



Deutscher Akademischer Austauschdienst
German Academic Exchange Service

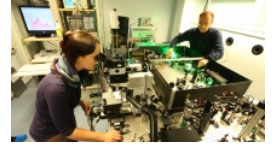


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Master's degree

Nanoscience (MSc)
UNIKASSEL
VERSITÄT
University of Kassel • Kassel



Overview

Degree	Master of Science
Teaching language	<ul style="list-style-type: none">• English• German
Languages	Courses are generally held in English. Some elective modules and required modules from the Bachelor's curriculum are taught in German.
Full-time / part-time	<ul style="list-style-type: none">• full-time
Programme duration	4 semesters
Beginning	Winter and summer semester
Application deadline	International students: 15 July for the winter semester, 15 January for the summer semester
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	The Nanoscience consecutive study programme expands the knowledge and skills obtained in a corresponding Bachelor's degree programme towards deeper theoretical understanding and practical applications of nanoscale phenomena. Embedded in state-of-the-art research, students apply interdisciplinary approaches based on physics, chemistry, and biology to special research areas of nanoscience such as materials chemistry, nanoelectronics, and photonics or advanced molecular biology. By planning and conducting experiments and presenting the results in written and oral form, students develop their skills in scientific practice. They obtain competencies highly beneficial for employment in an interdisciplinary environment in industry or public service. These competencies include not only subject-specific knowledge but also soft skills such as scientific communication and time management. In addition to lectures in all natural sciences with special emphasis on the nanoscale and laboratory work involving at least one natural science, individual specialisation is possible in a large number of elective courses. Some of the courses may also be

taken abroad in a partner university or institution. The two-year programme concludes with a Master's thesis on a special research topic in nanoscience. Upon successful completion of the programme, the Master of Science academic title will be awarded.

Course Details

Course organisation

Students may enter into the two-year programme in the winter or summer semester (i.e. October or April). In order to complete the programme, a total number of 120 credits have to be obtained, including the Master's thesis. Depending on the previous subject of study, additional requirements of up to 30 credits may be necessary. The actual duration of the study programme may differ based on these requirements and individual pacing.

The modules are divided into compulsory modules, focus modules, and elective modules. Compulsory modules are "Methods of Nanostructure Analysis", "Nanophysics", "Nanochemistry", "Nanobiology", a "preparatory project" before starting with the Master's thesis, and the "Master's degree module" with the thesis itself.

Students are required to select at least one advanced module from the three disciplines as a focus module. Further elective modules can be chosen from a variety of modules. Examples of course-like modules are "Aromatic Building Blocks for Organic Nanostructures", "Nanoscale Quantum Optics", "Basics in Chronobiology and Olfaction", and many others.

Internships in the laboratories of different research groups are also included. On a high international level, researchers from the University of Kassel work on the understanding and application of nanosystems. In the "Center for Interdisciplinary Nanostructure Science and Technology" (CINSaT), research teams from biology, chemistry, physics, and engineering find a joint platform for discussing their ideas and work together on interdisciplinary projects. The participating "Institute of Nanostructure Technologies and Analytics" (INA) operates 400 square meters of cleanroom facilities and advanced preparation equipment for nanoelectronic and photonic devices. Current focus areas of CINSaT are, amongst others, three-dimensional nanostructures, biosensors, photonics, nanomaterials, and chiral systems. Spin-off companies, e.g. in biosensorics, connect the research in Kassel to industrial applications.

A detailed description of the modules can be found in the "Modulhandbuch" (module handbook) on our website.

[» PDF Download](#)

A Diploma supplement will be issued

Yes

International elements

- Training in intercultural skills

Integrated internships

Laboratory internships in research groups

Course-specific, integrated German language courses

No

Course-specific, integrated English language courses

No

Costs / Funding

Tuition fees per semester in EUR

None

Semester contribution	Mandatory registration fees allow students to use public transport free of charge and to eat at the university's refectories and cafeterias at reduced prices. The registration fee for the 2022/2023 winter semester was approximately 310 EUR (for one semester).
Costs of living	In order to cover personal expenses while studying in Kassel, it is recommended that students budget around 750 to 900 EUR per month for accommodation, food, health insurance, books, and miscellaneous expenses.
Funding opportunities within the university	No

