Deutscher Akademischer Austauschdienst
German Academic Exchange Service

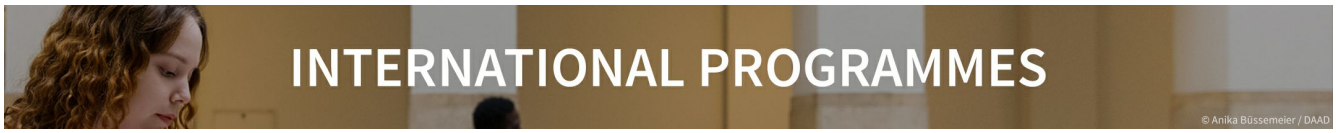

Table of Contents

Bachelor's degree

Bachelor of Engineering in Physical Engineering

FH Aachen University of Applied Sciences • Jülich

Overview

Degree	Bachelor of Engineering in Physical Engineering
Teaching language	• German
Languages	The course of study is conducted in German. A technical German course is required for international students during the first two semesters.
Full-time / part-time	• full-time
Programme duration	6 semesters
Beginning	Winter semester
Application deadline	15 July for international applicants (only through uni-assist) See https://www.fh-aachen.de/en/studies/applying/international-applicants/applicants-with-foreign-proofs-of-education for more information. 31 August for applicants with German Abitur or Fachhochschulreife
Tuition fees per semester in EUR	None
Joint degree / double degree programme	No
Description/content	The degree programme has a strong focus on applied engineering with practical experience. Students are required to complete an internship before their studies in order to obtain practical experience in their chosen field. The Bachelor of Physical Engineering is tailored to meet the needs of modern engineering, concentrating on aspects of mechanical and electrical engineering, measurement, control and regulation technology, physics, laser technology, microtechnology, and solid state physics. Students are able to plan and construct technical apparatus, develop measurement and manufacturing processes, simulate technical systems with mathematical models, and undertake experiments as part of research and development projects. They are able to develop test runs, monitor production processes, test finished products, and take part in the technical operation of heavy plant equipment. In the first three semesters, students learn the basics of physical engineering, including mathematics, physics, chemistry, technical mechanics, and electrical engineering. Later, students focus on • laser techniques and optical technology

- material science and solid state physics
- CAD/CAM technology and machine design
- measuring and control systems.

Essential tasks include implementing physical laws and working principles in the manufacture of new products. If for example, high-energy laser beams are to be used in surgical applications or for highly accurate manufacturing processes, such as for CD burners or for measuring instruments, physical engineers are needed. Opportunities are also available in the semi-conductor and automotive industry, in optical applications, in laser and medical technology, and wherever technical problems need to be solved based on scientific knowledge using a systematic, interdisciplinary approach.
Our modern, well-equipped labs play a major role in ensuring that students are later able to apply their knowledge to their chosen careers. Advanced students plan projects together, work towards a common goal, and then present the results in a written report as well as to the class.
Students can complete their Bachelor's projects in industry or at the nearby Jülich Research Centre (http://www.fz-juelich.de) as well as in the laboratories of the university.
Some students choose to continue in a Master's programme, such as our Master of Science in Energy Systems or Master of Science in Medical Engineering or another Master's programme offered at our university or another institution.
More details about the programme are available on our website: https://www.fh-aachen.de/studium/studiengaenge/physical-engineering-aos-beng

Course Details

Course organisation	During the first three semesters, students focus on basic sciences and engineering courses. Starting in the fourth semester, students focus on their specialisation. In the sixth semester, each student conducts the research for a practical project in addition to the Bachelor's thesis. » PDF Download
A Diploma supplement will be issued	Yes
International elements	• Language training provided
Integrated internships	Students are required to complete an eight-week internship related to their field of study before enrolment. The purpose of the internship is to give students practical experience in their chosen field and to expose them to a working environment.
Course-specific, integrated German language courses	Yes
Course-specific, integrated English language courses	No

Costs / Funding

Tuition fees per semester in EUR	None

Semester contribution	Currently approx. 310.34 EUR per semester
Costs of living	Approx. 934 EUR per month, including mandatory health insurance The semester ticket (included in the student activity fee) includes free use of public transport in the German state of North Rhine-Westphalia.
Funding opportunities within the university	No

Requirements / Registration

Academic admission requirements	German entrance qualification for universities of applied sciences or equivalent (http://anabin.kmk.org) Eight weeks of the required internship must be completed before enrolment. Many international students do not fulfil these requirements, but can qualify through the "Freshman Year" (http://www.fh-aachen.de/en/university/freshman/).
Language requirements	Applicants must provide proof of their German language proficiency at the B2 level of the Common European Framework of Reference for Languages.
Application deadline	15 July for international applicants (only through uni-assist) See https://www.fh-aachen.de/en/studies/applying/international-applicants/applicants-with-foreign-proofs-of-education for more information. 31 August for applicants with German Abitur or Fachhochschulreife
Submit application to	https://hi.fh-aachen.de

Services

Possibility of finding part-time employment	Applicants should not count on financing their stay in Jülich or Aachen by working part-time during their studies. However, some students are successful in finding part-time jobs either at the university or elsewhere.
Accommodation	Some students live in student dormitories. Other students generally live in shared apartments in which each student has his or her own room. Living areas, bathrooms, and cooking facilities are shared. Furnished rooms start at about 300 EUR per month, plus about 75 EUR per month for electricity, water, and heating. Most rooms require the first month's rent and a security deposit of one to three months' rent in advance before you can move into the room. If the room is in good condition when you move out, your security deposit will be returned. International students can place their names on a waiting list for the student dormitories.
Career advisory service	https://www.fh-aachen.de/hochschule/career-service/

Support for international students and doctoral candidates	• Welcome event • Specialist counselling

Contact

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