

Chemistry (Chemie) / Master of Science - A short guideline to your studies

1. General:

- The allocated time of the master degree programme is four semesters (two years)
- Prerequisites: "Bachelor of Science", for special regulations see "Examination Regulations" § 1
- Language of instruction: English
- The master degree programme was accredited by an independent external agency certifying that the study programme and the modules are consistent with the „European Course Credit Transfer System“(ECTS).
- Your total workload during the four semesters will be 120 credit points (CP).
- The master programme is based on a modular concept. A module is a teaching unit. In some cases, the teaching unit is a defined course, in other cases you may be able to choose a course from several offers.
- For each module that you completed successfully you will receive a respective number of credit points (CP). In addition to the credit points also grades will be given based on examinations or attestations. The grade of the master certificate is based on the averaged grades of all module ratings by the following calculation:
$$\Sigma (\text{grades} \times \text{CP}) / \Sigma \text{CP}$$
- The study programme is organized along a strict protocol of modules. For each module there is a description in the "handbook of modules" so that you can inform yourself about prerequisites and the content of each course. Possible deviations from the standard module description, in particular with regard to examinations, have to be announced by the lecturer at the beginning of the course.
- Awarded Degree: Master of Science in Chemistry (M.Sc. in Chemistry)

2. Course of studies

The workload of your studies is organized in modules.

Modules are comprised out of:

- **Lectures (L)**
- **Exercises (E) or seminars (S)**
- **Lab Courses (LC)**

each with a certain number of **hours per week (HPW)**.

Once you have finished your module by passing the examination(s), you will receive the correspondingly defined number of **credit points (CP)**.

1st semester

The modules required in the first semester are:

Modules	Credit Points (CP)
Inorganic Chemistry	6
Organic Chemistry	6
Physical Chemistry	6
Applied Chemistry I	6
Applied Chemistry II	6

The first semester serves to broaden and improve the knowledge on the different chemical subjects in general. Thus, you have no other choice than to enrol in **compulsory subjects**.

Module in Core Subjects	Type of Course	HPW	CP
Inorganic Chemistry	L, E/S	2, 2	6
Organic Chemistry	L, E/S	2, 2	6
Physical Chemistry	L, E/S	2, 2	6

In addition, the following modules have to be selected:

Modules in Minor Subjects	Type of Course	HPW	CP
Applied Chemistry I	L, LC	2, 4	6
Applied Chemistry II	L, LC	2, 4	6

Attention: Applied Chemistry I and Applied Chemistry II need to cover different minor subjects!

Regarding the latter modules you will be able to select two from the following application-oriented **minor subjects**:

<u>Minor subjects</u>
Analytical Chemistry
Chemistry of Building Materials and Materials
Macromolecular Chemistry

The first semester thus brings about the orientation and preparation that allows you to choose your later areas of specialization.

The modules required in the second semester are:

Modules	Credit Points (CP)
Compulsory optional subject I	6
Lab Course in compulsory optional subject I	4
Compulsory optional subject II	6
Lab Course in compulsory optional subject II	4
Compulsory optional subject III	6
Foreign Language	3

From the second semester onward, you may choose courses offered within the compulsory optional modules based on your individual preferences and strengths. For example, you may be able to specialise heavily by choosing adequate modules about just one topic, for example the chemistry of materials. Equally, an advanced “classical German” chemistry programme, as offered by the old Diploma studies, with elements from all core subjects (Inorganic Chemistry, Organic Chemistry and Physical Chemistry) is possible. If you don't feel confident about the courses you would like to choose it may be helpful to ask your prospective mentor of the master thesis for any suggestions about how to plan the 2nd and 3rd semester.

In general, the **compulsory optional subjects I, II and III** need to be distinguished.

The **compulsory optional subject I** can only be selected from the **core subjects**

Compulsory optional subject I (L, E/S, each 2 HPW, 6 CP)
Inorganic Chemistry
Organic Chemistry
Physical Chemistry

For **compulsory optional subject II** you may choose from **core subjects*** and **minor subjects**

Compulsory optional subject II (L, E/S, each 2 HPW, 6 CP)	
Core subjects	Minor subjects
Inorganic Chemistry	Analytical Chemistry
Organic Chemistry	Chemistry of Building Materials and Materials
Physical Chemistry	Macromolecular Chemistry

* Attention: Compulsory optional subject I cannot be identical with compulsory optional subject II to prevent focusing too much on one subject!

The **compulsory optional subject III** comprises the entire range of **core** and **minor subjects** as well as **non-chemical subjects** and **Didactics of Chemistry** (L and E/S, each 2 HPW).

You may also choose the compulsory optional subject III from the same topic like compulsory subject I or II but be aware that it has to be a **different module**.

Compulsory optional subject III (L, E/S, each 2 HPW, 6 CP)	
Core subjects	Minor fields of studies
Inorganic Chemistry	Analytical Chemistry
Organic Chemistry	Chemistry of Building Materials and Materials
Physical Chemistry	Macromolecular Chemistry
Examples for non-chemical subjects (and Didactics of Chemistry)	
Construction Engineering	Foreign Language and Communication
Biology	Computer Science
Economic Disciplines	Mechanical Engineering
Didactics of Chemistry	Mathematics
Electrical Engineering	Physics

Upon agreement with the respective lecturer also other non-chemical subjects can be selected. Please observe the requirements of the “Examination Regulations” from November 18th 2009 regarding HPW and CP.

Besides the compulsory optional subjects a Foreign Language and the Lab Courses in the compulsory optional subjects are relevant for the second semester. The Lab Courses must be chosen within the compulsory optional subjects I and II.

