

Material Science starting from Winterterm 2025/26

Universität Koblenz
Master of Science



General Information

Bridging Chemistry, Physics, and Life Sciences

As the energy transition we are experiencing is also a material transition, the knowledge and development of novel functional materials are more important than ever before. The Master's programme "MSc Material Science" is an interdisciplinary course of study that allows graduates with a Bachelor's degree in Applied Natural Sciences, Material Sciences or related fields to acquire advanced knowledge in the chemistry and physics of materials, while exploring modern and innovative research directions in these areas. Chemical and physical concepts are integrated to provide a comprehensive understanding of materials science, with a strong emphasis on contemporary trends such as sustainability, the energy transition, and digital solutions.

Overview

Attention!

The previously offered Master's programme "MSc Applied Natural Sciences" has been revised and accredited in terms of title, study structure and duration. The contents of the new study programme are listed below.

The model shown on this profile will be offered from the coming winter term.

Degree

Master of Science

Standard period of study

4

Start of programme

- Summer semester
- Winter semester

Application deadline for summer semester

28.03.2026

Application deadline for winter semester

10.10.2025

Teaching language

- English
- German

Admission restriction

no



Kontakt

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[Zur Webseite >](#)

Admission requirements

- BSc in Applied Natural Sciences conferred by Universität Koblenz or equivalent degree (final grade 2.5 or better).
- The board of examiners decides on any exceptions on the basis of applications submitted.
- Exceptions in this regard are a Bachelor's thesis with the grade 1.5 or better or professional experience of at least one year in the field of chemistry and physics of functional materials.
- Prerequisites include basic and application-oriented knowledge in higher mathematics, classical physics (mechanics, thermodynamics, electrodynamics, optics), modern physics (atomic and molecular physics, quantum mechanics), as well as general and inorganic chemistry, solid-state chemistry, classes of substances, reaction mechanisms in organic chemistry, and states of matter in physical chemistry.

Further links

- [International Office](#)
- [Welcome Center](#)
- [Course guide flyer](#)

Content

Contents and structure

The Master's programme "MSc Material Science" is a research-oriented study programme that imparts subject-specific and interdisciplinary knowledge, skills, and methodological expertise in the physics and chemistry of functional materials. It prepares students for further academic qualifications (such as a doctorate) or for careers in fields related to materials science. The programme comprises 120 ECTS credits and has a standard duration of four terms. This internationally oriented Master's programme is taught in English in both compulsory and compulsory elective areas.

In the compulsory area, "Fundamentals of Materials Science", you are required to choose 5 out of the following 6 modules:

- Ceramic Materials
- Sustainable Functional Materials
- Polymer Chemistry and Natural Products Chemistry
- Physics of Metals
- Polymer Science
- Surface Science.

The elective area, "Advances in Material Science", is divided into modules taught in both German and English, totaling 45 ECTS credits. All students must take a cross-disciplinary compulsory module called "Recent Research Topics", focusing on current scientific issues in the field of materials science.

All compulsory and elective courses emphasize sustainability aspects in the respective subjects, with this theme being central to the module "Sustainable Functional Materials".

Academic advising is recommended after the first semester to help guide you efficiently through your academic path.

Further modules for the elective component include, for example:

- Physics of Matter
- Thermochemical Modeling
- Applied Theoretical Physics
- Special Topics and Methods in Material Sciences 1 and 2
- Analytical Chemistry
- Technical Chemistry
- Biochemistry
- Catalysis
- Organic Synthetic Chemistry
- Glass Materials
- Structure of Substances 1 and 2
- Nuclear Medicine, Computer Tomography and X-Ray Diagnostics

Prospects

Prospects

As a graduate, you will gain in-depth scientific knowledge, both theoretical and practical, that will qualify you for demanding roles in the field of materials science. Specifically, you will be well-prepared for an academic career in natural science research, as well as for challenging administrative and industrial positions in sectors related to chemistry, physics, and materials science.

With courses taught in English and the opportunity for study stays at partner universities abroad, the programme will prepare you for a dynamic, international career.

Thematically, the Master's programme is designed as a direct pathway to a doctorate in the field of materials science (metals, ceramics, plastics) within the faculty. In this regard, the doctoral network CerMaX provides an excellent platform for doctoral students to connect and develop both scientific and practical aspects of ceramics. The programme also includes soft skills training, mentoring, and the opportunity for research stays with international advisory board members.

University

University

The University of Koblenz is one of the youngest universities in Germany. Research, teaching and everyday life at the university campus in Koblenz-Metternich are characterised by short distances and active interdisciplinarity.

The university's claim is "continue discovering". This reflects the incentive and aspiration of all members of the university to constantly scrutinise the familiar in order to gain new insights. To this end, the university offers its members the necessary freedom to further develop their academics and teaching and to break new ground in the transfer of ideas, knowledge and technology.

Werkstoffwissenschaften