

Annex SFB

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

Responsible: Institute of Mathematics

Examination regulations version: 2008

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:

ASPO2007

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

09-Dec-2008 (2008-32)

15-Mar-2010 (2010-11)

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 (91 ECTS credits)								
10-M-PPM-082-m01	Propaedeutics of Mathematics							
	ECTS	2	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course) Assessment offered: once a year, winter semester Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites		Admission prerequisite to assessment: regular attendance of courses (as specified at the beginning of the course).					

10-M-GEO-o82-mo1	Introduction to Geometry							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		This module has 2 components; information on courses listed separately for each component. <ul style="list-style-type: none">10-M-GEO-1-o82: V + Ü (no information on language and number of weekly contact hours available)10-M-GEO-2-o82: V + Ü (no information on language and number of weekly contact hours available)					
	Method of assessment		This module has the following 2 assessment components. To pass the module as a whole students must pass one of the two assessment components. Assessment component to module component 10-M-GEO-1-o82: Einführung in die Projektive Geometrie <ul style="list-style-type: none">8 ECTS credits, method of grading: numerical gradewritten examination (approx. 90 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: English, German if agreed upon with the examinerOther prerequisites: Admission prerequisite to assessment: successful completion of approx. 50% of exercises. 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 component to module component 10-M-GEO-2-o82: Einführung in die Differentialgeometrie <ul style="list-style-type: none">8 ECTS credits, method of grading: numerical gradewritten examination (approx. 90 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: English, German if agreed upon with the examinerOther prerequisites: Admission prerequisite to assessment: successful completion of approx. 50% of exercises. 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) 4. Mathematik Geometrie					

10-M-ZAL-o82-mo1	Number Theory and Algebra							
	ECTS	13	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-ZAL-1-o82: V + Ü (no information on SWS (weekly contact hours) and course language available)• 10-M-ZAL-2-o82: V + Ü (no information on SWS (weekly contact hours) and course language available)• 10-M-ZAL-P-o82: 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-ZAL-1-o82: Introduction to Number Theory Introduction to Number Theory <ul style="list-style-type: none">• 4 ECTS, Method of grading: (not) successfully completed• written examination (approx. 90 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. Assessment in module component 10-M-ZAL-2-o82: Introduction to Algebra Introduction to Algebra <ul style="list-style-type: none">• 7 ECTS, Method of grading: (not) successfully completed• written examination (approx. 90 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. Assessment in module component 10-M-ZAL-P-o82: Examination in Number Theory and Algebra <ul style="list-style-type: none">• 2 ECTS, Method of grading: numerical grade• oral examination of one candidate each (approx. 30 minutes)• Language of assessment: German, English if agreed upon with the examiner• Only after successful completion of module components: Successful completion of module component 10-M-ZAL-1 or module component 10-M-ZAL-2 is a prerequisite for participation in module component 10-M-ZAL-P.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
	Referred to in LPO I		§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie					

10-M-NM1-082-m01	Numerical Mathematics 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. 90 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.					
	Referred to in LPO I		§ 73 (1) 5. Mathematik Angewandte Mathematik					

10-M-ANA-082-m01	Analysis							
	ECTS	17	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		<p>This module comprises 3 module components. Information on courses will be listed separately for each module component.</p> <ul style="list-style-type: none"> 10-M-ANA-1-082: V + Ü (no information on SWS (weekly contact hours) and course language available) 10-M-ANA-2-082: V + Ü (no information on SWS (weekly contact hours) and course language available) 10-M-ANA-P-082: 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-ANA-1-082: Analysis 1 Analysis 1</p> <ul style="list-style-type: none"> 8 ECTS, Method of grading: (not) successfully completed a) written examination (approx. 90 minutes; usually chosen) 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 if agreed upon with the examiner Other prerequisites: Modules 10-M-VKM and 10-M-PPM are recommended. <p>Assessment in module component 10-M-ANA-2-082: Analysis 2 Analysis 2</p> <ul style="list-style-type: none"> 7 ECTS, Method of grading: (not) successfully completed a) written examination (approx. 90 minutes; usually chosen) 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 if agreed upon with the examiner Other prerequisites: Modules 10-M-VKM and 10-M-PPM are recommended; in addition, module component 10-M-ANA-1 is recommended for module component 10-M-ANA-2. <p>Assessment in module component 10-M-ANA-P-082: Examination in Analysis</p> <ul style="list-style-type: none"> 2 ECTS, Method of grading: numerical grade oral examination of one candidate each (approx. 30 minutes) Language of assessment: German, English if agreed upon with the examiner Only after successful completion of module components: Successful completion of any one of the module components 10-M-ANA-1, 10-M-ANL-1, 10-M-ANA-2, 10-M-ANL-2 is a prerequisite for participation in module component 10-M-ANA-P. 					
	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-o82-mo1	Linear Algebra							
	ECTS	14	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-o82: V + Ü (no information on SWS (weekly contact hours) and course language available)• 10-M-LNA-2-o82: V + Ü (no information on SWS (weekly contact hours) and course language available)• 10-M-LNA-P-o82: 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-LNA-1-o82: Linear Algebra 1 Linear Algebra 1 <ul style="list-style-type: none">• 7 ECTS, Method of grading: (not) successfully completed• written examination (approx. 90 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. Assessment in module component 10-M-LNA-2-o82: Linear Algebra 2 Linear Algebra 2 <ul style="list-style-type: none">• 5 ECTS, Method of grading: (not) successfully completed• written examination (approx. 90 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. Assessment in module component 10-M-LNA-P-o82: Examination in Linear Algebra <ul style="list-style-type: none">• 2 ECTS, Method of grading: numerical grade• oral examination of one candidate each (approx. 30 minutes)• Language of assessment: German, English if agreed upon with the examiner• Only after successful completion of module components: Successful completion of module component 10-M-LNA-1 or module component 10-M-LNA-2 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.					
	Referred to in LPO I		§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie					

