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Master's degree



Physics / IPSP

Leipzig University • Leipzig

Overview

Degree	Master of Science
Teaching language	<ul style="list-style-type: none">English
Languages	Courses are held in English (100%).
Programme duration	2 semesters, 4 semesters
Beginning	Winter and summer semester
Additional information on beginning, duration and mode of study	<p>The MSc Physics programme is offered with a duration of four semesters (two years).</p> <p>The MSc IPSP programme is offered with a duration of two semesters (one year).</p>
Application deadline	<p>31 May for the following winter semester (uni-assist)</p> <p>31 December for the following summer semester (uni-assist)</p> <p>The application periods start approximately eight weeks before the deadline.</p>
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>Knowledge of the physical world has been imparted to the students of Leipzig University since it was founded in 1409. In 1557, the first professorship of physics in Leipzig was created, and in 1871, one of the first chairs for geography in Germany was set up at Leipzig University. In the 20th century, the field of physics flourished in Leipzig with researchers such as Otto Wiener, Ludwig Boltzmann, Werner Heisenberg, and Gustav Hertz. Today, the subject of physics is offered in German and English. More than 1,500 students from about 40 countries are working towards the coveted degrees at the Department of Physics and Earth Sciences.</p> <p>The MSc programme in physics deepens and widens the basic knowledge in modern areas of experimental and theoretical physics, always building on the knowledge obtained in a BSc course in physics. Furthermore, the students have the possibility to specialise in topical areas of physics, which also include subjects other than physics. Each student can design her or his MSc course according to her or his own interests, such that at the time of graduation she or he will be a specialist of experimental physics of soft or solid matter, theoretical and mathematical physics, or applied physics. To this end, the Peter Debye Institute for Soft Matter Physics, the Felix Bloch</p>

Institute for Solid State Physics, and the Institute of Theoretical Physics as well as the external Leibniz Institute of Surface Modification offer a wide variety of modules and research topics.

The MSc programme is research oriented and is concluded by an independent research project, the Master's thesis. By teaching a broad variety of knowledge and methodical competences, it ideally prepares the graduates for an excellent start in the job market, which will present great challenges with its rapidly changing demands in the future.

The MSc degree in physics completes the students' university education and represents the level of a German "Diplom" degree. The academic degree qualifies students to apply for admission to doctoral work (thesis research). Traditional work-related areas of physicists include microelectronics, construction of scientific and medical devices, fine mechanics, engineering, optics, chemical industry, informatics, and communication technology. Due to their familiarity with analytical research concepts and problem-solving strategies, physicists often take on jobs in other fields that are not directly related to physics.

Course Details

Course organisation

MSc Physics - two-year version: The Master's course of study consists of two one-year periods, a first phase in which the knowledge in physics is deepened and widened, followed by a research phase. In the first phase, the education in experimental and theoretical physics is continued. This phase is structured into four areas in which students choose between courses and seminars belonging to each area. Areas one, two and three focus on aspects within physics. The fourth area gives students the option to choose subjects not directly related to physics.

Area one is devoted to experimental physics and gives the student a choice between a course in Advanced Condensed Matter Physics and a course in Soft Matter Physics.

Area two is devoted to the advancement of the theoretical physics knowledge with a choice between advanced courses in Quantum Mechanics and Statistical Physics.

Areas three and four serve the further specialisation. In these areas, the module list reflects the research interests of the Physics Institutes as well as the external Institute for Surface Modification. The division into areas three and four is due to didactical reasons.

Area three contains a choice of various advanced seminars in experimental and theoretical physics. Besides transporting specific physics knowledge, the student learns soft skills, such as literature research, presentation techniques, scientific writing and scientific discussion in the advanced seminars.

Area four contains modules with various physical content and of various module forms. Within area four, the student may choose not only from the range of physics subjects, but – to a certain extent – also from general science subjects.

In the research phase, students conduct research work on a subject from the field of physics under the supervision of a professor or senior scientist. This is done in a series of three steps. After deciding on a special topic, a preparatory phase follows, in which the student first studies the physics background, the experimental or computational methods, topical references to research papers and then develops a project outline. This half-year preparatory phase is structured into the research seminars I and II. The second half of the research phase is then devoted to the actual scientific work on the specified problem. The research phase is concluded with the submission and defence of the Master's thesis.

