



## **6.10.101E Regulatory statutes for the Master program Chemistry at Clausthal University of Technology, Faculty of Natural and Materials Science as of May 3, 2022**

On May 3, 2022, the Faculty of Natural and Materials Science passed the following regulatory statutes in accordance with § 7 subpara. 3 read in conjunction with § 44 subpara. 1 of the Higher Education Act of Lower Saxony (NHG, Niedersächsisches Hochschulgesetz). The regulatory statutes were approved by the Presidium of Clausthal University of Technology on May 25, 2022 (announced in Mitt.TUC 2022, page 212).

### **Preamble**

These regulatory statutes are only valid in connection with the General Examination Regulations (GER) of Clausthal University of Technology as amended and contain all addenda and regulations specific to this study program.

### **Object of the study program**

The aim of the Master program Chemistry is for students to develop fundamental technical knowledge after successful development of chemical and scientific bases. This includes not only broad fundamental knowledge but also specialized knowledge in selected fields. Moreover, students will develop scientific work methods and apply them in-depth.

Building on a Bachelor's degree in Chemistry or an equivalent degree, in this Master program students will be taught to independently work as chemists. The superordinate focus of the Master program is the research orientation on a high academic level. This Master's degree constitutes a degree qualifying for profession and research, especially for independent scientific work. Thus, the Master program equips the students for an academic career or higher positions in economy and the public service.

The educational goals of the Master program should be reached by:

- Some core subjects or one interdisciplinary subject is thoroughly deepened
- Participants are enabled to solve complex problems independently as well as to conduct independent academic work in one field of chemistry
- Participants are able to collaborate in teams and to develop research concepts together
- Anticipatory resource management of affairs regarding time, materials and instruments.

## **Regarding § 5 Program-specific regulatory statutes**

The Master program Chemistry is structured modularly. The amount of credit points (ECTS) for individual modules according to the ECTS (European Credit Transfer System) as well as type and extent of academic achievements and examinations are listed in enclosure 1 (module overview).

One must be chosen out of the following fields of study (FS):

- a. Applied Chemistry
- b. Polymer Chemistry

Enclosures 2a and 2b each contain a model study plan displaying the recommended course of study. Enclosures 3a and 3b each contain a model study plan depicting the recommended course of part-time studies with the average half workload.

A detailed description of modules and extensive information on content can be found in the separate module handbook.

## **In relation to § 6 Length and structure of the study program, assessment**

The program can be commenced with winter or summer semester. The module study plan is intended for commencement of studies in the winter semester. When beginning this study program in the summer semester, students can only keep the standard period of study with increased study efforts.

The program comprises a total of 120 CP, including 30 CP for the Master thesis and colloquium.

The standard period of study of the Master program amounts to four semesters including the Master thesis.

The Master studies in the Master program Chemistry must be completed within the standard period of study plus 4 additional semesters (i.e. within eight semesters). Otherwise, the Master examination is considered failed at the final attempt. In just exceptional cases, the Examination Committee decides upon request. The respective request of the students has to be submitted 3 months before the end of the eighth semester.

## **Regarding § 10 Examination admission**

The choice of a field of study is binding with the first examination attempt. It is only possible to change the field of study if no examination attempt was conducted in any form. It is possible to change the field of study once upon written application with the Examination Office well in advance of taking the examination of the newly chosen module of the other field of study. The choice of a mandatory elective is binding with the first examination attempt. It is only possible to change the mandatory elective modules if no examination attempt was conducted in any form.

### **In relation to § 13 Conception of examinations, additional examinations and additionally required examinations**

The Master examination consists of the module examinations and the part-module examinations of the mandatory modules and the mandatory elective modules in correspondence with enclosure 1 as well as the Master thesis according to § 16 GER. The catalog of mandatory elective modules from enclosure 1 can be updated once a year by resolution of the Faculty Council. If there are changes to the catalog of mandatory elective modules, they will be published until the end of August for the subsequent year of study (winter or summer semester) by the Study Center. In just exceptional cases, potential changes will be published by the end of February for the subsequent summer semester at:

<https://www.tu-clausthal.de/en/prospective-students/degree-programs/masters/chemistry>

Proofs of performance can be graded or ungraded. Information on whether the respective proof of performance is graded or ungraded, can be abstracted from enclosure 1 (module overview).