10-M-ST1-082-m01	Stochastics 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. 90 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.					
	Referred to in LPO I		§ 73 (1) 3. Mathematik Stochastik					

10-M-DFT-o82-mo1	Ordinary Differential Equations and Complex Analysis							
	ECTS	13	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-DFT-1-o82: V + Ü (no information on SWS (weekly contact hours) and course language available)• 10-M-DFT-2-o82: V + Ü (no information on SWS (weekly contact hours) and course language available)• 10-M-DFT-P-o82: 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-DFT-1-o82: Ordinary Differential Equations Ordinary Differential Equations <ul style="list-style-type: none">• 4 ECTS, Method of grading: (not) successfully completed• written examination (approx. 90 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. Assessment in module component 10-M-DFT-2-o82: Introduction to Complex Analysis Introduction to Complex Analysis <ul style="list-style-type: none">• 7 ECTS, Method of grading: (not) successfully completed• written examination (approx. 90 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. Assessment in module component 10-M-DFT-P-o82: Examination in Ordinary Differential Equations and Complex Analysis <ul style="list-style-type: none">• 2 ECTS, Method of grading: numerical grade• oral examination of one candidate each (approx. 30 minutes)• Language of assessment: German, English if agreed upon with the examiner• Only after successful completion of module components: Successful completion of module component 10-M-DFT-1 or module component 10-M-DFT-2 is a prerequisite for participation in module component 10-M-DFT-P.					
	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-VAN-o82-mo1	Advanced Analysis							
	ECTS	8	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	Ü + V (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 90 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.						
	Referred to in LPO I	§ 73 (1) 1. Mathematik Analysis						
Compulsory Electives (59 ECTS credits)								
Mathematics 1 (5 ECTS credits)								
10-M-NM2-o82-mo1	Numerical Mathematics 2							
	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. 90 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.						
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik						

10-M-ST2-082-m01	Stochastics 2							
	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. 90 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.						
	Referred to in LPO I	§ 73 (1) 3. Mathematik Stochastik						
Mathematics 2 (10 ECTS credits)								
10-M-EDM-072-m01	Introduction to Discrete Mathematics							
	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. 90 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.						
	Referred to in LPO I	§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie						
10-M-FAN-072-m01	Introduction to Functional Analysis							
	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. 90 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.						
	Referred to in LPO I	§ 73 (1) 1. Mathematik Analysis						

10-M-ORS-072-m01	Operations Research							
	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. 90 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.						
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik						
10-M-NLD-072-m01	Non-Linear Dynamics							
	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. 90 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.						
	Referred to in LPO I	§ 73 (1) 1. Mathematik Analysis						
Mathematics 3 (4 ECTS credits)								
10-M-RCN-082-m01	Reading Course Numerical Mathematics							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	A (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) talk (approx. 30 minutes) or b) written elaboration (approx. 5 to 10 pages)						
10-M-RCS-082-m01	Reading Course Stochastics							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	A (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) talk (approx. 30 minutes) or b) written elaboration (approx. 5 to 10 pages)						
10-M-RCD-082-m01	Reading Course Discrete Mathematics							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	A (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) talk (approx. 30 minutes) or b) written elaboration (approx. 5 to 10 pages)						
Bachelor's with 1 major Mathematics (2008)					JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record 82 105 - - H 2008			page 13 / 39

