

Annex SFB

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

Responsible: Institute of Mathematics

Examination regulations version: 2012

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:

ASPO2009

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

24-Oct-2012 (2012-168)

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 (99 ECTS credits)								
10-M-ANA-122-m01	Analysis							
	ECTS	20	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module comprises 3 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">10-M-ANA-1-122: V + Ü (no information on SWS (weekly contact hours) and course language available)10-M-ANA-2-122: V + Ü (no information on SWS (weekly contact hours) and course language available)10-M-ANA-P-122: M (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 10-M-ANA-1-122: Analysis 1 Analysis 1 <ul style="list-style-type: none">8 ECTS, Method of grading: (not) successfully completedwritten examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed if the module component was selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination was passed.Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. Assessment in module component 10-M-ANA-2-122: Analysis 2 Analysis 2 <ul style="list-style-type: none">8 ECTS, Method of grading: (not) successfully completedwritten examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed if the module component was selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination was passed.Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. Assessment in module component 10-M-ANA-P-122: Examination in Analysis <ul style="list-style-type: none">4 ECTS, Method of grading: numerical gradeoral examination of one candidate each (approx. 30 minutes); assessment will have reference to the contents of modules 10-M-ANA-1 and 10-M-ANA-2Language of assessment: German, English if agreed upon with the examinerOnly after successful completion of module components: Successful completion of the written examination in any one of the other two module components is a prerequisite for participation in module component 10-M-ANA-P.					
	Bachelor's with 1 major Computational Mathematics (2012)				JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record 82 f24 - H 2012			
Other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.						
Referred to in LPO I		§ 73 (1) 1. Mathematik Analysis						

10-M-LNA-122-mo1	Linear Algebra							
	ECTS	20	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module comprises 3 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">10-M-LNA-1-122: V + Ü (no information on SWS (weekly contact hours) and course language available)10-M-LNA-2-122: V + Ü (no information on SWS (weekly contact hours) and course language available)10-M-LNA-P-122: M (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		<p>Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.</p> <p>Assessment in module component 10-M-LNA-1-122: Linear Algebra 1 Linear Algebra 1</p> <ul style="list-style-type: none">8 ECTS, Method of grading: (not) successfully completedwritten examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed if the module component was selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination was passed.Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. <p>Assessment in module component 10-M-LNA-2-122: Linear Algebra 2 Linear Algebra 2</p> <ul style="list-style-type: none">8 ECTS, Method of grading: (not) successfully completedwritten examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed if the module component was selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination was passed.Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. <p>Assessment in module component 10-M-LNA-P-122: Examination in Linear Algebra</p> <ul style="list-style-type: none">4 ECTS, Method of grading: numerical gradeoral examination of one candidate each (approx. 30 minutes); assessment will have reference to the contents of modules 10-M-LNA-1 and 10-M-LNA-2Language of assessment: German, English if agreed upon with the examinerOnly after successful completion of module components: Successful completion of the written examination in any one of the other two module components is a prerequisite for participation in module component 10-M-LNA-P.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
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10-M-VAN-122-m01	Advanced Analysis							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 to 180 minutes) if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
10-M-MWR-122-m01	Modelling and Computational Science							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 90 to 180 minutes) if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					

10-M-NUM-122-mo1	Numerical Mathematics							
	ECTS	20	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module comprises 3 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">10-M-NUM-1-122: V + Ü (no information on SWS (weekly contact hours) and course language available)10-M-NUM-2-122: V + Ü (no information on SWS (weekly contact hours) and course language available)10-M-NUM-P-122: M (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 10-M-NUM-1-122: Numerical Mathematics 1 Numerical Mathematics 1 <ul style="list-style-type: none">8 ECTS, Method of grading: (not) successfully completedwritten examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed if the module component was selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination was passed.Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. Assessment in module component 10-M-NUM-2-122: Numerical Mathematics 2 Numerical Mathematics 2 <ul style="list-style-type: none">8 ECTS, Method of grading: (not) successfully completedwritten examination (approx. 90 to 180 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes). Module will also be considered successfully completed if the module component was selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination was passed.Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. Assessment in module component 10-M-NUM-P-122: Examination in Numerical Mathematics <ul style="list-style-type: none">4 ECTS, Method of grading: numerical gradeoral examination of one candidate each (approx. 30 minutes); assessment will have reference to the contents of modules 10-M-NUM-1 and 10-M-NUM-2Language of assessment: German, English if agreed upon with the examinerOnly after successful completion of module components: Successful completion of the written examination in any one of the other two module components is a prerequisite for participation in module component 10-M-NUM-P.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
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			<ul style="list-style-type: none">10-M-NUM-P-122: --10-M-NUM-1-122: Additional information on module duration: 1 to 2 semesters.10-M-NUM-2-122: Additional information on module duration: 1 to 2 semesters.					