### **In relation to § 14 Types of academic achievements and examinations**

Types of academic achievements and examinations are laid down in enclosure 1 (module overview). Should the examiner decide on different types of examinations, during the first lectures, he or she needs to specify and announce the potential type of examination and potential aids as found in enclosure 1. The length of examinations and oral examinations (cf. § 15 subpara 3 and 4 GER) is determined in the module handbook.

### **Regarding § 16 Theses**

The Master thesis incl. colloquium comprises 30 credit point and is to be completed within 6 months. Upon request to the Examination Committee and with support of the primary supervisor, this period can be extended to a total of 9 months in just exceptional cases.

Students need to be separately admitted to the Master thesis according to § 10 GER. The primary supervisor needs to be named with application.

The supervisor needs to be a faculty member of Clausthal University of Technology and of one of the following institutes:

- Institute of Inorganic and Analytical Chemistry
- Institute of Organic Chemistry
- Institute of Physical Chemistry
- Institute of Technical Chemistry

- Institute of Electrochemistry
- Institute of Energy Research and Physical Technologies
- Institute of Non-Metallic Materials
- Institute of Polymer Materials and Plastics Engineering

Just exceptions can be made upon request in front of the Examination Committee. Students meeting the admission requirements in accordance with § 10 GER and with a minimum of 75 credit points will be admitted to the Master thesis. Just exceptions can be made upon request in front of the Examination Committee.

The written part comprises 90 percent of the module examination Master thesis, the oral part (colloquium) comprises 10 percent of the examination.

### **In relation to § 18 Grading of examinations, formation of grades**

Enclosure 1 (module overview) states how individual modules impact the overall grade of the Master examination.

### **In relation to § 22 Absence, deceit, exception regulations**

The Master program Chemistry is suitable for part-time studies. Details on prerequisites, outline and legal consequences of part-time studies are laid out in the directive on the regulation of part-time studies (TzO) of TU Clausthal, as amended.

### **In relation to § 33 Entry into force**

These regulatory statutes shall enter into force on the day following their publication in the official proclamation paper of Clausthal University of Technology at the beginning of the examination period of the winter semester 2022/2023.

### **Transitional provisions**

(1) Students commencing their studies with WS 2022/2023, will be examined by these regulatory statutes.

(2) Students who are in the second semester or higher when these regulatory statutes enter into force, may complete their Master studies until the end of the summer semester 2025 in accordance with regulatory statutes for the Master program Chemistry at Clausthal University of Technology, Faculty of Natural and Material Sciences, as of July 25, 2019, in the currently valid version. An application for transfer to the English-language Master program in Chemistry is possible. The application has to be submitted to the Student Affairs Office in due time (by 31.10. for a winter semester and 30.04. for a summer semester).

(3) Students who have completed their Bachelor's degree in accordance with the previous regulatory statutes for the Bachelor program Chemistry at Clausthal University of Technology, Faculty of Natural and Materials Science as of July 19, 2011, in the version of the 6th amendment of June 25, 2019 (announced in Amtliches Mitteilungsblatt TUC 2019, page 361), have to take the following mandatory module instead of the module "Modern Concepts of Inorganic Chemistry" in their Master studies in accordance with these regulatory statutes:

<b>Module: Modern Concepts of Inorganic Chemistry Transition</b>		<b>9</b>	<b>8</b>		<b>0.08</b>		
<i>Title of the module or lecture</i>	<i>LV-No.</i>	<i>LV-type, SWS</i>	<i>CP</i>	<i>Exam form</i>	<i>Weight- ing</i>	<i>Graded?</i>	<i>Exam type</i>
Inorganic Structural Chemistry II	S 3030	3 V/Ü	4	K	0.5	ben.	MTP
Practical Course on Inorganic-Chemical Synthesis Master's	W 3038	3 P	2	PrA	0.25	ben.	MTP
Practical Course on Inorganic Chemistry	W 3034	3 P	2	PrA	0.25	ben.	MTP