10-M-RCF-o82-mo1	Reading Course Functional Analysis							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	A (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) talk (approx. 30 minutes) or b) written elaboration (approx. 5 to 10 pages)						
10-M-RCO-o82-mo1	Reading Course Operations Research							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	A (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) talk (approx. 30 minutes) or b) written elaboration (approx. 5 to 10 pages)						
10-M-RCY-o82-mo1	Reading Course Dynamical Systems							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	A (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) talk (approx. 30 minutes) or b) written elaboration (approx. 5 to 10 pages)						
10-M-RCP-o82-mo1	Reading Course Optimisation							
	ECTS	4	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	A (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) talk (approx. 30 minutes) or b) written elaboration (approx. 5 to 10 pages)						
Mathematics 4 (5 ECTS credits)								
10-M-BSA-o72-mo1	Seminar in Analysis							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 1. Mathematik Analysis						
10-M-BSL-o72-mo1	Seminar in Linear Algebra							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie						

10-M-BSE-072-m01	Seminar in Algebra							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie						
10-M-BSG-072-m01	Seminar in Geometry							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 4. Mathematik Geometrie						
10-M-BSZ-072-m01	Seminar in Number Theory							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 2. Mathematik Lineare Algebra, Algebra und Elemente der Zahlentheorie						
10-M-BSW-072-m01	Seminar in Ordinary Differential Equations							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 1. Mathematik Analysis						
10-M-BSC-072-m01	Seminar in Complex Analysis							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 1. Mathematik Analysis						

10-M-BSN-072-m01	Seminar in Numerical Mathematics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik						
10-M-BSS-072-m01	Seminar in Stochastics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes) Assessment offered: in the semester in which the course is offered Language of assessment: German, English if agreed upon with the examiner						
	Referred to in LPO I	§ 73 (1) 3. Mathematik Stochastik						
10-M-BSF-072-m01	Seminar in Functional Analysis							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes)						
10-M-BSO-072-m01	Seminar in Operation Research							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes)						
10-M-BSD-072-m01	Seminar in Discrete Mathematics							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 60 minutes)						

Application-oriented Subject (35 ECTS credits)								
Application-oriented Subject Biology (35 ECTS credits)								
Application-oriented Subject Biology Compulsory Courses (10 ECTS credits)								
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.					
07-1A1Z-072-m01	Structure and Function of Cells							
	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 (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.					

Application-oriented Subject Biology Compulsory Electives (25 ECTS credits)

In the area of mandatory electives, two of the following three modules must be completed: 07-1A1E, 07-1A1T, 07-1A1P. To achieve the required total of 25 ECTS credits in the area of mandatory electives, students may choose as many of the remaining modules as they wish. When taking up their studies, students are highly recommended to consult with the course advisory service Biology that will help them make an appropriate choice of modules.

07-3A3BI-072-m01	Bioinformatics							
	ECTS	2	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">07-3A3BI-1B-072: V (no information on SWS (weekly contact hours) and course language available)07-3A3BI-2B-072: S (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 07-3A3BI-1B-072: Bioinformatics (Lecture) <ul style="list-style-type: none">1 ECTS, Method of grading: numerical gradewritten examination (approx. 20 minutes) Assessment in module component 07-3A3BI-2B-072: Bioinformatics (Seminar) <ul style="list-style-type: none">1 ECTS, Method of grading: (not) successfully completedterm paper (approx. 5 to 10 pages)					
	Participants and allocation of places		Only as part of Biochemistry Master's: 5 places. Places will be allocated by lot.					
07-3A3OE-072-m01	Ecology of plants and animals							
	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-1T-072: V + Ü (no information on SWS (weekly contact hours) and course language available)07-3A3OE-2P-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 07-3A3OE-1T-072: Ecology of Animals (Lecture and Practice) Ecology of Animals (Lecture and Practice) <ul style="list-style-type: none">3 ECTS, Method of grading: numerical gradewritten examination (45 minutes) Assessment in module component 07-3A3OE-2P-072: Ecology of Plant (Lecture and Practice) Ecology of Plant (Lecture and Practice) <ul style="list-style-type: none">3 ECTS, Method of grading: numerical gradewritten examination (60 minutes)					
07-4BFMZ4-092-m01	Bioinformatics for advanced students							
	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)					