10-M-VTC-122-m01	Advanced Computational Mathematics							
	ECTS	20	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module has 6 components; information on courses listed separately for each component. <ul style="list-style-type: none">10-M-STO-1-122, 10-M-DGL-1-122, 10-M-FTH-1-122, 10-M-GAN-1-122, and 10-M-FAN-1-122: V + Ü (no information on language and number of weekly contact hours available)10-M-VTC-P-122: M (no information on language and number of weekly contact hours available)					
	Method of assessment		<p>This module has the following 6 assessment components. To pass this module, students must pass two out of the 5 assessment components that are first in the list below and the assessment component that is last in the list below.</p> <p>Assessment in module component 10-M-STO-1-122: Stochastik 1 (Stochastics 1), in module component 10-M-DGL-1-122: Geöhnliche Differentialgleichungen (Ordinary Differential Equations), in module component 10-M-FTH-1-122: Einführung in die Funktionentheorie (Introduction to Complex Analysis), in module component 10-M-GAN-1-122: Geometrische Analysis (Geometric Analysis), and in module component 10-M-FAN-1-122: Einführung in die Funktionalanalysis (Introduction to Functional Analysis) :</p> <ul style="list-style-type: none">8 ECTS credits, pass / failwritten examination (approx. 90 to 180 minutes). If announced by the lecturer, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 30 minutes). The module component will also be considered successfully completed if it is selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination is passed.Language of assessment: German; English if agreed upon with examiner(s)Additional prerequisites: To qualify for admission to assessment, students must meet certain prerequisites. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. <p>Assessment in module component 10-M-VTC-P-122: Prüfung in Vertiefung Computational Mathematics (Assessment in Advanced Computational Mathematics)</p> <ul style="list-style-type: none">4 ECTS credits, numerical gradingoral examination of one candidate each (approx. 30 minutes). Assessment will have reference to the topics covered in the two module components selected by students.Language of assessment: German; English if agreed upon with examiner(s)Only after successful completion of module components: Module component 10-M-VTC-P can only be taken by students who passed the written examination in one of the other five module components.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
	Additional Information		Additional information on module duration: 1 to 2 semesters.					

Compulsory Electives (50 ECTS credits)							
Computational Mathematics							
10-M-MKG-122-m01	Mathematics in Culture and Society						
	ECTS	8	Duration	2 semester	Method of grading	(not) successfully completed	Modul level undergraduate
	Courses		This module has 4 components; information on courses listed separately for each component. <ul style="list-style-type: none"> 10-M-GES-1-122, 10-M-MS-1-122, and 10-M-SCH-1-122: V + Ü (no information on language and number of weekly contact hours available) 10-M-PRO-1-122: S (no information on language and number of weekly contact hours available) 				
	Method of assessment		This module has the following 4 assessment components. To pass the module as a whole students must pass two of the four assessment components. Assessment in module component 10-M-GES-1-122: Ausgewählte Kapitel aus der Geschichte der Mathematik (Selected Topics from the History of Mathematics), in module component 10-M-MS-1-122: Mathematisches Schreiben (Mathematical Writing), and in module component 10-M-SCH-1-122: Schulmathematik vom höheren Standpunkt (School Mathematics from a Higher Perspective) : <ul style="list-style-type: none"> 4 ECTS credits, pass / fail project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course) Assessment will be offered in the semester in which the course is offered and in the subsequent semester. Language of assessment: German; English if agreed upon with examiner(s) Additional prerequisites: To qualify for admission to assessment, students must meet certain prerequisites. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. Assessment in module component 10-M-PRO-1-122: Proseminar Mathematik (Proseminar Mathematics) <ul style="list-style-type: none"> 4 ECTS credits, pass / fail talk (approx. 60 to 180 minutes) Assessment will be offered in the semester in which the course is offered and in the subsequent semester. Language of assessment: German; English if agreed upon with examiner(s) Additional prerequisites: To qualify for admission to assessment, students must meet certain prerequisites. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. 				
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.				
	Additional Information		Additional information on module duration: 1 to 2 semesters.				

10-M-SE2-122-m01	Additional Seminar in Mathematics							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		talk (approx. 60 to 180 minutes) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					

10-M-ERC-122-mo1	Selected Topics from Computational Mathematics							
	ECTS	10	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module has 13 components; information on courses listed separately for each component. <ul style="list-style-type: none">10-M-STO-1-122, 10-M-ALG-1-12, 10-M-DGE-1-122, 10-M-DGL-1-122, 10-M-FTH-1-122, 10-M-GAN-1-122, 10-M-PGE-1-122, 10-M-DIM-1-122, 10-M-FAN-1-122, 10-M-ORS-1-122, 10-M-ZTH-1-122, and 10-M-MMP-2-122: V + Ü (no information on language and number of weekly contact hours available)10-M-ERC-P-122: M (no information on language and number of weekly contact hours available)					
	Method of assessment		<p>This module has the following 13 assessment components. To pass this module, students must pass one out of the 12 assessment components that are first in the list below and the assessment component that is last in the list below.</p> <p>Assessment in module component 10-M-STO-1-122: Stochastik 1 (Stochastics 1), in module component 10-M-ALG-1-122: Einführung in die Algebra (Introduction to Algebra) in module component 10-M-DGE-1-122: Einführung in die Differentialgeometrie (Introduction to Differential Geometry), in module component 10-M-DGL-1-122: Gewöhnliche Differentialgleichungen (Ordinary Differential Equations), in module component 10-M-FTH-1-122: Einführung in die Funktionentheorie (Introduction to Complex Analysis), in module component 10-M-GAN-1-122: Geometrische Analysis (Geometric Analysis), in module component 10-M-PGE-1-122: Einführung in die Projektive Geometrie (Introduction to Projective Geometry), in module component 10-M-DIM-1-122: Einführung in die Diskrete Mathematik (Introduction to Discrete Mathematics), in module component 10-M-FAN-1-122: Einführung in die Funktionalanalysis (Introduction to Functional Analysis), in module component 10-M-ORS-1-122: Operations Research, in module component 10-M-ZTH-1-122: Einführung in die Zahlentheorie (Introduction to Number Theory), and in module component 10-M-MMP-2-122: Mathematik in der Mathematischen Physik 2 (Mathematics in Mathematical Physics 2) :</p> <ul style="list-style-type: none">8 ECTS credits, pass / failwritten examination (approx. 90 to 180 minutes). If announced by the lecturer, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 30 minutes). The module component will also be considered successfully completed if it is selected as subject of the oral examination covering several modules (separate module component for assessment purposes (Prüfungsteilmodul)) and this examination is passed.Language of assessment: German; English if agreed upon with examiner(s)Additional prerequisites: To qualify for admission to assessment, students must meet certain prerequisites. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. <p>Assessment in module component 10-M-ERC-P-122: Prüfung in Ergänzung Computational Mathematics (Assessment in Selected Topics from Computational Mathematics)</p> <ul style="list-style-type: none">2 ECTS credits, numerical gradingoral examination of one candidate each (approx. 30 minutes). Assessment will have reference to the topics covered in the module component selected by students.Language of assessment: German; English if agreed upon with examiner(s)Only after successful completion of module components: Module component 10-M-ERC-P can only be taken by students who passed the written examination in one of the other 12 module components.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
	Additional Information		Additional information on module duration: 1 to 2 semesters.					

