

## 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: 2022

Examination regulations version: 2022

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-Mar-2022 (2022-13)**

**??-??-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	<b>Module title</b>						
	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	<b>Structural Biology</b>						
	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	<b>General Biology for Biochemistry Students</b>						
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level   undergraduate
	Courses	V (5)					
Method of assessment	written examination (approx. 180 minutes)						
o8-AC1-152-m01	<b>Principles of Inorganic Chemistry</b>						
	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. 1 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					
o8-ACP1-BC-152-m01	<b>Inorganic Chemistry 1 (lab) for Biochemistry students</b>						
	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	<b>Organic Chemistry 1</b>							
	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	<b>Organic Chemistry 2 and analytical methods in organic chemistry</b>							
	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						
	Additional Information							
o8-OCP1-BC-152-mo1	<b>Organic chemistry - laboratory course for Biochemistry students</b>							
	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	<b>Molecular structure and spectroscopy</b>							
	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-mo1	<b>Thermodynamics, Kinetics, Electrochemistry</b>							
	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-mo1	<b>Practical course of Physical Chemistry for Biochemistry Students</b>							
	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-222-mo1	<b>Bioanalytics</b>							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1) + Ü (1) + P (5) Module taught in: German						
	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						
	Referred to in LPO I							
o8-BC1-152-mo1	<b>Biochemistry 1</b>							
	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	<b>Biochemistry 2</b>							
	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	<b>Practical course of Biochemistry</b>							
	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						
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.							
o8-BC-MOL-222-m01	<b>Molecular Biology</b>							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (2) + Ü (1) Module taught in: German						
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-BC-ELW-222-mo1	<b>Ethics and Legal Regulations of Molecular Life Sciences</b>							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (1) + S (1) + V (1) Module taught in: German						
	Method of assessment	a) written examination (approx. 45 to 90 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 to 20 minutes per candidate) or d) presentation (20 to 30 minutes) or e) term paper (8 to 12 pages) Language of assessment: German Assessment offered: every semester						
	Additional Information	Regular attendance at the seminar dates (minimum 80%) is a prerequisite for admission to assessment.						
10-M-MCH-172-mo1	<b>Mathematics for students in Chemistry and Biochemistry</b>							
	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)						
11-EFNF-152-mo1	<b>Introduction to Physics for Students of other Disciplines</b>							
	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. 1 2nd letter d) and No. 1 1st letter d) of annex 1 to the APOLmCh and No. 4 of annex 2 to the APOLmCh						
11-PFNF-152-mo1	<b>Laboratory Course Physics for Students of other Disciplines</b>							
	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. 1 2nd letter d) and No. 1 1st letter d) of annex 1 to the APOLmCh and No. 4 of annex 2 to the APOLmCh							

Compulsory Electives (30 ECTS credits)								
03-4S1IMM-BC-152-m01	<b>Immunology for biochemistry students</b>							
	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	<b>Virology for biochemistry students</b>							
	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-VIR2-BC-171-mo1	<b>Virology 2 for Biochemistry Students</b>							
	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.						
o8-BGV-202-mo1	<b>Imaging methods in life-sciences</b>							
	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) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 to 20 minutes per candidate) Language of assessment: German or English Assessment offered: Once a year, winter semester						
	Participants and allocation of places							
03-4S1HUG-BC-152-mo1	<b>Human genetics for biochemistry students</b>							
	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.						

03-PBC-152-m01	<b>Pathobiochemistry</b>							
	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-172-mo1	<b>Molecular Biology laboratory course</b>							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	P (5)						
	Method of assessment	<p>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)</p> <p>Language of assessment: German and/or English  Assessment offered: Once a year, winter semester</p>						
Participants and allocation of places	<p>Biochemie (Biochemistry) 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.</p> <p>Chemie (Chemistry), Master's and MINT-Lehramt PLUS Master's: 6 places. Selection process: 1. Applications of Master's degree programme Chemie (Chemistry) (120 ECTS credits) will be considered first: 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. 2. In case that there are places left after procedure 1 is finished completely, these places will be distributed among the students in the Master's degree programme MINT-Lehramt PLUS as follows: 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.</p>							
o3-ZBP-152-mo1	<b>Cell biology</b>							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	P (4) + S (2)						
	Method of assessment	<p>written examination (approx. 60 minutes)  Language of assessment: German and/or English</p>						
Participants and allocation of places	<p>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.</p>							