07-4BFN-VO3-092-m01	Ecology of Animals for advanced students							
	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 (60 minutes)					
07-4BF-PS2-092-m01	Biophysics - Basic course							
	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 (60 minutes)					
07-4S1M-Z6-092-m01	Special Bioinformatics I							
	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)					
07-4S1N-VO1-092-m01	Neurobiology 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		log (approx. 10 to 20 pages)					
07-4S1N-VO5-092-m01	Ecology of populations							
	ECTS	5	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">07-4S1NVO5-1PO-092: V + Ü (no information on SWS (weekly contact hours) and course language available)07-4S1NVO5-2PO-092: S (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 07-4S1NVO5-1PO-092: Basic Ecology of Populations (Lecture, Practice) Basic Ecology of Populations (Lecture, Practice) <ul style="list-style-type: none">4 ECTS, Method of grading: numerical gradewritten examination (45 minutes) Assessment in module component 07-4S1NVO5-2PO-092: Ecology of Populations (Seminar) <ul style="list-style-type: none">1 ECTS, Method of grading: (not) successfully completedpresentation (approx. 20 to 30 minutes)					
07-4S1PS1-092-m01	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 (4 hours)					

07-5S2M- Z3-092-m01	Specific Bioinformatics II							
	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	a) written examination (approx. 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 (groups of up to 3 candidates, approx. 60 minutes) or e) presentation (approx. 20 to 30 minutes)						
07-1A1E-072-m01	Evolution - Basics and Principles (Lecture and Practice)							
	ECTS	1	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (30 minutes)						
07-1A1T-072-m01	The Animal Kingdom							
	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. 60 minutes)						
	other 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.						
07-1A1P-072-m01	The Plant Kingdom							
	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. 60 minutes)						
	other prerequisites	Admission prerequisite to assessment: regular attendance of exercises as well as successful completion of the respective exercises.						
07-3A3GE-072- m01	Genetics							
	ECTS	2	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	written examination (30 minutes)						
Application-oriented Subject Chemistry (35 ECTS credits)								
Application-oriented Subject Chemistry Compulsory Courses (26 ECTS credits)								
08-OC1-072-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	written examination (90 minutes)						
	other prerequisites	Registration for assessment: Yes, as specified.						

o8-PC1-072-m01	Principles of quantum mechanics and spectroscopy							
	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: 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination in groups (groups of 2, approx. 30 minutes)						
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)						
o8-CM1-072-m01	Participants and allo- cation of places	Only as part of pool of general key skills (ASQ): 10 places. Places will be allocated by lot.						
	General Chemistry for Mathematics Majors							
	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. 60 minutes)						
Application-oriented Subject Chemistry Compulsory Electives (9 ECTS credits)								
o8-OC2-072-m01	Organic Chemistry 2							
	ECTS	9	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü + V (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 in groups (groups of 2, approx. 30 minutes)						
o8-PC3-082-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	written examination (90 minutes)						
	other prerequisites	Registration for assessment: Yes, as specified.						
o8-TC-082-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: 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination in groups (groups of 2, approx. 30 minutes)						

Application-oriented Subject Geography (35 ECTS credits)								
Application-oriented Subject Geography Compulsory Electives 1 (15 ECTS credits)								
09-HG1-082-m01	General Human Geography							
	ECTS	15	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">09-HG1-1-082: V + T (no information on SWS (weekly contact hours) and course language available)09-HG1-2-082: V + T (no information on SWS (weekly contact hours) and course language available)09-HG1-3-082: V + T (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 09-HG1-1-082: Introduction to the Geography of Cities, Towns and Villages Introduction to the Geography of Cities, Towns and Villages <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes) Assessment in module component 09-HG1-2-082: Introduction to Economic Geography Introduction to Economic Geography <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes) Assessment in module component 09-HG1-3-082: Introduction to Social and Population Geography Introduction to Social and Population Geography <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes)					
	Referred to in LPO I		§ 47 (1) 1. Geographie Humangeographie § 66 (1) 1. Geographie Humangeographie					

09-PG1-082-m01	General Physical Geography							
	ECTS	15	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">09-PG1-1-082: V + T (no information on SWS (weekly contact hours) and course language available)09-PG1-2-082: V + T (no information on SWS (weekly contact hours) and course language available)09-PG1-3-082: V + T (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 09-PG1-1-082: General Physical Geography 3 (Earth System: Exogenic Dynamics) General Physical Geography 3 (Earth System: Exogenic Dynamics) <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (45 minutes) Assessment in module component 09-PG1-2-082: General Physical Geography 2 (Earth System: Climate System) General Physical Geography 2 (Earth System: Climate System) <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes) Assessment in module component 09-PG1-3-082: General Physical Geography 3 (Earth System: Endogenic Dynamics) General Physical Geography 3 (Earth System: Endogenic Dynamics) <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes)					
	Referred to in LPO I		§ 47 (1) 1. Geographie Physiogeographie § 66 (1) 1. Geographie Physiogeographie					
Application-oriented Subject Geography Compulsory Electives 2 (10 ECTS credits)								
09-KART-082-m01	Cartography and Geoinformation							
	ECTS	10	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">09-KART-1-082: V + T (no information on SWS (weekly contact hours) and course language available)09-KART-2-082: S (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 09-KART-1-082: Cartography and Geodata Cartography and Geodata <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (approx. 75 minutes) and practice work (approx. 30 hours for creating approx. 3 maps or diagrams); weighted 1:1 Assessment in module component 09-KART-2-082: Geographical Information Systems (GIS) <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepractice work (approx. 5 pieces of practice work to be completed in approx. 30 hours)					
	Referred to in LPO I		§ 66 (1) 2. Geographie Methoden der Geographie					