Application-oriented Subject								
Students must take one of the following application-oriented subjects, each with the specified mandatory courses and/or mandatory electives: Biologie (Biology), Chemie (Chemistry), Informatik (Computer Science), Physik (Physics).								
Application-oriented Subject Biology								
Application-oriented Subject Biology Compulsory Electives 1								
07-2A2GN-V-072-m01	Genetics, Neurobiology, Behaviour							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	This module comprises 3 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">07-2A2GNV-1G-072: V + Ü (no information on SWS (weekly contact hours) and course language available)07-2A2GNV-2N-072: V + Ü (no information on SWS (weekly contact hours) and course language available)07-2A2GNV-3V-072: V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 07-2A2GNV-1G-072: Basic Genetics Basic Genetics <ul style="list-style-type: none">2 ECTS, Method of grading: numerical gradewritten examination (approx. 30 minutes)Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course. Assessment in module component 07-2A2GNV-2N-072: Basic Neurobiology Basic Neurobiology <ul style="list-style-type: none">2 ECTS, Method of grading: numerical gradewritten examination (approx. 30 minutes)Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course. Assessment in module component 07-2A2GNV-3V-072: Behavioural Biology Behavioural Biology <ul style="list-style-type: none">2 ECTS, Method of grading: numerical gradewritten examination (approx. 30 minutes, word problems and/or multiple choice questions)Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.						
	other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.						
	Participants and allocation of places	Only as part of "spezielles Studienangebot": 10 places.						
07-2BM-072-m01	Mathematical Biology and Biostatistics							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 45 minutes) including multiple choice questions						
	other prerequisites	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.						
	Participants and allocation of places	Only as part of "spezielles Studienangebot": 30 places.						

07-2A2TP-NF-o82-mo1	Basic Physiology of Animals for minor field of study							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 60 minutes, word problems and/or multiple choice questions)						
	other prerequisites	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.						
07-2A2PPR-NF-o82-mo1	Basic Physiology of Prokaryotes for minor field of study							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 60 minutes) including multiple choice questions						
07-2A2PPF-NF-o82-mo1	Basic Physiology of Plants for minor field of study							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 45 minutes)						
	other prerequisites	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.						
07-3A3OE-102-mo1	Plant and Animal Ecology							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	This module comprises 2 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">07-3A3OE-1-102: V + Ü (no information on SWS (weekly contact hours) and course language available)07-3A3OE-2-102: V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 07-3A3OE-1-102: Animal Ecology Animal Ecology <ul style="list-style-type: none">3 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes)Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course. Assessment in module component 07-3A3OE-2-102: Plant Ecology Plant Ecology <ul style="list-style-type: none">3 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes)Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.						
	other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.						
	Participants and allocation of places	Only as part of pool of general key skills (ASQ): 15 places. Places will be allocated by lot.						

07-3A3GM-T-102-m01	Genes, Molecules, Technologies							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module has 4 components; information on courses listed separately for each component. <ul style="list-style-type: none">07-3A3GMT-1-102, 07-3A3GMT-2-102, 07-3A3GMT-3-102, and 07-3A3GMT-4-102: V (no information on language and number of weekly contact hours available)					
	Method of assessment		This module has the following 4 assessment components. Unless stated otherwise, students must pass all of these assessment components to pass the module as a whole. Assessment in module component 07-3A3GMT-1-102: Genetik (Genetics), in module component 07-3A3GMT-2-102: Bioinformatik (Bioinformatics), in module component 07-3A3GMT-3-102: Biotechnologie (Biotechnology), and in module component 07-3A3GMT-4-102: Pharmakokinetik (Pharmacokinetics) : <ul style="list-style-type: none">1.5 ECTS credits, numerical gradingwritten examination (approx. 30 minutes, including multiple choice questions)					
07-1A1ZO-NF-102-m01	From Cells to Organisms for minor field of study							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module has 4 components; information on courses listed separately for each component. <ul style="list-style-type: none">07-1A1ZO-3P-072, 07-1A1ZO-4T-072, and 07-1A1ZO-2E-102: V + Ü (no information on language and number of weekly contact hours available)07-1A1ZO-NF-1Z-082: V (no information on language and number of weekly contact hours available)					
	Method of assessment		This module has the following 4 assessment components. Unless stated otherwise, students must pass all of these assessment components to pass the module as a whole. Assessment in module component 07-1A1ZO-3P-072: Das Pflanzenreich (The Plant Kingdom) <ul style="list-style-type: none">4 ECTS credits, numerical gradingwritten examination (approx. 60 minutes)Additional prerequisites: admission prerequisite to assessment: regular attendance of exercises as well as successful completion of the respective exercises. Assessment in module component 07-1A1ZO-4T-072: Das Tierreich (The Animal Kingdom) <ul style="list-style-type: none">4 ECTS credits, numerical gradingwritten examination (approx. 60 minutes)Additional prerequisites: admission prerequisite to assessment: regular attendance of and participation in exercises as well as successful completion of the respective exercises as specified at the beginning of the course. Assessment in module component 07-1A1ZO-NF-1Z-082: Die Zelle für das Nebenfach Biologie (The Cell for Biology Minors) <ul style="list-style-type: none">1 ECTS credit, numerical gradingwritten examination (approx. 60 minutes) including multiple choice questions Assessment in module component 07-1A1ZO-2E-102: Evolution <ul style="list-style-type: none">1 ECTS credit, pass / failwritten examination (approx. 30 minutes, including multiple choice questions)Additional prerequisites: admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					

