

Annex SFB

Studienfachbeschreibung (subject description, SFB) for the subject Biochemistry as a Bachelor's with 1 major with the degree "Bachelor of Science" (180 ECTS credits)

Responsible: Faculty of Medicine

Responsible: Faculty of Chemistry and Pharmacy

Examination regulations version: 2015

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 (2015-42)

20-Apr-2017 (2017-28)

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 (115 ECTS credits)								
03-5S2ST-BC-152-m01	Structural Biology							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (6)					
	Method of assessment		written examination (approx. 60 minutes) Language of assessment: German and/or English					
07-1A1ZO-BC-152-m01	General Biology for Biochemistry Students							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (5)					
	Method of assessment		written examination (approx. 180 minutes)					
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-BC-152-m01	Inorganic Chemistry 1 (lab) for Biochemistry students						
ECTS		6	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
Courses		P (6) + S (2)						
Method of assessment		[a] 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)] as well as 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						

o8-OC1-152-mo1	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. 1 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						
o8-OC2-152-mo1	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						
o8-OCP1-BC-152-mo1	Organic chemistry - laboratory course for Biochemistry students							
	ECTS	7	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	o8-OC1 and o8-ACP1-BC						
o8-PC-MBS-152-mo1	Molecular structure and spectroscopy							
	ECTS	5	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 creditable for bonus						
	Referred to in LPO I	§ 62 I Nr. 1						

o8-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						
o8-PCP-BC-152-m01	Practical course of Physical Chemistry for Biochemistry Students							
	ECTS	6	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (4)						
	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, winter semester						
	Modules successfully completed	o8-PC-MBS or o8-PC-TKE						
o8-BAN-152-m01	Bioanalytics							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1) + Ü (1) + P (5)						
	Method of assessment	a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English						
o8-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						

o8-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.						
o8-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	o8-BC1						
o8-BC-MOL-152-m01	Molecular Biology							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (1) + V (1)						
	Method of assessment	a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English						
	Additional Information							
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						
Compulsory Electives (30 ECTS credits)								
03-4S1MM-BC-152-m01	Immunology for biochemistry students							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1) + Ü (1) + P (3)						
	Method of assessment	written examination (approx. 45 minutes) Assessment offered: Once a year, summer semester						
	Participants and allocation of places	Biochemie (Biochemistry), Bachelor's: 16 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available.						

03-4S1VIR-BC-152-m01	Virology for biochemistry students							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1) + S (1) + P (3)						
	Method of assessment	a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English Assessment offered: Once a year, summer semester						
	Participants and allocation of places	Biochemie (Biochemistry), Bachelor's: 18 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available.						
03-4S1HUG-BC-152-m01	Human genetics for biochemistry students							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1) + Ü (1.5) + S (0.5)						
	Method of assessment	written examination (approx. 30 minutes)						
	Participants and allocation of places	Biochemie (Biochemistry), Bachelor's: 5 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available.						

o3-PBC-152-mo1	Pathobiochemistry							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (1) + Ü (1) + P (3)					
	Method of assessment		a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English Assessment offered: Once a year, summer semester					
	Participants and allocation of places		Biochemie (Biochemistry), Bachelor's: 6 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available.					
o8-BC-MOLP-152-mo1	Molecular Biology laboratory course							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		P (5)					
	Method of assessment		a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English Assessment offered: Once a year, winter semester					
	Participants and allocation of places		Biochemie (Biochemistry), Bachelor's: 24 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available. Chemie (Chemistry), Master's: 6 places. Selection process Chemie (Chemistry), Bachelor's (120 ECTS credits): 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.					

03-ZBP-152-m01	Cell biology							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		P (4) + S (2)					
	Method of assessment		written examination (approx. 60 minutes) Language of assessment: German and/or English					
	Participants and allocation of places		Biochemie (Biochemistry), Bachelor's: 12 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available.					
07-5S2Mi-Z2-BC-152-m01	Specific Microbiology 2 for Students in Biochemistry							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (1) + S (1) + Ü (3)					
	Method of assessment		a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours)					
	Participants and allocation of places		Biochemie (Biochemistry), Bachelor's: 6 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available.					
08-OC4-152-m01	Organic Chemistry 4							
	ECTS	5	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					
	Referred to in LPO I		§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 62 I Nr. 2					

