



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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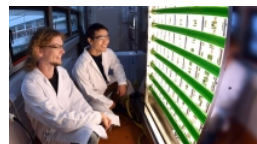
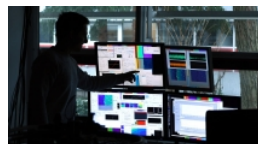
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Master's degree



Master of Science in Physics

Freie Universität Berlin • Berlin



Overview

Degree	Master of Science (MSc)
Teaching language	<ul style="list-style-type: none">English
Languages	English (100%)
Full-time / part-time	<ul style="list-style-type: none">full-time
Mode of study	Less than 50% online
Programme duration	4 semesters
Beginning	Winter and summer semester
Application deadline	<p>Regular application times</p> <ul style="list-style-type: none">Application deadline for the following summer semester is 15 JanuaryApplication deadline for the following winter semester is 15 August <p>Applicants who hold a Bachelor's degree from outside Germany should apply six weeks before these dates in order to allow for processing of their applications by uni-assist.</p>
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>Free the Scientist Within You</p> <p>This graduate programme (100% English) prepares you for international careers in advanced research and research-intensive industries. You will gain specialised knowledge across various fields of physics, deepen your understanding of scientific methods and strengthen your expertise in</p>

[theoretical](#) and [experimental](#) physics.

As a Master's student, you will participate in ongoing research projects and becoming part of our diverse scientific community. You will receive individual support from instructors and professors.

Key Facts about the Master's Programme

- no tuition fees
- consecutive and research-oriented
- two years (four semesters, 120 credit points)
- provides entry into doctoral programmes

Become a Part of an Excellent Scientific Community

- well-equipped laboratories and advanced technology
- access to a strong international network of physicists
- mentoring programme to support new students and foster a caring academic community

Master's programme in Physics

Benefit: French-German Master's Double-Degree Programme

Our Master's students can earn a double degree in Physics with the Institute Polytechnique de Paris.

Double degree programme

More than 75 Years of Fundamental Physics at Freie Universität Berlin

The physicists at Freie Universität Berlin continue the pioneering scientific tradition of great minds like Albert Einstein, Max Planck, Otto Hahn, and Lise Meitner, who once worked in Berlin-Dahlem — the present-day home of Freie Universität Berlin.

Research for the World and Future – Creating Fundamentals for Future Innovations

The physicists at Freie Universität Berlin are pursuing groundbreaking fundamental research in [biophysics](#), [quantum physics](#), [ultrafast physics](#), [nanophysics](#) and [surface science](#). They are publishing scientific findings in renowned journals such as "Nature" and "Science".

Moreover, our department is home to several collaborative research centres and [scientific consortia](#), where physicists work closely together in large international and interdisciplinary teams.

Course Details

Course organisation

The [Master's programme](#) in Physics consists of two phases.

First Year: Advanced Phase

In the **advanced phase**, students deepen and broaden their knowledge of physics and related disciplines. Module content is closely linked to the research activities of our working groups, integrating the latest research topics and research methods into the courses. Some modules are mandatory, while others can be chosen and combined according to personal interests and career goals.

Second Year: Research Phase

In the **research phase**, students join different research groups at our department. Within these groups, physics students are trained to become experts in a specific field of physics. They gain access to research facilities, learn the methodology and write their Master's theses in this field. During the entire research phase, each student is assigned to a professor in the department, who serves as a research adviser.

In the first half-year of the research phase, the two mandatory modules – "Professional Specialisation" and "Methodology and Project Planning" – are to be completed. During a six-month Master's project, students conduct their research and present it in the form of a Master's thesis. The research phase is accompanied by a seminar.