07-3A3EBI-OT-102-m01	Developmental Biology of Animals							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 30 to 60 minutes) including multiple choice questions					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.					
07-3A3E-BIOP-102-m01	Developmental Biology of Plants for minor field of study							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 30 to 60 minutes) including multiple choice questions					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.					

Application-oriented Subject Biology Compulsory Electives 2

When taking up their studies, students are highly recommended to consult with the course advisory service Biology that will help them choose appropriate modules from the list below. Modules from the areas "Spezielle Biowissenschaften I / II" ("Specific Biosciences I / II") may only be used by students who achieved no less than 32 ECTS credits in the area of mandatory electives 1 beforehand.

07-4S1N- VO3-092-m01	Functional Morphology of arthropods							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	term paper (approx. 5 to 10 pages)						
	other prerequisites	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.						
	Participants and allo- cation of places	Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.						
07-3A3B- C-102-m01	Principles of Biochemistry							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 30 to 60 minutes) including multiple choice questions						
	other prerequisites	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.						
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07-4A4FL-102-m01	The Flora of Germany							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module comprises 2 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">07-4A4FL-1-102: V + Ü (no information on SWS (weekly contact hours) and course language available)07-4A4FL-2-102: E (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 07-4A4FL-1-102: Introduction to the Flora of Germany Introduction to the Flora of Germany <ul style="list-style-type: none">4 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes) and practical identification assignment (approx. 45 minutes), weighted 1:1Assessment offered: once a year, summer semesterOther prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises (particular emphasis to be placed on the setting up a herbarium) as specified at the beginning of the course. Assessment in module component 07-4A4FL-2-102: Field Excursions on the Flora of Germany <ul style="list-style-type: none">3 ECTS, Method of grading: (not) successfully completedlog (approx. 1 to 2 pages per field trip)Assessment offered: once a year, summer semester					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
Participants and allocation of places		Number of places: 180. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation of places will be allocated according to the selection process of group 1.						
Bachelor's with 1 major Computational Mathematics (2012)					JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record 82[f24]- - H 2012			page 16 / 43

07-4A4FA-102-mo1	The Fauna of Germany							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module comprises 2 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">07-4A4FA-1-102: V + Ü (no information on SWS (weekly contact hours) and course language available)07-4A4FA-2-102: E (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 07-4A4FA-1-102: Introduction to the Fauna of Germany Introduction to the Fauna of Germany <ul style="list-style-type: none">4 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes) and practical identification assignment (approx. 45 minutes), weighted 1:1Assessment offered: once a year, summer semesterOther prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises (particular emphasis to be placed on the setting up a herbarium) as specified at the beginning of the course. Assessment in module component 07-4A4FA-2-102: Field Excursions on the Fauna of Germany <ul style="list-style-type: none">3 ECTS, Method of grading: (not) successfully completedlog (approx. 1 to 2 pages per field trip)Assessment offered: once a year, summer semester					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
	Participants and allocation of places		Number of places: 180. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant;					
Bachelor's with 1 major Computational Mathematics (2012)					JMU Würzburg • generated 26-Aug-2024 • exam. reg. data record 82[f24]-[I]-H 2012			page 17 / 43
			cation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.					

cation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

07-4S1N- VO1-102-m01	Neurobiology 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course					
	other prerequisites		Admission prerequisite to assessment: regular attendance of lab course as specified at the beginning of the course.					
	Participants and allocation of places		Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.					

07-4S1N- VO2-102-m01	Integrative Behavioral Biology							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.					
	Participants and allocation of places		Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.					

07-4S1M- Z1-102-m01	Basics in Light- and Electron-Microscopy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 30 to 60 minutes)					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.					
	Participants and allocation of places		Number of places: 18. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.					

07-4S1M- Z2-102-m01	Analysis of Chromosomes							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 30 to 60 minutes)					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.					
	Participants and allocation of places		Number of places: 18. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.					

07-4S1M- Z6-102-m01	Special Bioinformatics 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		log (approx. 10 to 20 pages) Language of assessment: German or English					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.					
	Participants and allocation of places		Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.					

07-4S1PS1-102-mo1	Molecular modelling - From DNA to protein							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		computerised practical examination (approx. 6 hours)					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.					
	Participants and allocation of places		<p>Number of places: 18. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.</p>					

07-4S1PS2-102-mo1	Introduction to Methods in Plant Ecophysiology							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		Ü + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		log (approx. 10 to 20 pages)					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.					
	Participants and allocation of places		Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.					