o8-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		o8-OC2 and (o8-OCP1 or OCP1-BC)					
o7-4BFMZ4-BC-152-m01	Bioinformatics for advanced Students in Biochemistry							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (1) + Ü (4)					
	Method of assessment		Log (10 to 20 pages) Language of assessment: German and/or English					
	Participants and allocation of places		Biochemie (Biochemistry), Bachelor's: 4 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available.					
o3-98-PGN-152-m01	Introduction to Neurobiology							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + S (3) Course type: S might be offered in Ü format					
	Method of assessment		written examination (90 minutes) and successful completion of seminar/exercise					

o8-BC-AMP-152-m01	Current Methods of Protein Chromatography							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		P (5)					
	Method of assessment		a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English Assessment offered: Once a year, winter semester					
	Participants and allocation of places		Biochemie (Biochemistry), Bachelor's: 24 places. Selection process Biochemie (Biochemistry), Bachelor's (180 ECTS credits): Should the number of applications exceed the number of available places, places will be allocated according to the following quotas: Quota 1 (two thirds of places): current average grade of successfully completed modules; among applicants with the same average grade, places will be allocated by lot. Quota 2 (one third of places): number of subject semesters of the respective applicant; 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 as they become available.					
o8-AVP5-BC-152-m01	Advanced lab (abridged)							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		P (8)					
	Method of assessment		Log (approx. 20 pages) Language of assessment: German and/or English					
	Additional Information		Additional information on module duration: approx. 3 weeks.					
o8-AVP10-BC-152-m01	Advanced lab							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		P (16)					
	Method of assessment		Log (approx. 30 pages) Language of assessment: German and/or English					
	Additional Information		Additional information on module duration: approx. 6 weeks.					

03-VIR2-BC-171-mo1	Virology 2 for Biochemistry Students							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + P (3)					
	Method of assessment		a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English Assessment offered: Once a year, winter semester					
	Participants and allocation of places		Biochemie (Biochemistry) Bachelor's: 255 places.					
08-BGV-171-mo1	Imaging methods in life-sciences							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + S (1)					
	Method of assessment		a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German and/or English Assessment offered: Once a year, winter semester					
	Participants and allocation of places		Biochemie (Biochemistry) Bachelor's: 25 places.					
Transferable Skills (20 ECTS credits)								
General Key Skills (5 ECTS credits)								
Students may select any of the modules offered as part of the pool of general transferable skills (ASQ) of JMU.								
Subject-specific Key Skills (15 ECTS credits)								
07-M-BST-152-mo1	Mathematical Biology and Biostatistics							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V (2) + Ü (2)					
	Method of assessment		written examination (approx. 60 minutes) creditable for bonus					

41-IK-BM-152-m01	Information Literacy (Basic Level)							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	Ü (0.5)						
	Method of assessment	presentation (approx. 15 minutes) with written elaboration (approx. 2 pages)						
	Additional Information	Additional information on module duration: usually block taught during semester break.						
	Referred to in LPO I	§ 99 I Nr. 1 (2 ECTS credits)						
o6-Ph-B-P2/1-152-m01	Philosophical principles of sciences I							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V (2)						
	Method of assessment	written examination (45 minutes)						
	Participants and allocation of places	Only as part of pool of general transferable skills (ASQ): max. 20 places. Should the number of applications exceed the number of available 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.						
07-3A3BI-152-m01	Bioinformatics							
	ECTS	2	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1) + S (1)						
	Method of assessment	written examination (approx. 20 minutes)						
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)						
03-FOR-BC-152-m01	Contemporary research in biochemistry							
	ECTS	2	Duration	2 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V (2)						
	Method of assessment	Wrap-up report (approx. 1 page)						
03-Phys-152-m01	Physiology							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (3)						
	Method of assessment	written examination (approx. 60 minutes)						

o8-EP-152-m01	Practical Course - external							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (o)					
	Method of assessment		Log (approx. 30 pages) Language of assessment: German and/or English					
	other prerequisites		Please consult with course advisory service in advance.					
	Additional Information		Additional information on module duration: approx. 6 weeks.					
o8-EPK-152-m01	Practical Course - external (abridged)							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (o)					
	Method of assessment		Log (approx. 20 pages) Language of assessment: German and/or English					
	other prerequisites		Please consult with course advisory service in advance.					
	Additional Information		Additional information on module duration: approx. 3 weeks.					
o8-AP-152-m01	Practical Course - abroad							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (o)					
	Method of assessment		Log (approx. 30 pages) Language of assessment: German and/or English					
	other prerequisites		Please consult with course advisory service in advance.					
	Additional Information		Additional information on module duration: approx. 6 weeks.					
o8-APK-152-m01	Practical Course - abroad (abridged)							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (o)					
	Method of assessment		Log (approx. 20 pages) Language of assessment: German and/or English					
	other prerequisites		Please consult with course advisory service in advance.					
	Additional Information		Additional information on module duration: approx. 3 weeks.					
o8-LP-152-m01	Practical Lab Course							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (16)					
	Method of assessment		Log (approx. 30 pages) Language of assessment: German and/or English					
	other prerequisites		Please consult with course advisory service in advance.					
	Additional Information		Additional information on module duration: approx. 6 weeks.					