09-FERN-082-m01	Remote Sensing							
	ECTS	10	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">09-FERN-1-082: V + T (no information on SWS (weekly contact hours) and course language available)09-FERN-2-082: V + T (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 09-FERN-1-082: Introduction to Geographical Remote Sensing Introduction to Geographical Remote Sensing <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes) Assessment in module component 09-FERN-2-082: Applications of Remote Sensing in Geography Applications of Remote Sensing in Geography <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (45 minutes)					
	Referred to in LPO I		§ 66 (1) 2. Geographie Methoden der Geographie					
Application-oriented Subject Geography Compulsory Electives 3 (10 ECTS credits)								
09-PG2-082-m01	Special Problems of Physical Geography							
	ECTS	10	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">09-PG2-1-082: V (no information on SWS (weekly contact hours) and course language available)09-PG2-2-082: S (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 09-PG2-1-082: Special Problems of Physical Geography 1 (Earth System: Man and Environment) <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten examination (approx. 45 minutes) Assessment in module component 09-PG2-2-082: Special Problems of Physical Geography 2 (Earth System: Man and Environment) <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1					

09-PG3-082-m01	Applied Physical Geography							
	ECTS	10	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">09-PG3-1-082: S (no information on SWS (weekly contact hours) and course language available)09-PG3-2-082: S (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 09-PG3-1-082: Project Seminar: Establishing Current Status and Data Acquisition <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation (30 minutes) with written elaboration (20 pages), weighted 1:1 Assessment in module component 09-PG3-2-082: Project Seminar: Data Evaluation, Data Visualisation and Presentation <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradeproject report (20 pages)					
09-MT1-082-m01	Data Acquisition and Processing in Physical Geography							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		presentation (approx. 15 minutes) with written elaboration (15 pages), weighted 1:1					
09-MT3-082-m01	Working Methods: Solid Earth System							
	ECTS	10	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">09-MT3-1-082: S (no information on SWS (weekly contact hours) and course language available)09-MT3-2-082: 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 09-MT3-1-082: Mineral and Rock Identification <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten or oral examination of one candidate each (30 minutes each) Assessment in module component 09-MT3-2-082: Geological Maps and Structures <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradewritten or oral examination of one candidate each (approx. 30 minutes each) or term paper (approx. 20 pages)					
	Referred to in LPO I		§ 66 (1) 2. Geographie Methoden der Geographie					

09-MT5-082-m01	Working Methods of Physical Geography							
	ECTS	10	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">09-MT5-1-082: P (no information on SWS (weekly contact hours) and course language available)09-MT5-2-082: S (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 09-MT5-1-082: Introduction to physiogeographical Fieldwork Skills, Field Mapping and Measuring <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradeplacement report / fieldwork report / report on practical training / report on practical course / project report / report on technical course (approx. 15 pages)Other prerequisites: A basic knowledge of inorganic chemistry and physics is recommended. Assessment in module component 09-MT5-2-082: Data management, -analysis and -interpretation <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation of project (approx. 30 minutes) and written elaboration (approx. 20 pages); weighted 1:1Other prerequisites: A basic knowledge of inorganic chemistry and physics is recommended.					
	other prerequisites		By way of exception, additional prerequisites are listed in the section on assessments.					
09-HG2-082-m01	Special Issues of Human Geography							
	ECTS	10	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">09-HG2-1-082: S (no information on SWS (weekly contact hours) and course language available)09-HG2-2-082: S (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 09-HG2-1-082: Special Issues of Human Geography 1 <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1 Assessment in module component 09-HG2-2-082: Special Issues of Human Geography 2 <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1					