07-4S1PS3-102-m01	Pharmaceutical Drugs in Plants							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		Ü + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course					
	other prerequisites		Admission prerequisite to assessment: regular attendance of exercises and seminar as well as successful completion of the respective exercises as specified at the beginning of the course.					
Participants and allocation of places		Number of places: 6. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.						

07-S1-LP1-102-m01	Laboratory practical course I							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	P (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course						
	other prerequisites	Admission prerequisite to assessment: regular attendance of lab course as specified at the beginning of the course; please consult with academic advisory service in advance.						
07-S1-Ex1-102-m01	Excursion I							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	E (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course						
	other prerequisites	Admission prerequisite to assessment: regular attendance of field trip as specified at the beginning of the course; please consult with academic advisory service in advance.						
07-S1-IP1-102-m01	Interdisciplinary Project I							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	R (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course						
	other prerequisites	Admission prerequisite to assessment: regular attendance of project sessions as specified at the beginning of the course; please consult with academic advisory service in advance.						
07-5EP-102-m01	External Practical Course							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	P (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course						
	other prerequisites	Admission prerequisite to assessment: regular attendance of lab course as specified at the beginning of the course; please consult with academic advisory service in advance.						

07-S2-EX2-102-m01	Excursion II							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	E (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course						
	other prerequisites	Admission prerequisite to assessment: regular attendance of field trip as specified at the beginning of the course; please consult with academic advisory service in advance.						
07-S2-IP2-102-m01	Interdisciplinary Project II							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	R (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course						
	other prerequisites	Admission prerequisite to assessment: regular attendance of project sessions as specified at the beginning of the course; please consult with academic advisory service in advance.						
07-S2-LP2-102-m01	Laboratory Practical Course II							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	P (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	methods of assessment: a) written examination (approx. 45 to 60 minutes) or b) log (approx. 10 to 20 pages) or c) oral examination of one candidate each (approx. 30 minutes) or d) oral examination in groups of up to 3 candidates (approx. 20 minutes per candidate) or e) presentation (approx. 20 to 30 minutes); students will be informed about the method and length of the assessment prior to the course						
	other prerequisites	Admission prerequisite to assessment: regular attendance of lab course as specified at the beginning of the course; please consult with academic advisory service in advance.						

07-SQF-OSB-102-m01	Organisation and Safety in Biosciences							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) written examination (30 to 60 minutes) and b) presentation (approx. 10 minutes) or term paper (approx. 5 to 10 pages)					
	Participants and allocation of places		Number of places: 15. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% 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. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.					
Application-oriented Subject Chemistry								
Application-oriented Subject Chemistry Compulsory Courses (26 ECTS credits)								
11-EFNF-072-m01	Introduction to Physics for Students of Non-physics-related Minor Subjects							
	ECTS	7	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
	Participants and allocation of places		Only as part of pool of general key skills (ASQ): 10 places. Places will be allocated by lot.					

o8-PC1-092-m01	Physical Chemistry 1							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü + V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)						
	other prerequisites	Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).						
o8-CM1-112-m01	Introduction to Inorganic Chemistry for Students of Mathematics and other Subjects							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 90 minutes)						
o8-OC1-092-m01	Organic Chemistry 1							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)						
	other prerequisites	Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).						
	Referred to in LPO I	§ 62 (1) 2. Chemie "Organische und Bioorganische Chemie"						
Application-oriented Subject Chemistry Compulsory Electives								
o8-TC-092-m01	Theoretical Models in Chemistry							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)						
	other prerequisites	Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).						

o8-PC3-092-m01	Physical and Theoretical Chemistry 3: Symmetry and Quantum Chemistry							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü + V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) 1 to 3 written examinations (1 written examination: 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)						
	other prerequisites	Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).						
o8-OC2-102-m01	Organic Chemistry 2							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: approx. 60 or 90 minutes each; 3 written examinations: approx. 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes) Language of assessment: German, English						
	Modules successfully completed	o8-OC1						
	other prerequisites	Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).						
Application-oriented Subject Computer Science								
10-I-AGT-122-m01	Algorithmic Graph Theory							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: English, German if agreed upon with the examiner						
	other prerequisites	Where applicable, prerequisites as specified by the lecturer at the beginning of the course (e. g. completion of exercises).						

10-I-ADS-102-m01	Algorithm and data structures							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
	Referred to in LPO I	§ 49 (1) 1. a) Informatik Theoretische Informatik, Algorithmen und Datenstrukturen § 69 (1) 1. a) Informatik Theoretische Informatik, Algorithmen und Datenstrukturen						
10-I-ST-102-m01	Software Technology							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
	Referred to in LPO I	§ 49 (1) 1. b) Datenbanksysteme und Softwaretechnologie § 69 (1) 1. b) Datenbanksysteme und Softwaretechnologie						
10-I-PP-102-m01	Practical Course in Programming							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
	Additional Information	Additional information on module duration: 1 to 2 semesters.						
	Referred to in LPO I	§ 49 (1) 1. c) Informatik Praktische Softwareentwicklung § 69 (1) 1. d) Informatik Praktische Softwareentwicklung						