Requirements / Registration

Academic admission requirements	In order to obtain admission to the Master's programme in Nanoscience, applicants must have a Bachelor's degree of at least 180 credits (ECTS) in nanoscience or a related equivalent degree. Sufficient knowledge in chemistry, physics, and biology including practical skills in at least one of the disciplines must be documented. The examination committee may demand a hearing for assessing the fulfilment of the admission requirements and/or may stipulate additional obligations of up to 30 credits.
Language requirements	English on level B2 of the Common European Framework of Reference for Languages Please note that the missing courses from the Bachelor's degree in Nanoscience are only offered in German language. Therefore, it is useful to have a basic command of the German language.
Application deadline	International students: 15 July for the winter semester, 15 January for the summer semester
Submit application to	University of Kassel c/o uni-assist e.V. 11507 Berlin Germany

Services

Possibility of finding part-time employment	Students can apply for various part-time jobs or work as student assistants on campus. Please have a look at www.uni-kassel.de . Some departments also provide positions as tutors or working students.
Accommodation	International students enrolled at the University of Kassel can choose between staying at a student residence hall ("Wohnheim") or private accommodation. There are about 1,000 rooms available in the student residencies around the campus. Please have a look at https://www.studierendenwerk-kassel.de/en/wohnen/ . Rent for a room varies between 200 and 350 EUR per month depending on the location and facilities. Students can choose single apartments with en-suite facilities or a shared flat with fellow students. Private furnished or unfurnished accommodation in Kassel is also available and can be found in the local paper, on flyers on campus, or on the Internet (e.g. social media).

Support for international students and doctoral candidates

- Welcome event
- Buddy programme
- Specialist counselling



©Negar Karkoudi

Negar Karkoudi
Master's student MSc
Nanoscience

I made my dream come true at Kassel University. I would like to recommend this programme to all students who want to take their studies to the next level and who want to expand their knowledge in physics, chemistry, biology, and other applied sciences together.



University of Kassel – CINSaT

Research projects within the Centre of Interdisciplinary Nanostructure Science and Technology are presented (in German with English subtitles). In these projects, students of the MSc Nanoscience programme can participate in internships.

» more: <https://www.uni-kassel.de/forschung/cinsat/ueber-cinsat/imagefilm>

University of Kassel



© University of Kassel

The University of Kassel, founded in 1971, is characterised by a multi-layered competence network focused on nature, technology, art, and society. The university, with its ten faculties and its School of Art and Design, has committed itself to international cooperation and interdisciplinary research. It hosts 3,000 international students from over 130 countries among its 25,500 students. Approximately 300

professors teach and research in the fields of engineering, natural sciences, and mathematics as well as the humanities, human sciences, environmental engineering, informatics, and arts.

The faculties are located on the main campus (Holländischer Platz) and on other campuses (Faculty of Mathematics and Natural Sciences at Heinrich-Plett-Straße, Faculty of Electrical Engineering and Computer Science at Wilhelmshöher Allee, Kassel School of Art and Design at the Karlsau Park, Institute of Sports and Sports Science at the Aueparkhalle, and the “Murhardsche” Library at Brüder-Grimm-Platz). The Faculty of Organic Agricultural Sciences can be found in the nearby village of Witzenhausen.

Internationally orientated, short-term study courses as well as English-taught Bachelor's and Master's programmes make the university an attractive place to study and do research. International partnerships at home and abroad strengthen its position in the area of national and international higher education.

The university also provides a wide range of leisure-time activities such as sport facilities, cultural activities, international meetings, and social events.



University location

Kassel, with approx. 200,000 inhabitants, is located at the centre of Germany, close to the Fulda River. The city offers rich cultural and economic diversity. Opera and theatres, concerts, open-air-events, famous art museums, and castles enrich the capital of the German “Fairytale Route”. Every five years, the world-famous “documenta” contemporary art exhibition turns Kassel into a cosmopolitan city. There are many parks and forests in Kassel and its surroundings where you can relax in the open air or be active. The “Bergpark Wilhelmshöhe”, Europe’s largest mountainside park, is the most famous sight in Kassel. In 2013, the park and its water cascades became a UNESCO World Culture Heritage Site. An excellent highway and railway infrastructure provides you with the means to explore other German and European cities in a fast and easy way (e.g. three hours to Berlin, Hamburg, or Munich).

Witzenhausen — where the Faculty of Organic Agricultural Sciences is located — is a small, typical Hessian town, some 35 km from Kassel. Approx. 1,000 students live and work here. Historic, half-timbered houses lend a unique charm to the small town, which is famous for its cherry orchards in the surrounding areas. The annual spring cherry blossom celebration is a highlight for both young and old.

Contact

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🌐 Course website: https://www.uni-kassel.de/go/m_nanoscience

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International Programmes in Germany - Database

www.daad.de/international-programmes
www.daad.de/sommerkurse

Editor

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Disclaimer

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