09-HG3-082-m01	Applied Human Geography							
	ECTS	10	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">09-HG3-1-082: S (no information on SWS (weekly contact hours) and course language available)09-HG3-2-082: S (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 09-HG3-1-082: Project-oriented Seminar 1 for Applied Human Geography <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1 Assessment in module component 09-HG3-2-082: Project-oriented Seminar 2 for Applied Human Geography <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation (approx. 30 minutes) with written elaboration (approx. 20 pages), weighted 1:1					
09-MT2-082-m01	Theories and Methodology in Human Geography							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (45 minutes) and presentation (approx. 20 minutes), weighted 1:1					
	Referred to in LPO I		§ 66 (1) 2. Geographie Methoden der Geographie					
09-MT4-082-m01	Quantitative and Qualitative Regional Analysis							
	ECTS	10	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">09-MT4-1-082: S (no information on SWS (weekly contact hours) and course language available)09-MT4-2-082: S (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 09-MT4-1-082: Quantitative Regional Analysis <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation (30 minutes) with written elaboration (approx. 20 pages), weighted 1:1 Assessment in module component 09-MT4-2-082: Qualitative Regional Analysis <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradepresentation (30 minutes) with written elaboration (approx. 20 pages), weighted 1:1					
	Modules successfully completed		09-MT2 as well as one module component of modules 09-KART and 09-STAT each					

09-MT6-082-m01	Methods of Planning in Human Geography							
	ECTS	10	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">09-MT6-1-082: S (no information on SWS (weekly contact hours) and course language available)09-MT6-2-082: S (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 09-MT6-1-082: Methods of Planning in Human Geography 1 <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradea) presentation (approx. 25 minutes) with written elaboration (approx. 12 pages), weighted 1:1 or b) term paper (approx. 20 pages) or c) several small assessments (total length/expenditure of time comparable to a) and/or b)), weighted 1:1 Assessment in module component 09-MT6-2-082: Methods of Planning in Human Geography 2 <ul style="list-style-type: none">5 ECTS, Method of grading: numerical gradea) presentation (approx. 25 minutes) with written elaboration (approx. 12 pages), weighted 1:1 or b) term paper (approx. 20 pages) or c) several small assessments (total length/expenditure of time comparable to a) and/or b)), weighted 1:1					
	Modules successfully completed		09-MT2 as well as one module component of modules 09-KART and 09-STAT each					
Application-oriented Subject Computer Science (35 ECTS credits)								
Application-oriented Subject Computer Science Compulsory Electives (35 ECTS credits)								
10-I-IÜ-072-m01	Information transmission							
	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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)					
10-I-RAL-072-m01	Digital computer 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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)					
10-I-TI-072-m01	Theoretical informatics							
	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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)					

10-I-ADS-072-m01	Algorithm and data structures							
	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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)						
10-I-AR-072-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 (80 minutes)						
10-I-DB-072-m01	Data bases							
	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 (50 minutes) or oral examination (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes)						
10-I-GT-072-m01	Graphtheoretical concepts and algorithms							
	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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)						
10-I-KT-072-m01	Theory of complexity							
	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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)						
10-I-LOG-072-m01	Logic for informatics							
	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 (50 minutes) or oral examination (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes)						
10-I-OOP-072-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 (50 minutes) or oral examination (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes)						

10-I-PP-072-m01	Practical course in programming							
	ECTS	9	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 programming exercises (expenditure of time as specified) and final examination: written examination (60 to 90 minutes) or oral examination (one candidate each: 10 to 15 minutes, groups of 2: 20 minutes, groups of 3: 30 minutes)						
10-I-RAK-072-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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)						
10-I-RK-072-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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)						
10-I-ST-072-m01	Software 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 (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)						
10-I-SWP-072-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	periodic presentations on project progress with regard to detailing problem specifications, the corresponding solution components (software) and the documentation of these; if project is completed in groups, proof of contributions made by the individual student required; software and project documentation as specified in assignment, final presentation (10 to 15 minutes per group)						
10-I-WMS-072-m01	Knowledge management systems and data mining							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + Ü + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)						

Application-oriented Subject Philosophy (35 ECTS credits)								
Application-oriented Subject Philosophy Compulsory Courses (20 ECTS credits)								
06-B-P1-072-m01	Principles of Philosophy							
	ECTS	10	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">• 06-B-P1-1-072: Ü (no information on SWS (weekly contact hours) and course language available)• 06-B-P1-2-072: Ü (no information on SWS (weekly contact hours) and course language available)• 06-B-P1-3-072: Ü + 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 06-B-P1-1-072: Introduction to academic working techniques <ul style="list-style-type: none">• 2 ECTS, Method of grading: (not) successfully completed• 2 to 3 written assessments (approx. 1 page each) and/or oral assessments (approx. 5 minutes each) Assessment in module component 06-B-P1-2-072: Formal Logic <ul style="list-style-type: none">• 3 ECTS, Method of grading: (not) successfully completed• written examination (90 minutes) Assessment in module component 06-B-P1-3-072: Principles of Philosophy: historical epochs, main works, authors Principles of Philosophy: historical epochs, main works, authors <ul style="list-style-type: none">• 5 ECTS, Method of grading: numerical grade• oral examination (approx. 25 minutes)					
06-B-P2-072-m01	Philosophy and the sciences							
	ECTS	10	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">• 06-B-P2-1-072: S (no information on SWS (weekly contact hours) and course language available)• 06-B-P2-2-072: S (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 06-B-P2-1-072: Philosophical principles of arts and humanities <ul style="list-style-type: none">• 5 ECTS, Method of grading: numerical grade• written examination (approx. 120 minutes) Assessment in module component 06-B-P2-2-072: Philosophical principles of natural sciences and technology <ul style="list-style-type: none">• 5 ECTS, Method of grading: numerical grade• written examination (approx. 120 minutes)					
Application-oriented Subject Philosophy Compulsory Electives (15 ECTS credits)								
06-B-P3-072-m01	Theoretical philosophy							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		Ü + Ü + S + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 180 minutes)					