10-I-SWP-102-m01	Practical course in software							
	ECTS	10	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	completion of project assignments, presentation						
	Referred to in LPO I	§ 49 (1) 1. c) Informatik Praktische Softwareentwicklung § 69 (1) 1. d) Informatik Praktische Softwareentwicklung						
10-I-RAL-102-m01	Digital computer systems							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
	Referred to in LPO I	§ 69 (1) 1. c) Informatik Technische Informatik						
10-I-IÜ-102-m01	Information Transmission							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
	Referred to in LPO I	§ 69 (1) 1. c) Informatik Technische Informatik						
10-I-TI-102-m01	Theoretical informatics							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
	Referred to in LPO I	§ 49 (1) 1. a) Informatik Theoretische Informatik, Algorithmen und Datenstrukturen § 69 (1) 1. a) Informatik Theoretische Informatik, Algorithmen und Datenstrukturen						

10-I-LOG-102-m01	Logic for informatics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes)						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
10-I-DB-102-m01	Databases							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 50 to 60 minutes) if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
	Referred to in LPO I	§ 49 (1) 1. b) Datenbanksysteme und Softwaretechnologie § 69 (1) 1. b) Datenbanksysteme und Softwaretechnologie						
10-I-OOP-102-m01	Object-oriented Programming							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
10-I-KT-102-m01	Theory of Complexity							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						

10-I-AR-102-m01	Automation and Control Technology							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3. Language of assessment: German, English if agreed upon with the examiner						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
10-I-RAK-102-m01	Computer Architecture							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
	Referred to in LPO I	§ 69 (1) 1. c) Informatik Technische Informatik						
10-I-RK-102-m01	Computer Networks and Communication Systems							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3. Language of assessment: German, English if agreed upon with the examiner						
	other prerequisites	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).						
Application-oriented Subject Physics								
Application-oriented Subject Physics Compulsory Electives 1: Basics								
11-ENNF1-o62-m01	Introduction to Physics Part 1 for students of Physics Related Minor Subjects							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 120 minutes)						
	Participants and allocation of places	Only as part of pool of general key skills (ASQ): 20 places. Places will be allocated by lot.						

11-ENNF2-062-m01	Introduction to Physics Part 2 for students of Physics Related Minor Subjects							
	ECTS	7	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
	Participants and allocation of places		Only as part of pool of general key skills (ASQ): 20 places. Places will be allocated by lot.					
11-KP-092-m01	Classical Physics (Mechanics, Thermodynamics, Waves, Oscillations, Electricity, Magnetism and Optics)							
	ECTS	16	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		Klassische Physik 1 (Mechanik, Wellen, Wärme) (Classical Physics 1 (Mechanics, Waves, Heat)): V (4 weekly contact hours) + Ü (2 weekly contact hours), once a year (winter semester) Klassische Physik 2 (Elektromagnetismus, Optik) (Classical Physics 2 (Electromagnetism, Optics)): V (4 weekly contact hours) + Ü (2 weekly contact hours), once a year (summer semester)					
	Method of assessment		<p>This module has the following assessment components</p> <p>1. Topics covered in lectures and exercises in part 1 (Klassische Physik 1 (Classical Physics 1)): written examination (approx. 120 minutes).</p> <p>2. Topics covered in lectures and exercises in part 2 (Klassische Physik 2 (Classical Physics 2)): written examination (approx. 120 minutes).</p> <p>3. Topics covered in lectures and exercises in parts 1 and 2: oral examination of one candidate each (approx. 30 minutes, usually chosen) or written examination (approx. 120 minutes).</p> <p>Assessment component 3 will be offered in German; English if agreed upon with examiner(s). Successful completion of approx. 50% of practice work each is a prerequisite for admission to assessment components 1 and 2.</p> <p>To qualify for admission to assessment component 3, students must pass assessment component 1 and/or 2. Students are highly recommended to attend both courses Klassische Physik 1 (Classical Physics 1) and Klassische Physik 2 (Classical Physics 2). The topics discussed in these two courses will be covered in assessment component 3. Students must register for assessment components 1 through 3 online (details to be announced). To pass this module, students must first pass assessment component 1 or 2 and must then pass assessment component 3. The grade achieved in assessment component 1 or 2 (whichever is better) and the grade achieved in assessment component 3 will each count 50% towards the overall grade awarded for the module.</p>					
	other prerequisites		Bridge course Mathematische Rechenmethoden der Physik (Mathematical Methods of Physics) for first-semester students.					
Application-oriented Subject Physics Compulsory Electives 2: Lab Course Exactly one of the two modules 11-P-PA Physikalisches Praktikum Teil A (Physics Practical Course A) and 11-PNNF Physikalisches Praktikum für Studierende eines physiknahen Nebenfachs (Physics Practical Course for Students of Physics-related Minors) must be taken; students are not permitted to take both of these modules.								
11-PNNF-062-m01	Physics Laboratory Course for students of Physics Related Minor Subjects							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		a) oral test (approx. 15 minutes) during experiment and b) ungraded written examination (approx. 90 minutes)					
	Participants and allocation of places		Only as part of pool of general key skills (ASQ): 15 places. Places will be allocated by lot.					