## Appendix 1: Module overview for the Master program Chemistry

<b>Shared mandatory modules of both fields of study</b>							
All of the following modules comprising 77 credit points need to be completed.							
Title of the module or lecture	LV-No.	LV-type, SWS	CP	Exam form	Weighting	Graded ?	Exam type
<b>Module</b> <b>Modern Concepts of Inorganic Chemistry</b>		<b>7</b>	<b>8</b>		<b>0.07</b>		
Inorganic Structural Chemistry II	S 3030	3V/Ü	4	K	0.5	ben.	MTP
Inorganic Synthesis Chemistry II	W 3022	1 V	2	K	0.25	ben.	MTP
Practical Course on Inorganic Chemistry	W 3034	3 P	2	PrA	0.25	ben.	MTP
<b>Module</b> <b>Instrumental Analysis</b>		<b>5</b>	<b>5</b>		<b>0.04</b>		
Instrumental Analysis I	W 3054	1 V	2	M od. K	0.7	ben.	MTP
Practical Course on Instrumental Analysis	W 3056	3 P	2	PrA	0.3	ben.	MTP
Seminar on Inorganic and Analytical Chemistry	S 3033	1 S	1	SA	0	unben.	LN
<b>Module</b> <b>Design of Organic Synthesis</b>		<b>12</b>	<b>11</b>		<b>0.09</b>		
Design of Organic Synthesis	S 3106	3 V/Ü.	3	M	0.7	ben.	MTP
Mandatory Seminar Synthesizing Methods	W 3178	2 S	3	SL	0.3	ben.	MTP
Practical Course in Advanced Organic Chemistry	W/S 3105	7 P	5	PrA	0	unben.	LN
<b>Module</b> <b>Colloids and Interfaces</b>		<b>8</b>	<b>10</b>		<b>0.08</b>		
Physical Chemistry of Colloids and Interfaces	W 3222	2 V	3	M	0.3	ben.	MTP
Interface Analysis	W 8041	2 V	3	M	0.3	ben.	MTP
Practical Course on Physical Chemistry Master	W/S 3263	4 P	4	PrA	0.4	ben.	MTP
<b>Module</b> <b>Chemical Reaction Technology</b>		<b>8</b>	<b>10</b>		<b>0.08</b>		
Chemical Reaction Engineering	W 3332	2 V	3	M od. K	1	ben.	MP
Practical Master Course 'Chemical Reaction Engineering'	W/S 3360	6 P	7	PrA	0	unben.	LN
<b>Module</b> <b>Practical Research Course in the Science Pool</b>		<b>5</b>	<b>3</b>		<b>0.03</b>		
Practical Research Course in the Science Pool	W 3950	5 V	3	PrA	1	ben.	MP
<b>Module</b> <b>Master thesis</b>			<b>30</b>		<b>0.26</b>		
Master Thesis + Colloquium		6 mths	30	Ab	1	ben.	MP

## Compulsory elective module catalogue:

### Elective module selection “Cross-Cutting Topics of Modern Chemistry”

- One module comprising a total of 6 credit points is to be selected from the Catalog of Mandatory Electives “Cross-Cutting Topics of Modern Chemistry“ and completed successfully. Additional modules can only be completed as additional exams.
- The choice of a mandatory elective is only binding with the first examination attempt. It is only possible to change the mandatory elective modules if no examination attempt was conducted in any form.
- The list of modules offered can be updated once a year by resolution of the Faculty Council (from WS 2022/23) for the sub-sequent year of study. The updated lists will be published university-internally by the Study Center:

<https://www.tu-clausthal.de/en/prospective-students/degree-programs/masters/chemistry>

Title of the module or lecture	LV-No.	LV-type, SWS	CP	Exam form	Weighting	Graded?	Exam type
<b>Module</b> <b>Chemie im globalen Umfeld</b>		<b>5</b>	<b>6</b>		<b>0</b>		
Energieflüsse, Stoffkreisläufe und globale Entwicklung	S 8413	2 V	2	M od. K	0	unben.	LN
Sicherheit und Zuverlässigkeit in der Chemie: Die chemisch-technische Infrastruktur	S 3225	1 V	2	ThA	0	unben.	LN
Chemiewirtschaft	W 3179	2 S	2	ThA	0	unben.	LN
<b>Module</b> <b>Computational Chemistry</b>		<b>4</b>	<b>6</b>		<b>0</b>		
Chemical Bond	W 3227	1 V	2	ThA	0	unben.	LN
Computer-Aided Quantum Chemistry	W/S 3180	1 V/Ü	2	ThA	0	unben.	LN
Computer-Aided Molecular Modeling	W 3228	2 V/Ü	2	ThA	0	unben.	LN
<b>Module</b> <b>Personal und Projektorganisation</b>		<b>4</b>	<b>6</b>		<b>0</b>		
Personal- und Unternehmensführung für Naturwissenschaftler und Ingenieure	W 7950	2 V/S	3	SA	0.5	ben.	LN
Unternehmensstrukturen, Projektentscheidungen und Projektmanagement in der Praxis	S 7941	2 V/S	3	SA	0.5	ben.	LN

