes)					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. II 2nd letter e) and No. II 1st letter c) of annex 1 to the APOLmCh and No. 3 of annex 3 to the APOLmCh					
	Referred to in LPO I		§ 42 I Nr. 2 § 62 I Nr. 2					
10-M-MCB-152-m01	**Mathematics for students in Chemistry and Biology**							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (3) + Ü (2)					
	Method of assessment		written examination (approx. 90 to 120 minutes) and written exercises (approx. 25)					
	Additional Information		Pursuant to Section 2 Subsection 2 Sentence 2 Verordnung über die Ausbildung und Prüfung der Staatlich geprüften Lebensmittelchemikerinnen und Lebensmittelchemiker (Regulation on the training and examination of state-certified food chemists, APOLmCh) in conjunction with No. I 2. Letter f) of Annex 1 of APOLmCh.					

11-EFNF-152-m01	**Introduction to Physics for Students of other Disciplines**							
	ECTS	7	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (4) + V (3)					
	Method of assessment		written examination (60 to 120 minutes)					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter d) and No. I 1st letter d) of annex 1 to the APOLmCh and No. 4 of annex 2 to the APOLmCh					
11-PFNF-152-m01	**Laboratory Course Physics for Students of other Disciplines**							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (4)					
	Method of assessment		a) practical assignment with oral test (approx. 15 minutes, during experiments) and b) written examination (approx. 90 minutes). Each experiment comprises preparation, performance and evaluation. Test as well as performance of experiments can each be repeated once.					
	Participants and allocation of places		Only as part of pool of general transferable skills (ASQ): 10 places (lottery)					
	Additional Information		according to § 2 para. 2 sentence 2 APOLmCh in conjunction with No. I 2nd letter d) and No. I 1st letter d) of annex 1 to the APOLmCh and No. 4 of annex 2 to the APOLmCh					
Subfield Competences from foreign university (50 ECTS credits)								
08-VPUB1-152-m01	**Qualifications - Partner University 1**							
	ECTS	25	Duration	2 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		No courses assigned to module Course(s) as specified by partner university abroad					
	Method of assessment		Assessments as specified by partner university abroad Language of assessment: German and/or language spoken at partner university abroad					
	other prerequisites		Please consult with course advisory service in advance.					
08-VPUB2-152-m01	**Qualifications - Partner University 2**							
	ECTS	25	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		No courses assigned to module					
	Method of assessment		Assessments as specified by partner university abroad Language of assessment: German and/or language spoken at partner university abroad					
	other prerequisites		Please consult with course advisory service in advance.					

Thesis (10 ECTS credits)								
08-BA-152-m01	**Bachelor Thesis**							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		No courses assigned to module					
	Method of assessment		Bachelor's thesis (approx. 40 pages) Language of assessment: German and/or English					
	other prerequisites		The supervisor may make the successful completion of certain modules that are relevant for the respective topic a prerequisite for the assignment of the topic.					
	Additional Information		Time to complete: 8 weeks.					