



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



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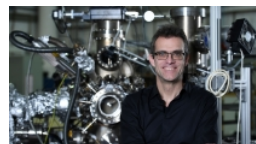
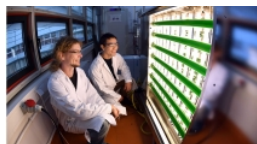
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# Master's degree



## German-French Double Degree Master's Programme in Physics

Freie Universität Berlin • Berlin



## Overview

Degree	Master of Science (MSc)
In cooperation with	<a href="#">Institut Polytechnique de Paris</a> and <a href="#">Franco-German University</a>
Teaching language	<ul style="list-style-type: none"><li>• English</li><li>• French</li></ul>
Languages	<p>First and second semester: English</p> <p>Third and fourth semesters: English or French, depending on the selected courses</p> <p>The Master's thesis at Institut Polytechnique de Paris will be written in English.</p>
Full-time / part-time	<ul style="list-style-type: none"><li>• full-time</li></ul>
Mode of study	Less than 50% online
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	<p>The regular application deadline is <b>30 June</b> during the first year of the Master's programme. If you plan to apply for Erasmus funding in parallel, please submit your application by <b>10 March</b>.</p> <p>Besides the standard application, we also offer the possibility of an <b>early application</b>. The deadline for the early application is 30 June <b>before</b> starting the Master's studies. Candidates will apply in parallel for the Master's programme in physics of Freie Universität Berlin (deadline for the winter semester: 15 August) and the Master's double degree programme.</p> <p>Applicants who hold a Bachelor's degree from outside Germany should apply six weeks ahead of these dates in order to allow for processing of their applications by uni-assist.</p> <p>For more details on application, please <a href="#">see our website</a>.</p>
Tuition fees per semester in EUR	None

Combined Master's degree /  
PhD programme

No

Joint degree / double degree  
programme

Yes

Description/content

**A joint programme of Institut Polytechnique de Paris and Freie Universität Berlin**

Graduates of the physics double degree programme will receive degree certificates from both the [Freie Universität Berlin](#) and the [Institut Polytechnique de Paris](#). Over the last 10 years, dozens of our physics students have benefited from this double degree programme, which is certified by the [Franco-German University](#).

Key facts:

- two diplomas in one programme
- consecutive, research-oriented Master's course
- two-year programme (120 credit points)
- qualifies graduates for international careers in research

**1st year – advanced phase in Berlin**

Students spend the first year at the Freie Universität Berlin and complete several modules of their choice. The [Statistical Physics and Thermodynamics](#) module is mandatory.

**2nd year – research phase in Palaiseau/Paris**

Students spend the second year of the programme at [Institut Polytechnique de Paris](#). During the first six months, they will take compulsory modules (mostly lectures on physics) as well as one module on French language and cultural literacy. Double degree students then engage in a cohesive research phase of twelve months within one of the research groups at the Institut Polytechnique de Paris, preparing for their Master's theses.

[French-German Master's Double Degree Programme](#)

**We are strong in biophysics, quantum physics, nanophysics and ultrafast physics.**

The [Department of Physics](#) at Freie Universität Berlin is strong in both theoretical and experimental physics, with groups focused on molecular [biophysics](#), [nanosystems](#), [ultrafast physics](#), and [quantum physics](#). The department is also home to research centres dedicated to nanoelectronics, quantum computing, photosynthesis, and catalysis as well as the Dahlem Center for Complex Quantum Systems.

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## Course Details

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Course organisation

**Deep Insights into German and French Scientific Communities**

The aim of the programme is to prepare students for international careers in advanced research and industries that heavily rely on research. These career paths require a comprehensive and profound understanding of modern physics as a fundamental requirement. As a Master's student of physics, you will be involved in ongoing projects and will be a part of our diverse scientific community.

[French-German Master's Double Degree Programme](#)

**Advanced Phase in Berlin** (starts on 1 October)

The advanced phase serves to deepen and broaden students' knowledge of physics and related

disciplines. It also aims to bring students up to the level of current topical research. As a compulsory component of the study programme, we teach the advanced fundamentals of modern experimental and theoretical physics. Within this part, the following modules are to be completed:

#### Modules at the Department of Physics at the Freie Universität Berlin

- Physics laboratory practical course for Master's students (10 ECTS)
- Selected Topics in Physics seminar (5 ECTS)
- Statistical Physics and Thermodynamics (10 ECTS)

In addition, students must choose one of the following modules (10 ECTS):

- Advanced Quantum Mechanics
- Advanced Statistical Physics
- Quantum Field Theory and Many-Body Physics
- Advanced Solid State Physics
- Advanced Atomic and Molecular Physics
- Advanced Biophysics

As an elective part of the programme (25 ECTS), students can choose further modules from the aforementioned list as well as from the schedule of modules listed below:

- Theoretical Solid-State Physics
- Advanced Theoretical Biophysics
- Nanophysics
- Ultrafast Spectroscopy and Nonlinear Optics
- Spectroscopy with Synchrotron Radiation
- Photobiophysics and Photosynthesis
- Semiconductor Physics
- General Relativity
- History of Physics
- Advanced Topics in Theoretical Condensed Matter Physics
- Special Topics in Magnetism
- Special Topics in Molecular Physics
- Special Topics in Molecular Biophysics
- Advanced Astronomy and Astrophysics
- Modern Methods in Theoretical Physics
- Modern Methods in Experimental Physics

#### Research Phase in Paris (starts on 1 September)

In the research phase, students learn to work independently in a specialised field of physics. This includes carrying out research and presenting it in the form of a Master's thesis.

