



Master of Science in Chemistry (MSc in Chemistry)

This is a translation from the original German version of the „Infoblatt zum Masterstudiengang Chemie (MSc in Chemistry)“. It is provided for information purposes only and has no legal force.

General

The Master's degree program in Chemistry is aiming for the second undergraduate degree, *Master of Science in Chemistry (MSc.)*. Based on the knowledge imparted in the Bachelor's degree program, you will gain a solid foundation for postgraduate study or a career in science. The three-semester (full-time study) Master's degree program comprises compulsory lectures in the core subjects inorganic, organic, and physical chemistry, plus a comprehensive range of electives. During the two internships and the Master's thesis project, the students work in a research group and will develop the ability to design experiments and interpret results. This is their first opportunity to perform independent research at the forefront of science. The setup of the degree program also allows a first specialization in a specific field.

Program Structure

The Master's degree program comprises 90 credit points. The first two semesters comprise lectures (total of 30 credit points, see below) and two elective internships (15 credit points each). The Master thesis (26 credit points) and the oral Master examination (4 credit points) are usually completed in the third semester. One credit point corresponds to a workload of approximately 30 working hours according to the European credit transfer system (ECTS).

The program is structured in courses of modules a-g:

- | | |
|------------------------|----------------------------------------------|
| a) Inorganic Chemistry | e) Elective internships |
| b) Organic Chemistry | f) Master project and thesis (max. 24 weeks) |
| c) Physical Chemistry | g) oral Master examination |
| d) Mixed Topics | |

The **lectures** are structured in compulsory lectures in the core subjects inorganic chemistry, organic chemistry, and physical chemistry (12 credit points, modules a-c) and electives (18 credit points, modules a-d). Compulsory lectures must be chosen from at least two different modules a, b or c (table 1). Elective lectures can be chosen from modules a-d (tables 1 and 2). Each lecture is usually 3 credit points.

Elective internships (module e) take six weeks fulltime or 12 weeks part-time and must be completed in two different research groups. One of the three practical components (2 elective internships, master's thesis) may be carried out at an external institution (i.e. not at the Department of Chemistry of the University of Basel). An external elective internship takes generally three months.

Table 1: Selection of compulsory lectures in the Master's degree program (MSc in Chemistry)

(The complete list of lectures can be found in the course directory: <http://vorlesungsverzeichnis.unibas.ch>)

Compulsory Lectures (usually 3 credit points each)		
a) Inorganic Chemistry	b) Organic Chemistry	c) Physical Chemistry
Metals in Biology	Chemical Biology	Advanced Molecular Spectroscopy
Photophysics and Photochemistry	Supramolecular Chemistry	Molecular and Chemical Physics
Colloidal Nanocrystals and Quantum Dots	Synthesis and Physical Properties of Nanoscale Systems	Molecular Simulations with Chemical and Biological Applications
Surface Chemistry and Heterogenous Catalysis	Stereoselective Organic Synthesis	
	Total Synthesis of Natural Products	

Table 2: Selection of elective lectures in the Master's degree program (MSc in Chemistry)

(The complete list of lectures can be found in the course directory: <http://vorlesungsverzeichnis.unibas.ch>)

d) Elective Lectures / Mixed Topics (usually 3 credit points each)		
Analytical Chemistry of the Atmosphere: Quantifying Climate Change	Organic Reactions in Industry – Theory & Case Studies	X-ray Crystallography: aspects that a chemist needs
Forensic Chemistry and Toxicology	Biocatalysis for organic synthesis	Electrochemistry – Basics and Practice (lecture and practical course)
Scientific Writing Clinic: How to efficiently plan, assemble, write, and finalize a scientific article	Basics in Recombinant Protein Production (practical course)	Introduction to NMR Spectroscopy of Proteins and other Biomolecules

General Information

Start of Program: The program can be started in the spring or in the fall semester.

Admission: Admission is possible with a Bachelor degree (BSc) in Chemistry from the University of Basel or with a degree from a University certified by the University of Basel.

After application at the Student Administration Office, the dossier is subject-specific surveyed by the responsible examination commission. If the Bachelor degree is only partially recognized as equivalent by the faculty, the admission to the Master's degree program can be started with additional requirements from the Bachelor's degree program. The decision is finally communicated in writing by the Student Administration Office.

Language of Instruction: English

Application: Online application via the website <http://www.unibas.ch/anmeldung>; the application fee is CHF 100.-.

Application deadline for the fall semester is April 30th, for the spring semester November 30th.

Registration/ Transfer to the Master's Degree Program:

Students matriculated at the University of Basel, who want to continue with a MSc in Chemistry after completion of the BSc degree in Chemistry and without interruption of studies, do not need to apply but can directly transfer to the Master's degree program by registering for the next semester (www.unibas.ch/rueckmeldung). In parallel, the „Absichtserklärung zum Bachelorabschluss“ (in German only, <https://philnat.unibas.ch/dokumente/bachelorstudium>) has to be submitted to the Office of the Dean of Studies of the Faculty of Science.

Fellowships:

The Department of Chemistry offers a limited number of fellowships for international candidates applying for MSc studies with outstanding records of accomplishment. More detailed information can be found on the Department's website.

Regulations:

- Ordnung der Phil.-Nat. Fakultät der Universität Basel für das Masterstudium (of 15.9.2020, in German only)
- Studienplan für den Masterstudiengang Chemie (Chemistry) (of 15.9.2020, in German only)
- Guidelines for the Bachelor's and Master's Degree Program in Chemistry at the Faculty of Sciences of the University of Basel (translation of the German original of 18.2.2025)

Website:

www.chemie.unibas.ch

Contact

Academic Advice:

Prof. Dr. Jonathan de Roo
BPR 1096, Mattenstrasse 22
CH-4058 Basel
T +41 61 207 10 46
Email: jonathan.deroo@unibas.ch

Administration:

Dr. Ina Emme-Papastavrou
St. Johannis-Ring 19
CH-4056 Basel
T +41 61 207 18 54
Email: studium-chemie@unibas.ch