



Physics

Physics at the Freie Universität – since 1949

With our fundamental research in theoretical and experimental physics, we discover new effects and contribute to the advances in material development, various technologies (information, energy, environmental, sensor), and medicine.

Key Research Areas

Biophysics uncovers the function of biologically relevant macromolecules.

Nanophysics and Surface Science explore the behavior of systems and materials with atomic dimensions.

Ultrafast Physics uses ultrashort laser pulses to reveal real-time dynamics in magnetic materials, ultrathin films, and molecular systems.

In the **Dahlem Center for Complex Quantum Systems**, the researchers work on theoretical quantum condensed matter physics, e.g. complex materials, nanomagnetism, and quantum chaos.

Open-minded and vibrant – just like Berlin

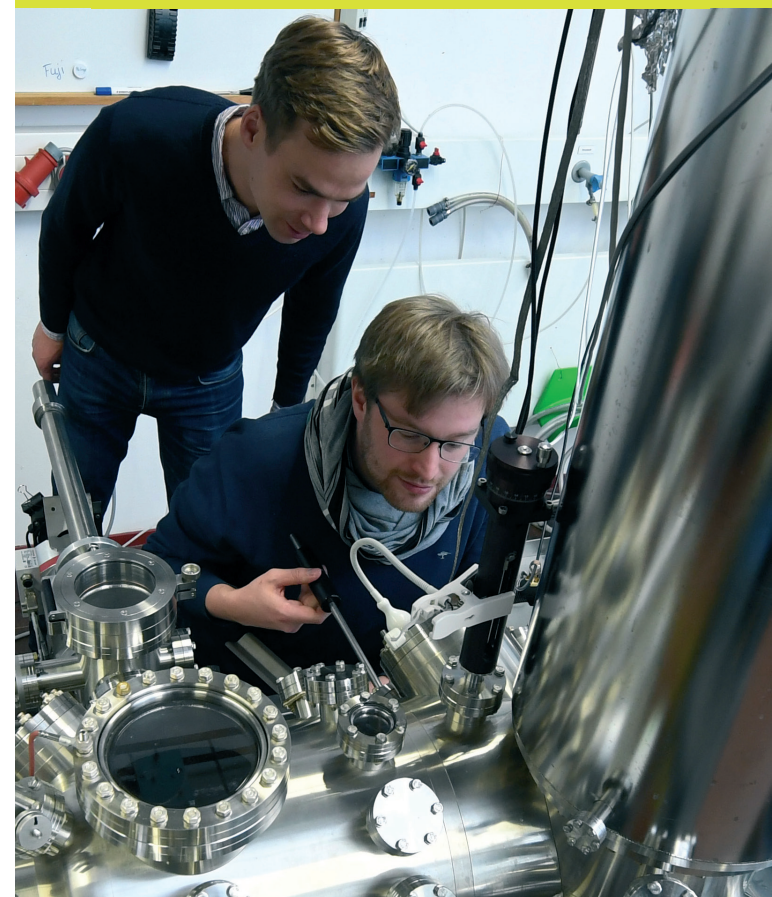
Our department reflects the stunning cultural and intellectual mix of Berlin: here, people speak many languages, live their own colourful lifestyles and engage in cutting-edge projects.

Contact

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www.physik.fu-berlin.de/master

Master of Science



Master in Physics (M. Sc.)

- research-oriented
- standard duration – 4 semesters
- teaching language – English
- program start – winter and summer semester
- no tuition fees

Requirements

- Bachelor of Science in Physics or equivalent non-German degree in Physics at a university level
- Language proficiency at or above level B1

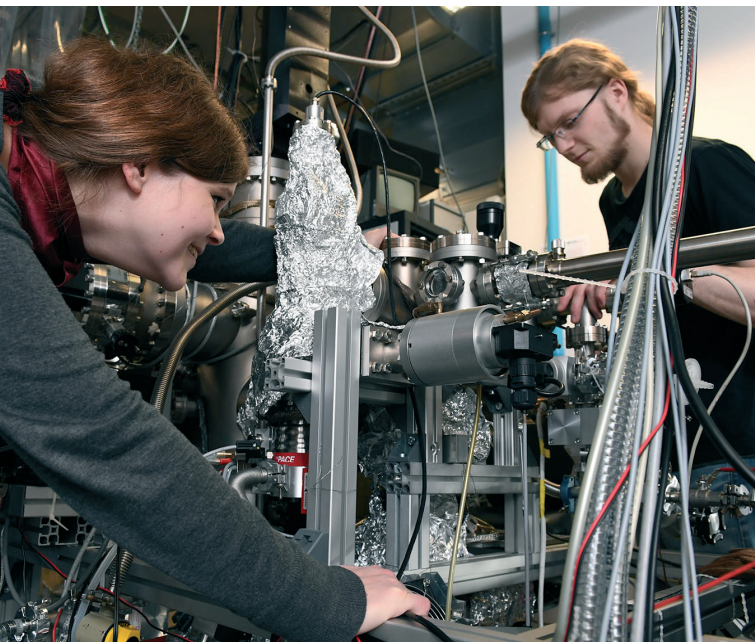
Application

July to August for the winter semester

December to January for the summer semester

For dates and required documents please see

www.physik.fu-berlin.de/apply



What you learn

You acquire universally valuable skills such as understanding of complex structures, analytical proficiency, and reasoning. You learn to manage problems in a wide variety of fields of natural science and technology and become flexible and highly desired professionals on the job market.

Working side by side with trained scientists

In the Master's program, you join one of the 30 research groups in our department. You work closely with postgraduates and professors and learn to perform independently in your chosen field of physics.

Encouraging and supportive

Our teaching staff is accessible and supportive. We encourage individual choices and inspire students to use our department's ample opportunities for international collaboration and networking.

For many students, the graduate programme in Physics opens the door to an esteemed academic career at international research institutions.

Doing a Master's at the Freie Universität Berlin was an interesting yet challenging experience. What I liked most was the work in a research group as part of my Master's project. Doing „real“ physics and applying all that I had learned in the laboratory was very fulfilling. Alexander Goschew, PhD in Physics

Program Structure

Target – 120 credit points,
approx. 30 points each semester

Coursework Phase

60 CP

Compulsory – 15 CP

Advanced Laboratory Course for Master Students
Seminar Selected Topics in Physics

Compulsory-elective – 20 CP

Modules to choose in **theoretical physics**

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

Modules to choose in **experimental physics**

Advanced Solid State Physics
Advanced Atomic and Molecular Physics
Advanced Biophysics

Elective – 25 CP

Modules from physical and non-physical subjects to choose

Research Phase

60 CP

Students join a research group and write their Master's thesis.

Modul Scientific Specialization – 15 CP
Modul Methodology and Project Planning – 15 CP
Master's thesis with its accompanying seminar – 30 CP