## Fields of study:

### Field of study Applied Chemistry

- One field of study has to be selected.
- The choice of a field of study is binding with the first examination attempt. It is only possible to change the field of study if no examination attempt was conducted in any form. It is possible to change the field of study once upon written application with the Examination Office well in advance of taking the examination of the newly chosen module of the other field of study.

### Mandatory Module "FS Applied Chemistry"

Both of the following modules comprising 15 credit points need to be completed.

Title of the module or lecture	LV-No.	LV-type, SWS	CP	Exam form	Weighting	Graded?	Exam type
<b>Module Mandatory Practical Course I</b>		<b>5</b>	<b>5</b>		<b>0.05</b>		
Mandatory Practical Course I (re. specialist field 1 or 2, not identical to the specialist field of the compulsory internship II)		5 V	5	PrA	1	ben.	MP
<b>Module Mandatory Practical Course II</b>		<b>12</b>	<b>10</b>		<b>0.10</b>		
Mandatory Practical Course II (re. specialist field 1 or 2, not identical to the specialist field of the compulsory internship I)		12 V	10	PrA	1	ben.	MP

### Choice of Mandatory Elective "Specialist Field 1"

- One module comprising a total of 11 credit points is to be selected from the Catalog of Mandatory Elective Modules "Mandatory Electives A" and completed successfully. Additional modules can only be completed as additional exams.
- The choice of a mandatory elective is only binding with the first examination attempt. It is only possible to change the mandatory elective modules if no examination attempt was conducted in any form.

### Choice of Mandatory Elective "Specialist Field 2"

- One module comprising a total of 11 credit points is to be selected from the Catalog of Mandatory Elective Modules "Mandatory Electives A" or the Catalog of Mandatory Elective Modules "Mandatory Electives B" and completed successfully. Additional modules can only be completed as additional exams.
- The choice of a mandatory elective is binding with the first examination attempt. It is only possible to change the mandatory elective modules if no examination attempt was conducted in any form.



## Field of study Polymer Chemistry

- One field of study has to be selected.
- The choice of a field of study is binding with the first examination attempt. It is only possible to change the field of study if no examination attempt was conducted in any form. It is possible to change the field of study once upon written application with the Examination Office well in advance of taking the examination of the newly chosen module of the other field of study.

### Mandatory Module "FS Polymer Chemistry"

Both of the following modules comprising 37 credit points need to be completed.

Title of the module or lecture	LV-No.	LV-type, SWS	CP	Exam form	Weighting	Graded?	Exam type
<b>Module</b> <b>Practical Course on Polymers I</b>		<b>5</b>	<b>5</b>		<b>0.05</b>		
Practical Course on Polymers I (on <i>Macromolecular Chemistry and Processes</i> or <i>Physicochemical Aspects of Polymers</i> , not identical with the field of the Practical Course on Polymers II)		5 P	5	PrA	1	ben.	MP
<b>Module</b> <b>Practical Course on Polymers II</b>		<b>12</b>	<b>10</b>		<b>0.10</b>		
Practical Course on Polymers II (on <i>Macromolecular Chemistry and Processes</i> or <i>Physicochemical Aspects of Polymers</i> , not identical with the field of the Practical Course on Polymers I)		12 P	10	PrA	1	ben.	MP
<b>Module</b> <b>Macromolecular Chemistry and Processes</b>		<b>7</b>	<b>8</b>		<b>0.075</b>		
Macromolecular Kinetics and Process Technology	S 3324	3 V/Ü	3	M	1	ben.	MP
Modern Aspects of Polymer Chemistry	W 3334	2 V	3				
Modeling and Simulation in Polymer Reaction Engineering	S 3326	2 V/Ü	2				
<b>Module</b> <b>Physicochemical Aspects of Polymers</b>		<b>6</b>	<b>8</b>		<b>0.075</b>		
Physical Chemistry of Polymers	W 3217	3 V	4	M	1	ben.	MP
Modern Polymer Materials	S 3220	1 V	1				
Polymers at Interfaces	S 3226	1 V	2				
Practical Course on 'Physical Chemistry of Polymers'	W 3266	1 P	1	PrA	0	un ben.	PR
<b>Module</b> <b>Plastics Processing</b>		<b>6</b>	<b>6</b>		<b>0.05</b>		
Plastics Processing I	W 7903	3 V/Ü	3	K od. M	1	ben.	MP
Plastics Processing II	S 7901	3 V/Ü	3				

