

## Admission requirements

The main prerequisite for admission is a successfully completed 3-year Bachelor's degree in physics or another natural or engineering science subject with a physics-relevant curriculum content of at least 50%. The final grade must correspond to at least 2.9 in the German grading system.

Note that in accordance with § 60 Para. 2 No. 2 of the State Higher Educational Act (Landeshochschulgesetz) enrolment is not possible if you are already in possession of a Master's degree in physics or if you have lost the entitlement to graduate in such a programme.

## Selection criteria

Students are admitted to the Master's degree programme in physics after passing a selection procedure laid out in the admission regulations, which uses takes into account the performance in the Bachelor's degree (or an equivalent degree) and the result of an oral selection examination. This interview is conducted as part of the procedure to determine aptitude. In the latter, the knowledge of experimental and theoretical physics required for the Master's programme, as well as sufficient mathematical skills and motivation must be demonstrated.

- Successful candidates are those who demonstrate knowledge of theoretical, experimental and applied physics and the methods of mathematics. They will be expected to be able to plan, solve, document and present an extensive task on a problem from the field of physics. This includes practical knowledge of measurement methods and the use of algorithmic data processing, as well as the ability to work in a team.
- In addition to the ability to work scientifically independently and to present one's own results, methodical knowledge of the reception and interpretation of research literature and the evaluation of alternative approaches to solutions in a subject-specific and interdisciplinary manner is expected.
- Specifically, the following skills are expected:
  - the understanding of experimental fundamentals and their mathematical descriptions in the field of classical mechanics, thermodynamics, transport phenomena of charges, currents, fields and waves, as well as the fundamentals of optics and optical instruments, atomic, molecular, quantum, nuclear, particle and condensed matter physics.
  - knowledge and understanding of the fundamentals, methods and concepts of theoretical physics in the area of Newtonian and analytical mechanics of point masses, of rigid bodies, including Newtonian gravitation, theoretical thermodynamics, as well as elementary statistics, classical field theory, electrostatics and magnetostatics, special relativity, the Lorentz-covariant formulation of Maxwell's equations and the most important applications in the area of quantum mechanics.