

## Annex SFB

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

Responsible: Faculty of Chemistry and Pharmacy

Examination regulations version: 2007

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)):

**17-Apr-2008 (2008-9)**

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

Every module will be described using the following form:

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

Compulsory Courses (145 ECTS credits)							
o8-AC1-072-m01	<b>Inorganic Chemistry 1</b>						
	ECTS	20	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"> <li>o8-AC1-1-072: V + V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>o8-AC1-2-072: P (no information on SWS (weekly contact hours) and course language available)</li> <li>o8-AC1-3-072: V (no information on SWS (weekly contact hours) and course language available)</li> </ul>					
	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. <p><b>Assessment in module component o8-AC1-1-072:</b> Principles of Inorganic Chemistry Principles of Inorganic Chemistry Principles of Inorganic Chemistry</p> <ul style="list-style-type: none"> <li>10 ECTS, Method of grading: numerical grade</li> <li>a) 1 to 3 written examinations (1 written examination: 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)</li> </ul> <p><b>Assessment in module component o8-AC1-2-072:</b> Inorganic Chemistry 1 (lab)</p> <ul style="list-style-type: none"> <li>7 ECTS, Method of grading: (not) successfully completed</li> <li>Vortestate (pre-experiment exams, approx. 15 minutes each), assessment of practical performance, Nachtestate (post-experiment exams, approx. 15 minutes each)</li> <li>Assessment offered: once a year, winter semester</li> </ul> <p><b>Assessment in module component o8-AC1-3-072:</b> Inorganic Chemistry 1 (lab accompanying lecture)</p> <ul style="list-style-type: none"> <li>3 ECTS, Method of grading: numerical grade</li> <li>3 written examinations (45 minutes each), weighted 1:1:1, dates to be announced</li> <li>Other prerequisites: Registration for assessment: Yes, as specified.</li> </ul>					
	other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.					
o8-AC2-072-m01	<b>Inorganic Chemistry 2</b>						
	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	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-AC3-072-mo1	<b>Inorganic Chemistry 3</b>							
	ECTS	9	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"> <li>o8-AC3-1-072: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>o8-AC3-2-072: P (no information on SWS (weekly contact hours) and course language available)</li> </ul>						
	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. <p><b>Assessment in module component o8-AC3-1-072:</b> Elemental Organic Chemistry Elemental Organic Chemistry</p> <ul style="list-style-type: none"> <li>4 ECTS, Method of grading: numerical grade</li> <li>a) 1 to 3 written examinations (1 written examination: 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)</li> </ul> <p><b>Assessment in module component o8-AC3-2-072:</b> Inorganic Chemistry 2 (lab)</p> <ul style="list-style-type: none"> <li>5 ECTS, Method of grading: (not) successfully completed</li> <li>Vortestate (pre-experiment exams, approx. 15 minutes each), assessment of practical performance, Nachtestate (post-experiment exams, approx. 15 minutes each)</li> <li>Assessment offered: once a year, winter semester</li> </ul>						
o8-AN1-072-mo1	<b>Analytical Chemistry 1</b>							
	ECTS	12	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"> <li>o8-AN1-1-072: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>o8-AN1-2-072: P (no information on SWS (weekly contact hours) and course language available)</li> </ul>						
	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. <p><b>Assessment in module component o8-AN1-1-072:</b> Principles of Analytical Chemistry Principles of Analytical Chemistry</p> <ul style="list-style-type: none"> <li>6 ECTS, Method of grading: numerical grade</li> <li>written examination (90 minutes)</li> <li>Other prerequisites: Registration for assessment: Yes, as specified.</li> </ul> <p><b>Assessment in module component o8-AN1-2-072:</b> Analytical Chemistry (lab)</p> <ul style="list-style-type: none"> <li>6 ECTS, Method of grading: (not) successfully completed</li> <li>Vortestate (pre-experiment exams, approx. 15 minutes each), assessment of practical performance, Nachtestate (post-experiment exams, approx. 15 minutes each)</li> <li>Assessment offered: once a year, summer semester</li> </ul>						
	other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.						
o8-OC1-072-mo1	<b>Organic Chemistry 1</b>							
	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-OC2-072-m01	<b>Organic Chemistry 2</b>							
	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-OC3-072-m01	<b>Organic Chemistry 3</b>							
	ECTS	15	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"> <li>o8-OC3-1-072: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>o8-OC3-2-072: P (no information on SWS (weekly contact hours) and course language available)</li> </ul>						
	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. <p><b>Assessment in module component o8-OC3-1-072: Organic Chemistry 3 Organic Chemistry 3</b></p> <ul style="list-style-type: none"> <li>6 ECTS, Method of grading: numerical grade</li> <li>a) 1 to 3 written examinations (1 written examination: 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)</li> </ul> <p><b>Assessment in module component o8-OC3-2-072: Organic Chemistry - lab 1</b></p> <ul style="list-style-type: none"> <li>9 ECTS, Method of grading: (not) successfully completed</li> <li>Vortestate (pre-experiment exams, approx. 15 minutes each), assessment of practical performance, Nachtestate (post-experiment exams, approx. 15 minutes each)</li> </ul>						
o8-OC4-072-m01	<b>Organic Chemistry 4</b>							
	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"> <li>o8-OC4-1-072: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>o8-OC4-2-072: P (no information on SWS (weekly contact hours) and course language available)</li> </ul>						
	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. <p><b>Assessment in module component o8-OC4-1-072: Organic Chemistry 4 Organic Chemistry 4</b></p> <ul style="list-style-type: none"> <li>5 ECTS, Method of grading: numerical grade</li> <li>written examination (90 minutes)</li> <li>Other prerequisites: Registration for assessment: Yes, as specified.</li> </ul> <p><b>Assessment in module component o8-OC4-2-072: Organic Chemistry - advanced laboratory course for students of chemistry</b></p> <ul style="list-style-type: none"> <li>5 ECTS, Method of grading: (not) successfully completed</li> <li>Vortestate (pre-experiment exams, approx. 15 minutes each), assessment of practical performance, Nachtestate (post-experiment exams, approx. 15 minutes each)</li> <li>Assessment offered: once a year, winter semester</li> </ul>						
other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.							