Modules

As a **mandatory component** of the programme, the advanced fundamentals of modern experimental and theoretical physics are taught. Within this part, the following modules are to be completed:

- Advanced Laboratory Course
- Selected Topics: Scientific Presentations

Additionally, students must choose up to two of the following modules:

- Advanced Quantum Mechanics
- Statistical Physics and Thermodynamics
- Advanced Statistical Physics
- Quantum Field Theory and Many-Body Physics

If only one of the above modules is chosen, one of the following modules must also be selected:

- Advanced Solid State Physics
- Advanced Atomic and Molecular Physics
- Advanced Biophysics

In an **elective part** of the studies, students can choose from a broad range of modules on selective topics in physics, among others:

- Theoretical Condensed Matter Physics
- Nanophysics
- Magnetism and Spin Electronics
- Surface Science
- Theory of Light-Matter Interaction
- Advanced Optics
- Ultrafast Spectroscopy and Nonlinear Optics
- Photobiophysics
- Special Topics in Molecular Biophysics
- Advanced Biospectroscopy
- Semiconductor Physics
- Advanced Astronomy and Astrophysics
- Quantum Information Theory
- Advanced Computational Physics
- Signal Analysis for Physicist
- Physics and Chemistry of Sustainability I – Renewable Energy
- further modules...

A Diploma supplement will be issued

Yes

International elements

- International guest lecturers
- Specialist literature in other languages
- Projects with partners in Germany and abroad
- International comparisons and thematic reference to the international context
- Integrated/optional study abroad unit(s)

Description of other international elements

World-renowned scientists regularly present their research on various occasions at our department. All Master's students are cordially invited to attend the lectures given by international guests, especially our [physics colloquium](#).

Integrated/optional study abroad unit(s)

Master's students can participate in the [Erasmus+ exchange](#) programme and study for some semesters at our partner universities, including those in Spain, Portugal, Norway, Sweden, and other countries.

Integrated internships

No additional internship is necessary.

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

In total, the semester contribution amounts to 304.40 EUR. It includes a fee of 181.40 EUR for the transportation ticket contribution. This allows you to use public transportation in Berlin for free. Other costs covered by the semester contribution include a 50 EUR enrolment fee, a 63 EUR semester contribution to the student support service ("studierendenWERK Berlin"), and a 10 EUR contribution to the student union.

Costs of living

Compared to other European countries, the cost of living in Germany is quite reasonable. However, the cost of living has also risen somewhat in Germany in recent years. The prices for food, accommodation, clothing, cultural events, etc. are slightly above the EU average. You will need around 950 to 1,200 EUR each month to cover your living expenses. The biggest expense is monthly rent, which is between 400 and 700 EUR in Berlin.

Funding opportunities within the university

Yes

Description of the above-mentioned funding opportunities within the university

The [Deutschlandstipendium scholarship](#) allows students at Freie Universität Berlin of all nations and all parts of society to fully concentrate on their studies. The programme supports talented students with 300 EUR per month. To apply, you have to be already enrolled within the standard time to degree during the funding period or have a letter of acceptance to start a degree programme at Freie Universität Berlin.

Requirements / Registration

Academic admission requirements

A Bachelor of Science in Physics or a similar degree from a German or any international university is required. Your degree must be [equivalent](#) to the [Bachelor's degree](#) in physics conferred by the Freie Universität Berlin.

Language requirements

Non-native English speakers should document their **language proficiency at or above level B2** (Common European Framework of Reference for Languages, CEFR) by providing generally recognised language [test certificates](#).

Native English speakers as well as applicants who have acquired their qualifying degree at an

educational institution at which English is the language of instruction do not need to provide any language proficiency documents.

[Details on language requirements](#)

Application deadline

Regular application times

- Application deadline for the following summer semester is 15 January
- Application deadline for the following winter semester is 15 August

Applicants who hold a Bachelor's degree from outside Germany should apply **six weeks before these dates** in order to allow for processing of their applications by uni-assist.

Submit application to

[Application for Master's programme in Physics](#)

Services

Possibility of finding part-time employment

There are many ways of earning money while you study, for example as waiting staff, academic assistants, or private tutors. Knowledge of German will improve your chances of finding a part-time job, but it isn't necessarily required. However, it is important to be aware of the legal regulations.

The student support service at the university, called studierendenWERK Berlin, and the local representative of the "Bundesagentur für Arbeit" (Federal Employment Agency) can provide information about jobs for students. When searching for a job, look at online job boards, ads in local newspapers, and notice boards on campus.

Accommodation

You have the option to stay in a public/private student dormitory or in a private (shared) apartment. Student dormitories are not administrated by the university itself, so Freie Universität Berlin does not have any on-campus housing. However, it works together with "[studierendenWERK Berlin](#)" regarding student accommodation.