## Elective module catalog "Mandatory Electives A"

The list of modules offered can be updated once a year by resolution of the Faculty Council (from WS 2022/23) for the sub-sequent year of study. The updated lists will be published university-internally by the Study Center: <https://www.tu-clausthal.de/en/prospective-students/degree-programs/masters/chemistry>

Title of the module or lecture	LV-No.	LV-type, SWS	CP	Exam form	Weighting	Graded?	Exam type
<b>Module Solid-State Chemistry</b> (cannot be combined with the module Microanalysis and Material Analysis)		<b>9</b>	<b>11</b>		<b>0.1</b>		
Inorganic Synthesis Chemistry III	S 3036	1 V	2	M	1	ben.	MP
Modern Inorganic Chemistry	W 3037	1 V	1				
Chemistry of the Solar System	W 3041	1 V	1				
X-ray crystallography	W/S 3040	2 V/2 Ü	5				
Seminar on Solid-State and Coordination Chemistry	W/S 3048	2 S	2	SL	0	unben.	LN
<b>Module Microanalysis and Material Analysis</b> (cannot be combined with the module Solid-State Chemistry)		<b>10</b>	<b>11</b>		<b>0.1</b>		
Instrumental Analysis II	W 3055	2 V/1 Ü	3	M	1	ben.	MP
Material and Microanalysis	S 3052	1 V/1 Ü	3				
Characterization of Nano Materials	S 3053	1 V/1 Ü	2				
Working Methods in applied and technical Mineralogy	W 3059	2 V	2				
Seminar Analytical Chemistry	S 3063	1 S	1	SL	0	unben.	LN
<b>Module Organic Materials Chemistry</b> (cannot be combined with the module Syntheses and Mechanisms)		<b>9</b>	<b>11</b>		<b>0.1</b>		
Applied organic materials chemistry	W 3136	2 V	3	M	1	ben.	MP
Organic Biomaterials	W 3127	2 V	3				
Advanced NMR-Methods	W 3135	2 V/1 Ü	3				
Seminar for Organic Materials	S 3142	2 S	2	SL	0	unben.	LN
<b>Module Syntheses and Mechanisms</b> (cannot be combined with the module Organic Materials Chemistry)		<b>9</b>	<b>11</b>		<b>0.1</b>		
Total Syntheses of Selected Target Molecules	S 3199	2 V	3	M	1	ben.	MP
Name Reactions	W 3120	2 V	3				
Advanced NMR-Methods	W 3135	2 V/1 Ü	3				
Seminar for New Synthesis Methods	W 3171	2 S	2	SL	0	unben.	LN

Title of the module or lecture	LV-No.	LV-type, SWS	CP	Exam form	Weighting	Graded?	Exam type
<b>Module</b> <b>Specific Physical Chemistry</b>		<b>7</b>	<b>11</b>		<b>0.1</b>		
Statistical Thermodynamics	W 3208	1 V	2	M	1	ben.	MP
Biophysical Chemistry	W 3216	2 V	3				
Modern Spectroscopic Methods	S 3219	2 V	3				
Chemical Sensors	S 3224	2V	3				
<b>Module</b> <b>Specific Technical Chemistry</b>		<b>9</b>	<b>11</b>		<b>0.1</b>		
Modeling of Chemical Processes	W 3303	1 V/1 Ü	2.5	M	1	ben.	MP
Process Intensification in Chemistry	S 3327	2 V	2.5				
Practical Course on 'Special Aspects of Technical Chemistry'	W/S 3361	4 P	4	PrA	0	unben.	LN
Seminar on the 'Practical Course on Special Aspects of Technical Chemistry'	W/S 3374	1 S	2	SL	0	unben.	LN