o8-PC1-072-m01	<b>Principles of quantum mechanics and spectroscopy</b>							
	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)						
o8-PC2-072-m01	<b>Physical Chemistry 2</b>							
	ECTS	18	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"> <li>o8-PC2-1-072: V + Ü (no information on SWS (weekly contact hours) and course language available)</li> <li>o8-PC2-2-072: P (no information on SWS (weekly contact hours) and course language available)</li> </ul>						
	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. <p><b>Assessment in module component o8-PC2-1-072:</b> Thermodynamics, Kinetics, Electrochemistry Thermodynamics, Kinetics, Electrochemistry</p> <ul style="list-style-type: none"> <li>9 ECTS, Method of grading: numerical grade</li> <li>written examination (90 minutes)</li> <li>Other prerequisites: Registration for assessment: Yes, as specified.</li> </ul> <p><b>Assessment in module component o8-PC2-2-072:</b> Physical Chemistry (lab)</p> <ul style="list-style-type: none"> <li>9 ECTS, Method of grading: (not) successfully completed</li> <li>Vortestate (pre-experiment exams, approx. 15 minutes each), assessment of practical performance, Nachtestate (post-experiment exams, approx. 15 minutes each)</li> <li>Assessment offered: once a year, winter semester</li> </ul>						
	other prerequisites	By way of exception, additional prerequisites are listed in the section on assessments.						
o8-PC3-072-m01	<b>Physical and Theoretical Chemistry 3: Symmetry and Quantum Chemistry</b>							
	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-PC4-072-m01	<b>Physical Chemistry 4: Statistical Thermodynamics</b>							
	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)						
o8-BC-072-m01	<b>Biochemistry</b>							
	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-072-m01	<b>Theoretical Models in Chemistry</b>							
	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)						
10-M-MCB-072-m01	<b>Mathematics for students in Chemistry and Biology</b>							
	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"> <li>10-M-MCB-1-072: V (no information on SWS (weekly contact hours) and course language available)</li> <li>10-M-MCB-2-072: Ü (no information on SWS (weekly contact hours) and course language available)</li> </ul>						
	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. <p><b>Assessment in module component 10-M-MCB-1-072:</b> Mathematics for students in Chemistry and Biology</p> <ul style="list-style-type: none"> <li>3 ECTS, Method of grading: numerical grade</li> <li>written examination (120 minutes)</li> </ul> <p><b>Assessment in module component 10-M-MCB-2-072:</b> Exercises in Mathematics for students in Chemistry and Biology</p> <ul style="list-style-type: none"> <li>2 ECTS, Method of grading: (not) successfully completed</li> <li>exercises (to be submitted on a weekly basis, written examination)</li> </ul>						
11-EFNF-072-m01	<b>Introduction to Physics for Students of Non-physics-related Minor Subjects</b>							
	ECTS	7	Duration	2 semester	Method of grading	numerical grade	Modul level	undergraduate
	Courses	V + V (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	written examination (approx. 120 minutes)						
	Participants and allocation of places	Only as part of pool of general key skills (ASQ): 10 places. Places will be allocated by lot.						
11-PFNF-072-m01	<b>Practical Course Physics for Students of Non-physics-related Minor Subjects</b>							
	ECTS	3	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	P (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	a) oral test (approx. 15 minutes) during experiment and b) ungraded written examination (approx. 90 minutes)						
	Participants and allocation of places	Only as part of pool of general key skills (ASQ): 10 places. Places will be allocated by lot.						
<b>Compulsory Electives (5 ECTS credits)</b>								
o8-PS3-072-m01	<b>Applied Spectroscopy 3</b>							
	ECTS	5	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 (60 minutes)						
	other prerequisites	Registration for assessment: Yes, as specified.						