o6-B-P4-072-m01	Practical Philosophy							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		Ü + Ü + S + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 180 minutes)					
o6-B-P5-072-m01	History of philosophy							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		Ü + Ü + S + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		written examination (approx. 180 minutes)					
o6-B-P6-072-m01	Issue of research in philosophy							
	ECTS	10	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		V + S + S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		term paper (approx. 12 pages)					
o6-B-W1-072-m01	Text analysis: Ancient Philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		term paper (approx. 12 pages)					
o6-B-W2-072-m01	Text Analysis: Medieval Philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		term paper (approx. 12 pages)					
o6-B-W3-072-m01	Text analysis: modern philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		term paper (approx. 12 pages)					
o6-B-W4-072-m01	Text analysis: contemporary philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		term paper (approx. 12 pages)					
o6-B-W5-072-m01	Basic disciplines of theoretical philosophy: metaphysics and epistemology							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		term paper (approx. 12 pages)					
o6-B-W6-072-m01	Specific disciplines of theoretical philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses		S (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment		term paper (approx. 12 pages)					

06-B-W7-072-m01	Basic disciplines of practical philosophy: ethics and theory of action							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	term paper (approx. 12 pages)						
06-B-W8-072-m01	Specific disciplines of practical philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	term paper (approx. 12 pages)						
06-B-W9-072-m01	Problems of Older Philosophy: Ancient/Medieval							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	oral examination (approx. 25 minutes)						
06-B-W10-072-m01	Problems of Modern/Contemporary Philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	oral examination (approx. 25 minutes)						
06-B-W11-072-m01	Problems of Theoretical Philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	oral examination (approx. 25 minutes)						
06-B-W12-072-m01	Problems of Practical Philosophy							
	ECTS	5	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	S (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	oral examination (approx. 25 minutes)						
Application-oriented Subject Physics (min. 35 ECTS credits)								
Application-oriented Subject Physics Compulsory Courses (16 ECTS credits)								
If consent is obtained from the examination committee, modules 11-ENNF1 and 11-ENNF2 (7 ECTS credits each) may be replaced with modules 11-E1 and 11-E2 (8 ECTS credits each).								
11-ENNF1-062-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 allo- cation of places		Only as part of pool of general key skills (ASQ): 20 places. Places will be allocated by lot.					
11-PFR-072-m01	Measurements and Data Analysis							
	ECTS	2	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)					
Application-oriented Subject Physics Compulsory Electives 1 (3-4 ECTS credits)								
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 allo- cation of places		Only as part of pool of general key skills (ASQ): 15 places. Places will be allocated by lot.					

11-PG-IAF-072-m01	Practical Course							
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses		Beispiele aus Mechanik, Wärmelehre und Elektrik (Examples from Mechanics, Thermodynamics and Electricity, BAM): P (2 weekly contact hours) Klassische Physik (Classical Physics, KLP): P (2 weekly contact hours) Elektrizitätslehre und Schaltungen (Electricity and Circuits, ELS): P (2 weekly contact hours) Wellenoptik (Physical Optics, WOP): P (2 weekly contact hours) Atom- und Kernphysik (Atomic and Nuclear Physics, AKP): P (2 weekly contact hours) Computer und Messtechnik (Computers and Measurement Technology, CMT): P (2 weekly contact hours)					
	Method of assessment		This module has the following assessment components 1. Lab course in part 1: 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). 2. Lab course in part 2: 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). Students must register for assessment components 1 and 2 online (registration deadline to be announced). Students will be offered one opportunity to retake element a) and/or element b). To pass an assessment component, they must pass both elements a) and b). To pass this module, students must successfully complete two out of the six courses. Students must attend BAM, KLP or ELS courses prior to attending WOP, AKP or CMT courses. To pass this module, students must pass both assessment component 1 and assessment component 2.					
	other prerequisites		Module 11-PFR recommended.					
Application-oriented Subject Physics Compulsory Electives 2 (16 ECTS credits)								
11-E3-072-m01	Experimental Physics 3 (Optics, Quantum Phenomena, Introduction Atomic Physics)							
	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)					
11-E4-072-m01	Experimental Physics 4 (Introduction to Solid State Physics)							
	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)					
11-T1-072-m01	Theoretical Physics 1 (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)					