### Elective module catalog "Mandatory Electives B"

The list of modules offered can be updated once a year by resolution of the Faculty Council (from WS 2022/23) for the sub-subsequent year of study. The updated lists will be published university-internally by the Study Center: <https://www.tu-clausthal.de/en/prospective-students/degree-programs/masters/chemistry>

Title of the module or lecture	LV-No.	LV-type, SWS	CP	Exam form	Weighting	Graded?	Exam type
<b>Module</b> <b>Moderne Umweltchemie</b>		<b>10</b>	<b>11</b>		<b>0.1</b>		
Recycling von Metallen	S 7904	3 V/Ü	3	M	1	ben.	MP
Umweltanalytik I (Einführung in die Umweltchemie)	S 3050	2 V/S	2.5				
Umweltanalytik II (Chemische Umweltanalytik)	W 3051	2 V/S	2.5				
Recycling von Kunststoffen	W 7919	3 V/S	3				
<b>Module</b> <b>Einführung in die Chemie des Brauwesens</b>		<b>9</b>	<b>11</b>		<b>0.1</b>		
Theorie und Praxis der Bierbrauerei	S 8036	2 V	3	M	1	ben.	MP
Bieranalytik	W 8056	2 V/Ü	3				
Praktikum in der Forschungsbrauerei	W/S 8055	4 P	4				
Exkursion Brauwesen	W 8057	1 E	1	SL	0	unben.	LN
<b>Module</b> <b>Energie und Materialphysik</b>		<b>8</b>	<b>11</b>		<b>0.1</b>		
Oberflächenphysik (Oberflächenanalytik)	W 2319	3 V/1 Ü	5	M	1/3	ben.	MTP
Funktionsmaterialien für Batterien, Brennstoffzellen und Sensoren	S 2328	2 V	3	M	1/3	ben.	MTP
Solare Energiewandlung	W 2330	2 V	3	M	1/3	ben.	MTP

**Explanatory Notes:**

(1) Type of Course:	E	Excursion [Exkursion]
	P	Practical Course [Praktikum]
	S	Seminar [Seminar]
	T	Tutorial Lecture [Tutorium]
	V	Lecture [Vorlesung]
	Ü	Exercise [Übung]
(2) Examination Form:	K	Written Exam [Klausur]
	M	Oral examination
	SL	Seminar performance [Seminarleistung]
	PrA	Practical Work [Praktische Arbeit]
	ThA	Theoretical Work [Theoretische Arbeit]
	Ex	Excursion [Exkursion]
	Ab	Final Thesis [Abschlussarbeit]
(3) Type of Examination:	LN	Certificate of performance [Leistungsnachweis]
	MP	Module exam [Modulprüfung]
	MTP	Module-part exam [Modulteilprüfung]
	PV	Prerequisite [Prüfungsvorleistung]
(4) Further Abbreviations:	ben.	Graded performance [benotet Leistung]
	unben.	Ungraded performance [unbenotet Leistung]
	od.	or [oder]
	LV	Course [Lehrveranstaltung]
	Prüf.	Examination [Prüfung]
	CP	Credit points
	SWS	Semester hours per week [Semesterwochenstunden]

**Enclosure 2a: Model Study Plan for the Master program Chemistry Field of study Applied Chemistry (commencement in winter semester)**