o8-PKC-072-m01	<b>Programming course for Chemistry Majors</b>							
	ECTS	5	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	practical examination: completion of programming exercises						
	other prerequisites	Registration for assessment: Yes, as specified.						
o8-BCP-072-m01	<b>Biochemistry Lab</b>							
	ECTS	5	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	Vortestate (pre-experiment exams, approx. 15 minutes each), assessment of practical performance (log approx. 5 to 10 pages), Nachtstate (post-experiment exams, approx. 15 minutes each)						
<b>Thesis (10 ECTS credits)</b>								
o8-BA-072-m01	<b>Bachelor Thesis</b>							
	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 or English						
	other prerequisites	Registration for assessment on a continuous basis as agreed upon with supervisor. Topic to be selected in consultation with supervisor. Topic to be assigned by examination committee (Section 21 Subsection 3 ASPO (general academic and examination regulations)).						
<b>Subject-specific Key Skills (10 ECTS credits)</b>								
o8-VP-072-m01	<b>Advanced laboratory course</b>							
	ECTS	5	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	talk (approx. 15 minutes)						
o3-TR-072-m01	<b>Toxicology and legal studies</b>							
	ECTS	3	Duration	1 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. 90 minutes)						
o8-LRAC-072-m01	<b>Literature research methods</b>							
	ECTS	1	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	2 literature searches about given preparations						
o8-LROC-072-m01	<b>Literature research methods</b>							
	ECTS	1	Duration	1 semester	Method of grading	(not) successfully completed	Modul level	undergraduate
	Courses	Ü (no information on SWS (weekly contact hours) and course language available)						
	Method of assessment	1 literature search about given preparations						