11-P-PA-112-m01	Lab Course A							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	Auswertung von Messungen und Fehlerrechnung (Measurements and Data Analysis): V (1 weekly contact hour) + Ü (1 weekly contact hour), once a year (winter semester) Beispiele aus Mechanik, Wärmelehre und Elektrik (Examples from Mechanics, Thermodynamics and Electricity, BAM): P (2 weekly contact hours)						
	Method of assessment	This module has the following assessment components 1. Topics covered in lectures and exercises: written examination (approx. 120 minutes) 2. Lab course: a) Preparing, performing and evaluating the experiments will be considered successfully completed if a Testat (exam) is passed. b) Talk (with discussion) to test the students' understanding of the physics-related contents of the course (approx. 30 minutes). Successful completion of approx. 50% of practice work is a prerequisite for admission to assessment component 1 . To pass assessment component 2, students must pass both elements a) and b). Students will be offered one opportunity to retake element a) and/or element b). Students must register for assessment components 1 and 2 online (details to be announced). Students must attend Auswertung von Messungen und Fehlerrechnung (Measurements and Data Analysis) before attending Beispiele aus Mechanik, Wärmelehre und Elektrik (Examples from Mechanics, Thermodynamics and Electricity). To pass this module, students must pass both assessment component 1 and assessment component 2.						
	Referred to in LPO I	§ 53 (1) 1. a) Physik Mechanik, Wärmelehre, Elektrizitätslehre, Optik, der speziellen Relativitätstheorie § 53 (1) 1. c) Physik physikalische Grundpraktika § 77 (1) 1. a) Physik "Grundlagen der Experimentalphysik" § 77 (1) 1. d) Physik "physikalische Praktika"						
11-P-NFB-122-m01	Basic Practical Course B (Minor Studies)							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) Preparing, performing and evaluating (lab report) the experiments will be considered successfully completed if a Testat (exam) is passed. Experiments that were not successfully completed can be repeated once. And b) talk (with discussion; approx. 30 minutes) to test the candidate's understanding of the physics-related contents of the module component. Talks that were not successfully completed can be repeated once. Both components of the assessment have to be successfully completed.						
	Modules successfully completed	11-P-PA						
	Additional Information	Additional information on module duration: 1 to 2 semesters.						
Application-oriented Subject Physics Compulsory Electives 3								
Out of several module components covering the same contents, students may only use one each. This means that the following combinations are not permitted:								
- 11-KM may neither be combined with 11-QAM nor with 11-FKP.								
- 11-STE may neither be combined with 11-ST nor with 11-ED.								

- 11-TQM may neither be combined with 11-TM nor with 11-QM.							
11-KM-092-m01	Condensed Matter (Quanta, Atoms, Molecules, Solid State Physics)						
	ECTS	16	Duration	2 semester	Method of grading	numerical grade	Modul level undergraduate
	Courses		Kondensierte Materie 1 (Quanten, Atome, Moleküle) (Condensed Matter 1 (Quanta, Atoms, Molecules)): V (4 weekly contact hours) + Ü (2 weekly contact hours), once a year (winter semester) Kondensierte Materie 2 (Festkörperphysik 1) (Condensed Matter 2 (Solid State Physics)): V (4 weekly contact hours) + Ü (2 weekly contact hours), once a year (summer semester)				
	Method of assessment		This module has the following assessment components 1. Topics covered in lectures and exercises in part 1 (Kondensierte Materie 1 (Condensed Matter 1)): written examination (approx. 120 minutes). 2. Topics covered in lectures and exercises in part 2 (Kondensierte Materie 2 (Condensed Matter 2)): written examination (approx. 120 minutes). 3. Topics covered in lectures and exercises in parts 1 and 2: oral examination of one candidate each (approx. 30 minutes, usually chosen) or written examination (approx. 120 minutes). Assessment component 3 will be offered in German; English if agreed upon with examiner(s). Successful completion of approx. 50% of practice work each is a prerequisite for admission to assessment components 1 and 2. To qualify for admission to assessment component 3, students must pass assessment component 1 and/or 2. Students are highly recommended to attend both courses Kondensierte Materie 1 (Condensed Matter 1) and Kondensierte Materie 2 (Condensed Matter 2). The topics discussed in these two courses will be covered in assessment component 3. Students must register for assessment components 1 through 3 online (details to be announced). To pass this module, students must first pass assessment component 1 or 2 and must then pass assessment component 3. The grade achieved in assessment component 1 or 2 (whichever is better) and the grade achieved in assessment component 3 will each count 50% towards the overall grade awarded for the module.				

11-STE-092-m01	Statistical Mechanics, Thermodynamics and Electrodynamics							
	ECTS	16	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		Statistische Mechanik und Thermodynamik (Statistical Mechanics and Thermodynamics): V (4 weekly contact hours) + Ü (2 weekly contact hours), once a year (winter semester) Theoretische Elektrodynamik (Theoretical Electrodynamics): V (4 weekly contact hours) + Ü (2 weekly contact hours), once a year (summer semester)					
	Method of assessment		This module has the following assessment components 1. Topics covered in lectures and exercises in part 1 (Statistische Mechanik und Thermodynamik (Statistical Mechanics and Thermodynamics)): written examination (approx. 120 minutes). 2. Topics covered in lectures and exercises in part 2 (Theoretische Elektrodynamik (Theoretical Electrodynamics)): written examination (approx. 120 minutes). 3. Topics covered in lectures and exercises in parts 1 and 2: oral examination of one candidate each (approx. 30 minutes, usually chosen) or written examination (approx. 120 minutes). Assessment component 3 will be offered in German; English if agreed upon with examiner(s). Successful completion of approx. 50% of practice work each is a prerequisite for admission to assessment components 1 and 2. Students are highly recommended to attend both courses Statistische Mechanik und Thermodynamik (Statistical Mechanics and Thermodynamics) and Theoretische Elektrodynamik (Theoretical Electrodynamics). The topics discussed in these two courses will be covered in assessment component 3. Students must register for assessment components 1 through 3 online (details to be announced). To pass this module, students must first pass assessment component 1 or 2 and must then pass assessment component 3. The grade achieved in assessment component 1 or 2 (whichever is better) and the grade achieved in assessment component 3 will each count 50% towards the overall grade awarded for the module.					
	other prerequisites		10-M1-PHY and 10-M2-PHY or 10-M1-NST and 10-M2-NST					