SWS	1. Semester (WS)	2. Semester (SS)	3. Semester (WS)	4. Semester (SS)
1	Inorg. Synt. Chem II 1 V (2 CP)	Inorganic Structural Chemistry II 3 V/Ü (4 CP)	Mandatory Electives B (11 CP)	Master Thesis + Colloquium (30 CP) 6 Month
2	Practical Course on Inorganic Chemistry 3 P (2 CP)			
3		Instrumental Analysis I 1 IV(2 CP)		
4	Practical Course on Instrumental Analysis 3 P (2 CP)			
5		Mandatory Seminar Synthesizing Methods 2 S (3 CP)		
6	Surface Analysis 2 V (3 CP)			
7		Design of Organic Synthesis 2 V 1 Ü (3 CP)		
8	Practical Course in Advanced Organic Chemistry 7 P (5 CP)			
9		Practical Course on Physical Chemistry Master 4 P (4 CP)		
10	Practical Master Course 'Chemical Reaction Engineering' 6 P (7 CP)			
11		Mandatory Electives A (4 CP)		
12	Mandatory Practical Course II 12 P (10 CP)			
13		Physical Chemistry of Colloids and Interfaces 2V (3 CP)		
14	Mandatory Practical Course I 5 P (5 CP)			
15		Chemical Reaction Engineering 2 V (3 CP)		
16	Elective Module Cross-Cutting Topics of Modern Chemistry 4 SWS (4 CP)			
17		Mandatory Electives A (7 CP)		
18	Elective Module Cross-Cutting Topics of Modern Chemistry 2 SWS (2 CP)			
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
SWS:	26	28	30	30 $\Sigma$ 114
CP:	31	29	28	32 $\Sigma$ 120

SWS: Semester hours per week ; CP: Credit Point im European Credit Transfer and Accumulation System (ECTS)

**Mobility window:** suitable for studies abroad. It is advisable to consult with your academic advisor early.

**Enclosure 2b: Model Study Plan for the Master program Chemistry Field of study  
Polymer Chemistry (commencement in winter semester)**

SWS	1. Semester (WS)	2. Semester (SS)	3. Semester (WS)	4. Semester (SS)
1	Inorg. Synt. Chem II 1 V (2 CP)	Inorganic Structural Chemistry II 3 V/Ü (4 CP)	Plastics Processing I & II 6 V/Ü (6 CP)	Master Thesis + Colloquium (30 CP) 6 month
2	Practical Course on Inorganic Chemistry 3 P (2 CP)			
3	Instrumental Analysis I 1 IV(2 CP)	Sem. Inorg. & Analyt.Chem. 1 S (1 CP)	Practical Research Course in the Sciencepool 5 P (3 CP)	
4		Practical Course on Instrumental Analysis 3 P (2 CP)		
5	Mandatory Seminar Synthesizing Methods 2 S (3 CP)	Practical Course in Advanced Organic Chemistry 7 P (5 CP)	Practical Course on Polymers II 12 P (10 CP)	
6				
7	Practical Course on Physical Chemistry Master 4 P (4 CP)	Design of Organic Synthesis 2 V 1 Ü (3 CP)	Elective Module Cross-Cutting Topics of Modern Chemistry 4 SWS (4 CP)	
8				
9	Chemical Reaction Engineering 2 V (3 CP)	Practical Master Course 'Chemical Reaction Engineering' 6 P (7 CP)	Elective Module Cross-Cutting Topics of Modern Chemistry 2 SWS (2 CP)	
10				
11	Physical Chemistry of Polymers 3 V (4 CP)	Polymers at Interfaces 1 V (2 CP)		
12		Modern Polymeric Materials 1 V (1 CP)		
13	Pract. Course 'PC Polymers' 1 P (1 CP)	Macromolecular Kinetics and Reaction Engineering 3 V/Ü (3 CP)		
14		Modeling and Simulation in Polymer Reaction Engineering 2 V/Ü (2 CP)		
15		Practical Course on Polymers I 5 P (5 CP)		
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29				
30				
31				
SWS:	26	32	27	30 $\Sigma$ 115
CP:	32	33	23	32 $\Sigma$ 120

SWS: Semester hours per week ; CP: Credit Point im European Credit Transfer and Accumulation System (ECTS)

**Mobility window:** suitable for studies abroad. It is advisable to consult with your academic advisor early.

## Enclosure 3a: Model Part-Time Study Plan for the Master program Chemistry Field of study Applied Chemistry (commencement in winter semester)