07-5S2Mi- Z2-BC-152-m01	<b>Specific Microbiology 2 for Students in Biochemistry</b>							
	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	<b>Organic Chemistry 4</b>							
	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							
08-OCP2-152-m01	<b>Organic Chemistry - advanced laboratory course for students of chemistry</b>							
	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-mo1	<b>Bioinformatics for advanced Students in Biochemistry</b>								
	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-202-mo1	<b>Introduction to Neurobiology</b>								
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate	
	Courses	V (2) + S (3)							
Method of assessment	written examination (90 minutes) and successful completion of seminar/exercise								
o8-BC-AMP-152-mo1	<b>Current Methods of Protein Chromatography</b>								
	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-mo1	<b>Advanced lab (abridged)</b>								
	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.							
Bachelor's with 1 major Biochemistry (2022)					JMU Würzburg • generated 19-Apr-2025 • exam. reg. data record 82 025 - H 2022			page 13 / 22	

o8-AVP10-BC-152-m01	<b>Advanced lab</b>								
	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.							
o8-BC-SFBM-212-m01	<b>Structure and Function of Biological Membranes and Membrane Proteins</b>								
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate	
	Courses	V (2) + S (1) + P (5)							
	Method of assessment	a) written examination (approx. 45 to 90 minutes) or b) term paper (8 to 12 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) presentation (20 to 30 minutes) Language of assessment: German and/or English Assessment offered: Once a year, winter term							
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.								
<b>Transferable Skills (20 ECTS credits)</b>									
<b>General Key Skills (5 ECTS credits)</b>									
Students may select any of the modules offered as part of the pool of general transferable skills (ASQ) of JMU.									
<b>Subject-specific Key Skills (15 ECTS credits)</b>									
07-M-BST-152-m01	<b>Mathematical Biology and Biostatistics</b>								
	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	<b>Information Literacy (Basic Level)</b>								
	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	<b>Philosophical principles of sciences I</b>							
	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.						
o7-3A3Bl-152-m01	<b>Bioinformatics</b>							
	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)						
o3-TR-152-m01	<b>Toxicology and legal studies</b>							
	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)						
o3-FOR-BC-152-m01	<b>Contemporary research in biochemistry</b>							
	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)						
o3-Phys-152-m01	<b>Physiology</b>							
	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	<b>Practical Course - external</b>							
	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	<b>Practical Course - external (abridged)</b>							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (0)					
	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	<b>Practical Course - abroad</b>							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (0)					
	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	<b>Practical Course - abroad (abridged)</b>							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (0)					
	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	<b>Practical Lab Course</b>							
	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-m01	<b>Practical Lab Course (abridged)</b>							
	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-m01	<b>Scientific lecturing 1</b>							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		T (0)					
	Method of assessment		Wrap-up report (approx. 2 pages) Language of assessment: German and/or English					
o8-WIRE2-152-m01	<b>Scientific lecturing 2</b>							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		T (0)					
	Method of assessment		Wrap-up report (approx. 2 pages) Language of assessment: German and/or English					
o8-AFBC1-152-m01	<b>Contemporary Research in Biochemistry 1</b>							
	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-m01	<b>Contemporary Research in Biochemistry 2</b>							
	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-m01	<b>Contemporary Research in Biochemistry 3</b>							
	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-m01	<b>Biochemical Practical Seminar 1</b>							
	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	<b>Biochemical Practical Seminar 2</b>							
	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	<b>Biochemical Practical Seminar 3</b>							
	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	<b>Guidance in scientific practice</b>							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	T (0)						
	Method of assessment	Wrap-up report (approx. 1 page) Language of assessment: German and/or English						
o8-AC-ELO-152-m01	<b>Elemental Organic Chemistry</b>							
	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-ACP2-172-m01	<b>Inorganic Chemistry 2 (lab)</b>							
	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-OCP1 or o8-OCP1-BC) and o8-AS1						
o8-PC-SBL-152-m01	<b>Symmetry, chemical bonding and light</b>							
	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	<b>Inorganic Chemistry of the Elements</b>							
	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	<b>Analytical Chemistry (lab)</b>							
	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	<b>Organic Chemistry 4</b>							
	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-TC-152-m01	<b>Quantum Chemistry</b>							
	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 credible for bonus						
	Referred to in LPO I	§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)						
o8-GC-242-m01	<b>Green and sustainable (organic) chemistry</b>							
	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						
o8-BC-PHIL-212-m01	<b>Philosophical Aspects of the Sciences</b>							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (2)						
	Method of assessment	a) written examination (approx. 45 to 90 minutes) or b) term paper (8 to 12 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) presentation (20 to 30 minutes) Language of assessment: German and/or English Assessment offered: Once a year, winter term						
	Participants and allocation of places	Biochemie (Biochemistry), Bachelor's: 30 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-ZQN3-152- mo1	<b>Additional Qualification in Natural Sciences 3</b>							
	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- mo1	<b>Additional Qualification in Natural Sciences 5</b>							
	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	<b>Completive Qualification in Natural Sciences 3</b>							
	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-m01	<b>Completive Qualification in Natural Sciences 5</b>							
	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.						
<b>Thesis Area (15 ECTS credits)</b>								
o8-BA-BC-152-m01	<b>Bachelor Thesis in Biochemistry</b>							
	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-m01	<b>Defense of the Bachelor Thesis in Biochemistry</b>							
	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						