- 12 months of a coherent research phase in a scientific group at the [Institut Polytechnique de Paris](#)
- The first six months also include lectures of [aM2 programme](#) in physics (25 ECTS).
- French language and culture (5 ECTS)
- own Master's project in cooperation with a research group at the Institut Polytechnique de Paris

» [PDF Download](#)

<b>A Diploma supplement will be issued</b>	Yes
<b>International elements</b>	<ul style="list-style-type: none"> <li>• Integrated study abroad unit(s)</li> </ul>
<b>Integrated study abroad unit(s)</b>	Participants spend the third and fourth semester of the programme at the Institut Polytechnique de Paris.
<b>Integrated internships</b>	No additional internship is necessary.

<b>Special promotion / funding of the programme</b>	<ul style="list-style-type: none"> <li>• Franco-German University (FGU)</li> </ul>
<b>Course-specific, integrated German language courses</b>	No
<b>Course-specific, integrated English language courses</b>	No

## Online learning

<b>Pace of course</b>	Mixed (e.g. fixed exam dates and duration, study content can be studied at any time)
<b>Phase(s) of attendance in Germany (applies to the entire programme)</b>	Yes, compulsory
<b>Types of online learning elements</b>	<ul style="list-style-type: none"> <li>• Chats (with lecturers and other students)</li> <li>• Discussion forums and / or groups</li> <li>• Online sessions</li> <li>• Online study material provided by institution</li> <li>• Video learning (Pre-recorded videos, Vlogs, Video-Podcasts)</li> </ul>

## Costs / Funding

<b>Tuition fees per semester in EUR</b>	None
<b>Semester contribution</b>	In total, the semester contribution amounts to 312.89 EUR. It includes a fee of 198.80 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 54.09 EUR semester contribution to the student support service ("studierendenWERK Berlin"), and a 10 EUR contribution to the student union.
<b>Costs of living</b>	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.
<b>Funding opportunities within the university</b>	Yes
<b>Description of the above-mentioned funding opportunities within the university</b>	Participants in the Master's double degree programme will receive a monthly mobility allowance of 350 EUR from the Franco-German University for 10 months during their stay in France.

# Requirements / Registration

## Academic admission requirements

Academic admission requirements include a professionally-qualifying German or equivalent non-German degree at the university level in physics, [corresponding to the Bachelor of Science in Physics](#) at the Freie Universität Berlin.

## Language requirements

### English – B2

Applicants whose native language is not English and who have not acquired their qualifying degree at an educational institution where English is the language of instruction will need to present certification of their proficiency in English at or above level B2 of the Common European Framework of Reference for Languages (CEFR). Verification of English language proficiency can be provided by generally recognised [language tests](#).

### German and French – A2 and higher

Students must have a good command of German and French. The proficiency of one of these languages must be higher than the A2 level, and the other can be on a A2 level. German and French language knowledge has to be demonstrated upon application.

## Application deadline

The regular application deadline is **30 June** during the first year of the Master's programme. If you plan to apply for Erasmus funding in parallel, please submit your application by **10 March**.

Besides the standard application, we also offer the possibility of an **early application**. The deadline for the early application is 30 June **before** starting the Master's studies. Candidates will apply in parallel for the Master's programme in physics of Freie Universität Berlin (deadline for the winter semester: 15 August) and the Master's double degree programme.

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

For more details on application, please [see our website](#).

## Submit application to

### Double Application

Applications have to be submitted online via the [online portal of the Institut Polytechnique de Paris](#) (please ignore the application deadlines mentioned there) and, **at the same time**, by e-mail to: [doublemaster@physik.fu-berlin.de](mailto:doublemaster@physik.fu-berlin.de).

# 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 [Craigslist](#)) 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 city's size.

#### Support for international students and doctoral candidates

- Specialist counselling

#### General services and support for international students and doctoral candidates

We endeavour to assist participants by finding affordable accommodation on the campus of Institut Polytechnique de Paris.



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### Vincent Mallet Alumnus of the French- German Double Degree Programme

What are the benefits of this double degree programme?

Firstly, it offers an excellent scientific exchange between two great physics schools – one French and one German. During their studies, students learn to transfer expertise and knowledge between the two schools. Secondly, they develop multicultural competence, which is indispensable in globalised research. And thirdly, earning two degrees from two renowned universities provides a significant advantage for future career prospects.

## Our Partners





Department of Physics

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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 southwestern 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

## Freie Universität Berlin

Department of Physics

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14195 Berlin

✉ [doublemaster@physik.fu-berlin.de](mailto:doublemaster@physik.fu-berlin.de)

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

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

🐦 [https://twitter.com/fu\\_berlin](https://twitter.com/fu_berlin)

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

📷 [https://www.instagram.com/fu\\_berlin/](https://www.instagram.com/fu_berlin/)

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

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# International Programmes in Germany - Database

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## Editor

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## GATE-Germany

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Federal Ministry  
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