SWS	1. Semester (WS)	2. Semester (SS)	3. Semester (WS)	4. Semester (SS)	
1	Inorg. Synt. Chem II 1 V (2 CP)	Inorganic Structural Chemistry II 3 V/U (4 CP)	Surface Analysis 2 V (3 CP)	Practical Master Course 'Chemical Reaction Engineering' 6 P (7 CP)	
2	Practical Course in Advanced Organic Chemistry 7 P (5 CP)	Practical Course on Inorganic Chemistry 3 P (2 CP)	Practical Course on Physical Chemistry Master 4 P (4 CP)		
3				Design of Organic Synthesis 2 V 1 U (3 CP)	Physical Chemistry of Colloids and Interfaces 2V (3 CP)
4		Elective Module Cross-Cutting Topics of Modern Chemistry 4 SWS (4 CP)	Mandatory Electives A (4 CP)		
5					
6		Sem. Inorg. & Analyt.Chem. 1 S (1 CP)			
7	Mandatory Seminar Synthesizing Methods 2 S (3 CP)				
8		Instrumental Analysis I 1 V (2 CP)			
9	Practical Course on Instrumental Analysis 3 P (2 CP)				
10		SWS: 15			
11	CP: 15				
12		SWS: 13			
13	CP: 13				
14		SWS: 12			
15	CP: 15				
		SWS: 14			
	CP: 17				

SWS	5. Semester (WS)	6. Semester (SS)	7. Semester (WS)
1	Mandatory Electives B (5 CP)	Mandatory Practical Course I 5 P (5 CP)	Master Thesis + Colloquium (30 CP) 6 Month
2			
3	Mandatory Electives A (7 CP)	Mandatory Practical Course II 12 P (10 CP)	
4			
5			
6			
7			
8	Practical Research Course in the Sciencepool 5 P (3 CP)		
9			
10	SWS: 15		
11		CP: 15	
12	SWS: 17		
13		CP: 15	
14	SWS: 28		
15		CP: 30	
16	Σ 115		
17		Σ 120	
18			

SWS: Semester hours per week ; CP: Credit Point im European Credit Transfer and Accumulation System (ECTS)

**Enclosure 3b: Model Part-Time Study Plan for the Master program Chemistry Field of study Polymer Chemistry (commencement in winter semester)**

SWS	1. Semester (WS)	2. Semester (SS)	3. Semester (WS)	4. Semester (SS)
1	Inorg. Synt. Chem II 1 V (2 CP)	Inorganic Structural Chemistry II 3 V/Ü (4 CP)	Surface Analysis 2 V (3 CP)	Practical Master Course 'Chemical Reaction Engineering' 6 P (7 CP)
2	Practical Course in Advanced Organic Chemistry 7 P (5 CP)	Practical Course on Inorganic Chemistry 3 P (2 CP)	Practical Course on Physical Chemistry Master 4 P (4 CP)	
3				Design of Organic Synthesis 2 V 1 Ü (3 CP)
4		Instrumental Analysis I 1 V (2 CP)	Chemical Reaction Engineering 2 V (3 CP)	
5				Practical Course on Instrumental Analysis 3 P (2 CP)
6		Sem. Inorg. & Analyt. Chem. 1 S (1 CP)	Modeling and Simulation in Polymer Reaction Engineering 2 V/Ü (2 CP)	
7				Mandatory Seminar Synthesizing Methods 2 S (3 CP)
8		Polymers at Interfaces 1 V (2 CP)		
9	Modern Polymeric Materials 1 V (1 CP)			
10		Elective Module Cross-Cutting Topics of Modern Chemistry 2 SWS (2 CP)		
11	Practical Research Course in the Sciencepool 5 P (3 CP)			
12		SWS: 15		
13	CP: 15			
14		SWS: 14		
15	CP: 14			
		SWS: 12		
	CP: 16			
		SWS: 15		
	CP: 15			

SWS	5. Semester (WS)	6. Semester (SS)	7. Semester (WS)
1	Physical Chemistry of Polymers 3 V (4 CP)	Practical Course on Polymers I 5 P (5 CP)	Master Thesis + Colloquium (30 CP) 6 month
2			
3	Elective Module Cross-Cutting Topics of Modern Chemistry 4 SWS (4 CP)		
4		Practical Course on Polymers II 12 P (10 CP)	
5	Plastics Processing I & II 6 V/Ü (6 CP)		
6		SWS: 14	
7	CP: 15		
8		SWS: 17	
9	CP: 15		
10		SWS: 28 $\Sigma$ 115	
11	CP: 30 $\Sigma$ 120		
12			
13			
14			
15			
16			
17			
18			

SWS: Semester hours per week ; CP: Credit Point im European Credit Transfer and Accumulation System (ECTS)