11-T2-072-m01	Theoretical Physics 2 (Theoretical Electrostatics and 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)						
11-T3-072-m01	Theoretical Physics 3 (Theoretical 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)						
11-T4-072-m01	Theoretical Physics 4 (Theoretical Thermodynamics and Statistics)							
	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)						
Application-oriented Subject Business Management and Economics (35 ECTS credits)								
Application-oriented Subject Business Management and Economics Compulsory Courses (30 ECTS credits)								
12-IntUR-G-072-m01	Managerial Accounting							
	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. 60 minutes)						
12-ExtUR-G-072-m01	Financial Accounting							
	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. 60 minutes)						
12-EBWL-G-072-m01	Introduction to Business Administration							
	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. 60 minutes)						
12-EVWL-G-072-m01	Introduction to Economics							
	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. 60 minutes)						
12-Mak1-G-072-m01	Macroeconomics 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	written examination (approx. 60 minutes)						

12-Mik1-G-072-m01	Microeconomics 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	written examination (approx. 60 minutes)						
Application-oriented Subject Business Management and Economics Compulsory Electives (5 ECTS credits)								
12-Mark-G-072-m01	Introduction to Market-Oriented Management							
	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. 60 minutes)						
12-BPL-G-072-m01	Supply, Production and Operations Management. An Introduction							
	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. 60 minutes)						
12-l&F-G-072-m01	Investment and Finance. An Introduction							
	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. 60 minutes)						
12-Mak2-G-072-m01	Macroeconomics 2							
	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. 60 minutes)						
12-Mik2-G-072-m01	Microeconomics 2							
	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. 60 minutes)						
12-WiPo-G-072-m01	Introduction to Economic Policy							
	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. 60 minutes)						
Thesis (10 ECTS credits)								
10-M-BAM-072-m01	Thesis Mathematics (Bachelor Thesis)							
	ECTS	10	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						
	other prerequisites	Registration for assessment: as specified.						
Bachelor's with 1 major Mathematics (2008)					JMU Würzburg • generated 11-Jan-2023 • exam. reg. data record 82 105 - H 2008			page 37 / 39

Subject-specific Key Skills (10 ECTS credits)							
10-M-COMg-o82-mo1	Computational Mathematics, advanced						
	ECTS	4	Duration	1 semester	Method of grading	(not) successfully completed	Modul level undergraduate
	Courses	Ü + V (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment	project in the form of programming exercises (type and expenditure of time to be specified by the lecturer at the beginning of the course) Assessment offered: once a year, summer semester Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites	Admission prerequisite to assessment: regular attendance of exercises (attendance monitored, a maximum of one incident of unexcused absence).					
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik					
10-M-PRGk-o82-mo1	Programming course for students of Mathematics and other subjects, simple						
	ECTS	2	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	project 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 examiner					
	other prerequisites	Admission prerequisite to assessment: regular attendance (attendance monitored, a maximum of one incident of unexcused absence).					
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik					
10-M-VKM-o82-mo1	Preparatory Course Mathematics						
	ECTS	1	Duration	1 semester	Method of grading	(not) successfully completed	Modul level undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)					
	Method of assessment	project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course) Assessment offered: once a year, winter semester Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites	Admission prerequisite to assessment: regular attendance of courses (as specified at the beginning of the course).					
10-M-PRG-o82-mo1	Programming course for students of Mathematics and other 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	project in the form of programming exercises (as specified at the beginning of the course) Language of assessment: German, English if agreed upon with the examiner					
	other prerequisites	Admission prerequisite to assessment: regular attendance (attendance monitored, a maximum of one incident of unexcused absence).					
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik					

10-M-COM-o82-mo1	Computeroriented Mathematics							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	V + Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	project in the form of programming exercises (as specified at the beginning of the course) Assessment offered: once a year, summer semester Language of assessment: German, English if agreed upon with the examiner						
	other prerequisites	Admission prerequisite to assessment: regular attendance of exercises (attendance monitored, a maximum of one incident of unexcused absence).						
	Referred to in LPO I	§ 73 (1) 5. Mathematik Angewandte Mathematik						
10-M-BAK-o82-mo1	Defense of Bachelor Thesis in Mathematics							
	ECTS	3	Duration	1 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	A (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	talk (approx. 15 minutes) with subsequent discussion (approx. 15 minutes)						