MSc IPSP - one-year-version: The programme provides the option to specialise and deepen your knowledge in a field of current research by choosing courses amounting to 15 CP from our physics electives. As related to the description of the two-year version above, areas one through four are combined into an elective area of 15 CP points.

A major part of this programme is the research phase. Here you will learn to do independent research under the supervision of a professor or senior scientist, become a part of a research group and contribute to research problems of current interest. It includes a preparatory course in research practice (15 CP) and the Master's thesis (30 CP, duration of 23 weeks).

A Diploma supplement will be issued	Yes
International elements	<ul style="list-style-type: none"> • International guest lecturers • Projects with partners in Germany and abroad
Integrated internships	<p>There are possibilities to complete internships at the following institutions:</p> <ul style="list-style-type: none"> • Leibniz Institute of Surface Engineering • Max Planck Institute for Mathematics in the Sciences • Helmholtz Centre for Environmental Research - UFZ • Helmholtz Centre Dresden Rossendorf (HZDR) Research Site Leipzig • Leibniz Institute for Tropospheric Research
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	266.90 EUR
Costs of living	About 900-1,000 EUR per month
Funding opportunities within the university	No

Requirements / Registration

Academic admission requirements	<p>GENERAL QUALIFICATION for the study programme is proven by a first professionally recognised degree qualification or a qualification from a state or state-recognised university of cooperative education (German "Berufsakademie"). Further certificates have to be acknowledged by the responsible and officially recognised administration.</p> <p>Our service for applicants holding an international degree provides a check for university admission to find out if you are qualified to study in Germany using your educational certificates. Information on important additional country-specific requirements is also given.</p> <p>SUBJECT SPECIFIC REQUIREMENTS Two-year version (MSc Physics):</p> <ul style="list-style-type: none"> • Bachelor's degree in physics with 180 ECTS points • sound knowledge of experimental physics and theoretical physics
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One-year version (MSc IPSP):

- Bachelor's degree in physics with 240 ECTS points
- experimental physics: courses in solid state physics and soft matter of at least 5 ECTS each
- theoretical physics: courses in quantum mechanics and statistical physics of at least 5 ECTS each

Language requirements

English language proficiency equivalent to the B2 level of the Common European Framework of Reference for Languages is required.

Applicants need to submit one of the following proofs/certificates:

- Certificate of European B2 Level in English Language
- TOEFL scores (minimum): PBT: 543, cBT: 207, iBT: 72
- IELTS score (minimum): 5.5
- Cambridge FCE (minimum): Grade B or C
- TOEIC (minimum): Listening and Reading: 785, Speaking: 160, Writing: 150, all four modules
- Pearson PTE Academic (minimum): 59

A certified knowledge of German is not required.

Application deadline

31 May for the following winter semester (uni-assist)
31 December for the following summer semester (uni-assist)

The application periods start approximately eight weeks before the deadline.

Submit application to

The application is an online application via [uni-assist](#). Details are provided on the university webpage: [Application Procedure](#).

Applicants with a German BSc degree submit their applications via [AlmaWeb](#).

Services

Possibility of finding part-time employment

There are work opportunities for students. The income from typical student jobs is capped at 520 EUR per month. Students might be employed for homework corrections, programming, specific laboratory work, or tutorials.

Accommodation

Student halls of residence run by the "Studentenwerk Leipzig" (<https://www.studentenwerk-leipzig.de/en/housing/our-student-halls-residence>), shared apartments, accommodation services and estate agencies

Career advisory service

<https://www.uni-leipzig.de/studium/beratungs-und-serviceangebote/career-service/>

Support for international students and doctoral candidates

- Welcome event

General services and support for international students and doctoral candidates

The guidance and support of our international students is provided centrally by our [International Centre](#)". This includes periods prior to the studies (application, enrolment, advice on study programmes and the start of studies) and during the studies (e.g. [study abroad](#)).

Our international students also receive comprehensive advice from the "Studentenwerk Leipzig",

which not only covers housing, but services like psychosocial and social counselling and legal advice as well.

Contact

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Faculty of Physics and Earth System Sciences

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🌐 Course website: <https://www.physes.uni-leipzig.de/en/studying/courses-of-study/master-physics-2-years>

International Centre

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International Programmes in Germany - Database

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

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Disclaimer

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