	Type of Course	HPW	CP
Lab Course in compulsory optional subject I	LC	7	4
Lab Course in compulsory optional subject II	LC	7	4
Foreign Language	L, E/S	2, 2	3

3rd semester

The modules required in the third semester are:

Modules	Credit points (CP)
Compulsory optional subject I	6
Compulsory optional subject II	6
Compulsory optional subject III	6
Lab Course: Research project I	7
Lab Course: Research project II	6

In the third semester the modules compulsory optional subject I, II and III can be chosen (with the same restrictions as for the second semester). In addition, you will have to complete two modules called “**Lab Course: Research Project**” as a direct preparation for your Master Thesis.

	Type of Course	HPW	CP
Lab Course: Research project I	LC	7	7
Lab Course: Research project II	LC	7	6

The modules „Lab Course: Research project“ must be consistent with your choices of the compulsory optional subjects I and/or II. This means you can either do this lab course in two different compulsory optional subjects (I and II) or in the same compulsory subject in order to focus more on one subject.

4th semester

In the fourth semester, you will have to do your master thesis work and write the thesis within 6 months (30 CP). **The Master Thesis has to focus on a chemical subject (core or minor subject).**

<u>Core subjects</u>	<u>Minor fields of studies</u>
Inorganic Chemistry	Analytical Chemistry
Organic Chemistry	Chemistry of Building Materials and Materials
Physical Chemistry	Macromolecular Chemistry

For further information regarding the Master Thesis please see item 5.

3. Examinations

- Examinations in the modules will be conducted course related. You will need 120 credit points in total for the Master of Science. All modules are marked according to “ECTS”.
- Examinations for lectures may be written exams with a duration of 1-2 hours or oral exams (15-45 minutes). Examinations for lab courses may be protocols, lab journals and/or oral exams. Detailed information regarding the examination protocol are specified in the relevant module descriptions or are available from the lecturer at the beginning of the course.
- There are 4 examination dates per year for each module. The audit period for each semester is at the end of the lecture period as well as at the beginning of a new lecture period. Detailed information regarding the examination dates is available from notices on the bulletin boards of the respective subjects.
- Submit the form “Request for Admission to the Master Examination” to the Examination Office (Prüfungsamt FB 8) when registering for the first examination at the latest (the respective form with information on the necessary documents is available on the homepage of FB 8). Afterwards a file with your examination record will be opened for you in the Examination Office.
- You need to register for each examination – either in the Examination Office (Prüfungsamt FB 8) or in the secretary offices of the respective subjects.

The registration period starts 3 weeks prior to the beginning of the examination period and ends 7 days before. If you feel your registration should be cancelled you can do so 7 days prior to the beginning of the examination period at the latest. Without cancellation, the examination will be graded as “failed” (5.0). In case of illness, submit a doctor’s medical certificate to the Examination Office (Prüfungsamt FB 8) as soon as possible in order to avoid a grading as “failed” (5.0).

- Your right to take examinations will expire if you extend your studies too long not registering for examinations. In detail, for the first trial of an examination you need to register 3 semesters after the scheduled semester (see module schedule) at the latest.
- All examinations except the master thesis can be repeated twice. If the examination claim for a compulsory optional subject has expired, another compulsory optional subject can be selected. If the examination claim for a compulsory subject has faded after two unsuccessful repetitions you can apply for an oral re-examination within 4 weeks in the Examination Office (please note that the application will only be approved if you have achieved a certain number of credit points in each semester).
- Only one examination within the entire master degree program can be repeated in order to improve a certain grade. This will only be possible in the fourth semester. A separate application in the Examination Office (Prüfungsamt FB 8) is necessary.

4. „Freiversuch“ (free trial)

- „Freiversuche“ (free trials) are limited to compulsory subjects and thus only possible in the first semester. All other modules are excluded from this rule.
- An examination will be considered as „Freiversuch“ (free trial) when you have attended the respective module before or in the semester for which it is scheduled due to the Examination Regulations. The examination has to take place 2 weeks after finishing the module at the latest. Subsequent examinations will not be counted as “Freiversuch” (free trial).
- In case a „Freiversuch“ (free trial) has been passed successfully the examination can be repeated once in order to improve the grade. This is only possible at the next examination date. The result of the re-examination will be considered if it is better than the result from the free trial.

5. Master Thesis

- Every professor and lecturer (after habilitation only!) of the department (FB 8) is entitled to hand out and to supervise the Master Thesis work. Upon agreement with the supervisor you can either make suggestions for the topic of your thesis or a topic can be assigned. Equally, application and approval of a group work is admissible.
- You will have to start with your Master Thesis work 4 weeks after having finished all other relevant examinations of the master degree programme at the latest. You need to advise the Examination Office (Prüfungsamt FB 8) about the starting date. Please, use the respective form which is available from the Examination Office. You will only be able to start with the Master Thesis work when you have obtained all credit points (CP) for the first two semesters.
- You can hand back the subject of the master thesis once only within the first two months of the handling time. In particular cases (only on request) the handling time can be extended by a maximum of 2 months.
- The length of the Master Thesis should not exceed 70 pages.
- Three copies of the Master Thesis have to be submitted to the Examination Office (Prüfungsamt FB 8) after 6 months working time at the latest. The Thesis has to be submitted in due time, the deadline will be recorded in the Examination Office. If you don’t meet the deadline the thesis will be graded with ““failed” (5.0). In case of failure the Master Thesis can be repeated only once and only immediately after the failure.

This guideline is meant to provide help in you planning, but it is not legally binding.

The “Examination Regulations” from November 18th 2009 are valid / binding for all students who have started their master degree programme in the winter semester 2009/2010 or later.