11-TQM-092-m01	Theoretical Mechanics and Quantum Mechanics							
	ECTS	16	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		Theoretische Mechanik (Theoretical Mechanics): V (4 weekly contact hours) + Ü (2 weekly contact hours), once a year (winter semester) Quantenmechanik (Quantum Mechanics): V (4 weekly contact hours) + Ü (2 weekly contact hours), once a year (summer semester)					
	Method of assessment		This module has the following assessment components 1. Topics covered in lectures and exercises in part 1 (Theoretische Mechanik (Theoretical Mechanics)): written examination (approx. 120 minutes). 2. Topics covered in lectures and exercises in part 2 (Quantenmechanik (Quantum Mechanics)): written examination (approx. 120 minutes). 3. Topics covered in lectures and exercises in parts 1 and 2: oral examination of one candidate each (approx. 30 minutes, usually chosen) or written examination (approx. 120 minutes). Successful completion of approx. 50% of practice work each is a prerequisite for admission to assessment components 1 and 2. To qualify for admission to assessment component 3, students must pass assessment component 1 and/or 2. Students are highly recommended to attend both courses Theoretische Mechanik (Theoretical Mechanics) and Quantenmechanik (Quantum Mechanics). The topics discussed in these two courses will be covered in assessment component 3. Students must register for assessment components 1 through 3 online (details to be announced). To pass this module, students must first pass assessment component 1 or 2 and must then pass assessment component 3. The grade achieved in assessment component 1 or 2 (whichever is better) and the grade achieved in assessment component 3 will each count 50% towards the overall grade awarded for the module.					
	other prerequisites		10-M1-PHY, 10-M2-PHY and 11-MPI-3 or 10-M1-NST, 10-M2-NST and MPI-3					
11-ED-092-m01	Theoretical Electrodynamics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes, for modules with less than 4 ECTS credits approx. 90 minutes; unless otherwise specified) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009.					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					

11-FKP-092-m01	Solid State Physics 1							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 120 minutes, for modules with less than 4 ECTS credits approx. 90 minutes; unless otherwise specified) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009.						
	other prerequisites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.						
11-TM-092-m01	Theoretical Mechanics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 120 minutes, for modules with less than 4 ECTS credits approx. 90 minutes; unless otherwise specified) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009.						
	other prerequisites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.						
11-QAM-092-m01	Quanta, Atoms, Molecules							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	Ü + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 120 minutes, for modules with less than 4 ECTS credits approx. 90 minutes; unless otherwise specified) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009.						
	other prerequisites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.						

11-QM-092-m01	Quantum Mechanics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes, for modules with less than 4 ECTS credits approx. 90 minutes; unless otherwise specified) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009.					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
11-ST-092-m01	Statistical Mechanics and Thermodynamics							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes, for modules with less than 4 ECTS credits approx. 90 minutes; unless otherwise specified) Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009.					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
11-KET-122-m01	Nuclear and Elementary Particle Physics							
	ECTS	6	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 120 minutes)					
	other prerequisites		Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					

Thesis (11 ECTS credits)								
10-M-BAC-122-mo1	Thesis Computational Mathematics (Bachelor Thesis)							
	ECTS	11	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		no courses assigned					
	Method of assessment		written thesis Language of assessment: German, English if agreed upon with the examiner					
Subject-specific Key Skills (16 ECTS credits)								
10-M-MCO-122-mo1	Mathematics and Computer							
	ECTS	7	Duration	2 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		This module comprises 2 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">10-M-COM-1-122: V + Ü (no information on SWS (weekly contact hours) and course language available)10-M-PRG-1-122: P (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 10-M-COM-1-122: Computational Mathematics Computational Mathematics <ul style="list-style-type: none">4 ECTS, Method of grading: (not) successfully completedproject in the form of programming exercises (type and expenditure of time to be specified by the lecturer at the beginning of the course)Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. Assessment in module component 10-M-PRG-1-122: Programming course for students of Mathematics and other subjects <ul style="list-style-type: none">3 ECTS, Method of grading: (not) successfully completedproject in the form of programming exercises (type and expenditure of time to be specified by the lecturer at the beginning of the course)Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					

10-M-MDA-122-mo1	Introduction into mathematical thinking and working							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	This module comprises 2 module components. Information on courses will be listed separately for each module component. <ul style="list-style-type: none">10-M-MDA-1-122: V + Ü (no information on SWS (weekly contact hours) and course language available)10-M-MDA-2-122: V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments. Assessment in module component 10-M-MDA-1-122: Basic Notions and Methods of Mathematical Reasoning Basic Notions and Methods of Mathematical Reasoning <ul style="list-style-type: none">2 ECTS, Method of grading: (not) successfully completedproject assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. Assessment in module component 10-M-MDA-2-122: Reasoning and Writing in Mathematics Reasoning and Writing in Mathematics <ul style="list-style-type: none">2 ECTS, Method of grading: (not) successfully completedproject assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)Language of assessment: German, English if agreed upon with the examinerOther prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.						
	other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.						
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik						
10-M-SEM-122-mo1	Seminar Mathematics							
	ECTS	5	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 to 180 minutes) Language of assessment: German, English if agreed upon with the examiner						
	other prerequisites	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.						