If you do not wish to stay in a student dormitory, you can try to find a room or an apartment on the private housing market. Many students in Berlin live in shared apartments ("WGs"). You can find these offers online (e.g. [WG-Gesucht](#) or [Kleinanzeigen](#)) or on notice boards on campus.

Available rooms/apartments near the university are rare. Therefore, students mostly commute from other parts of the city. The commute via public transportation usually takes between 30 minutes and an hour, which is considered a normal travel time in Berlin due to the size of the city.

Career advisory service

The [Career Service](#) of Freie Universität Berlin aims to support international students at Freie Universität by providing information, advice, and events related to career planning, internships, and job applications.

Support for international students and doctoral candidates

- Specialist counselling

General services and support for international students and doctoral candidates

The [International Student Support](#) team at FU Berlin regularly offers information events that include Q&A sessions. While personal office hours aren't available due to team size, students can contact Info-Service Study for general inquiries or the General Academic Advisory Service or Psychological Counseling for complex concerns. The team also enhances expertise in international affairs, contributing to FU Berlin's internationalisation process.



©FU Berlin Physics

Alexander Goschew PhD in Physics

Earning a Master's in Physics at the FU Berlin was an interesting yet challenging experience. The course sizes were generally small, and I appreciated the interactions with the instructors and fellow students very much. What I liked most was the work in a research group as part of my Master's project. Studying real physics and applying all that I had learned in the laboratory was very fulfilling.



Physics Master's Programme at Freie Universität Berlin

Professor Dr Katharina Franke and Professor Dr Joachim Heberle explain the advantages of our graduate programme in Physics.

» more: https://medien.cedis.fu-berlin.de/studienberatung_ze_netz/video_fachdarstellungen/master_physics_prof.mp4

Freie Universität Berlin



Department of Physics at Freie Universität Berlin

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Freie Universität Berlin is a leading research institution. It is one of the 13 German universities being funded through the German government's Excellence Strategy and is part of the only University Consortium of Excellence, the [Berlin University Alliance](#), which consists of four partners in Berlin: Freie Universität Berlin, Humboldt-Universität zu Berlin, Technische Universität Berlin, and Charité – Universitätsmedizin Berlin.

You can choose from more than 180 subject areas. No matter which area you are interested in, be it archaeology, physics, Jewish studies, law, or psychology, you will find your subject at Freie Universität Berlin.

As an international university, Freie Universität Berlin has partnerships with numerous universities across the world and maintains offices in Beijing, Cairo, Eastern Europe (Tbilisi, Georgia), New Delhi, Moscow, and São Paulo. About 17 percent of the students come from abroad, as do 38 percent of the doctoral students. At Freie Universität Berlin, you will meet people from all over the world.

Various support services are available for students. In particular, students who are new to a German university and to Berlin will profit from these services, for example, the introduction week, the mentorship programme, or the Student Services Centre. UniSport offers programmes ranging from Aikido to Zumba, which are very popular among students. The many cafeterias and canteens on campus offer food and drinks; this also usually includes fair trade, organic, vegetarian, and vegan options. Environmental protection and sustainability are generally important topics at Freie Universität Berlin, and there are many opportunities to get involved in related activities offered by students and the university.



University location

Freie Universität Berlin is one of the major universities in the capital of Germany. It is located in the green district of Dahlem, in the south-western part of the city. There is no other campus in Berlin that is as green as the campus of Freie Universität Berlin. You can simply step out of the university buildings to enjoy outdoor activities: lunch on one of the many terraces and rooftops, swimming in the nearby lakes, or reading between cherry and apple trees. Dahlem is also home to one of the biggest botanical gardens in Europe. By using public transport, you can easily access the heart of Berlin and enjoy its cultural life and diversity. The U3 subway line connects Dahlem with the popular and central districts of Schöneberg, Kreuzberg, and Friedrichshain; however, all of the other districts can also be easily reached.

Contact

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🌐 Course website: <https://www.physik.fu-berlin.de/en/studium/master>

📘 <https://www.facebook.com/freieuniversitaetberlin/>

🐦 https://twitter.com/fu_berlin

🌐 <https://www.linkedin.com/school/freie-universitat-berlin/>

📷 https://www.instagram.com/fu_berlin/

📺 <https://www.youtube.com/c/FreieUniversitaetBerlin>

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Disclaimer

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