o8-LPK-152-mo1	Practical Lab Course (abridged)							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (8)						
	Method of assessment	Log (approx. 20 pages) Language of assessment: German and/or English						
	other prerequisites	Please consult with course advisory service in advance.						
	Additional Information	Additional information on module duration: approx. 3 weeks.						
o8-WIRE1-152-mo1	Scientific lecturing 1							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	T (o)						
	Method of assessment	Wrap-up report (approx. 2 pages) Language of assessment: German and/or English						
o8-WIRE2-152-mo1	Scientific lecturing 2							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	T (o)						
	Method of assessment	Wrap-up report (approx. 2 pages) Language of assessment: German and/or English						
o8-AFBC1-152-mo1	Contemporary Research in Biochemistry 1							
	ECTS	3	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + S (1)						
	Method of assessment	presentation (approx. 10 minutes) Language of assessment: German and/or English						
o8-AFBC2-152-mo1	Contemporary Research in Biochemistry 2							
	ECTS	3	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + S (1)						
	Method of assessment	presentation (approx. 10 minutes) Language of assessment: German and/or English						
o8-AFBC3-152-mo1	Contemporary Research in Biochemistry 3							
	ECTS	3	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + S (1)						
	Method of assessment	presentation (approx. 10 minutes) Language of assessment: German and/or English						
o8-BPS1-152-mo1	Biochemical Practical Seminar 1							
	ECTS	1	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (1)						
	Method of assessment	Wrap-up report (approx. 1 page) Language of assessment: German and/or English						

o8-BPS2-152-m01	Biochemical Practical Seminar 2							
	ECTS	1	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (1)						
	Method of assessment	Wrap-up report (approx. 1 page) Language of assessment: German and/or English						
o8-BPS3-152-m01	Biochemical Practical Seminar 3							
	ECTS	1	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (1)						
	Method of assessment	Wrap-up report (approx. 1 page) Language of assessment: German and/or English						
o8-AWA-152-m01	Guidance in scientific practice							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	T (o)						
	Method of assessment	Wrap-up report (approx. 1 page) Language of assessment: German and/or English						
o8-AC-ELO-152-m01	Elemental Organic Chemistry							
	ECTS	5	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						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
o8-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	(o8-ACP1 or o8-ACP1-BC) and o8-AC1 and o8-AS1						

o8-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						
o8-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						
o8-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						

o8-OC4-152-m01	Organic Chemistry 4							
	ECTS	5	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					
	Referred to in LPO I		§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 62 I Nr. 2					
o8-BC-ZQN3-152-m01	Additional Qualification in Natural Sciences 3							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		Ü (o)					
	Method of assessment		a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German or English					
	other prerequisites		Please consult with course advisory service in advance.					
o8-BC-ZQN5-152-m01	Additional Qualification in Natural Sciences 5							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		Ü (o)					
	Method of assessment		a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German or English					
	other prerequisites		Please consult with course advisory service in advance.					

o8-BC-EQN3-152-mo1	Completive Qualification in Natural Sciences 3							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	Ü (o)						
	Method of assessment	a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German or English						
	other prerequisites	Please consult with course advisory service in advance.						
o8-BC-EQN5-152-mo1	Completive Qualification in Natural Sciences 5							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	Ü (o)						
	Method of assessment	a) written examination (approx. 45 to 90 minutes) or b) log (10 to 20 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) or e) presentation (20 to 30 minutes) or f) practical examination (on average approx. 2 hours; time to complete will vary according to subject area but will not exceed a maximum of 4 hours) Language of assessment: German or English						
	other prerequisites	Please consult with course advisory service in advance.						
Thesis Area (15 ECTS credits)								
o8-BA-BC-152-mo1	Bachelor Thesis in Biochemistry							
	ECTS	12	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	No courses assigned to module						
	Method of assessment	Bachelor's thesis (50 to 70 pages) Language of assessment: German or English						
	Additional Information	Time to complete: 10 weeks.						
o8-KOLL-BC-152-mo1	Defense of the Bachelor Thesis in Biochemistry							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	K (o)						
	Method of assessment	final colloquium (approx. 30 minutes) Language of assessment: German or English						