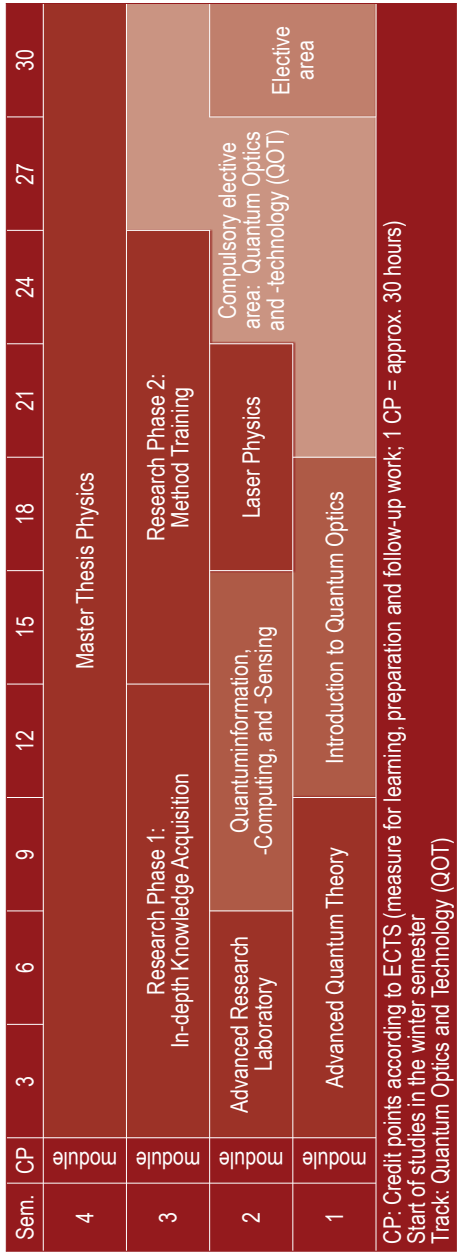
STUDIENABLAUFPLAN



Universität Rostock
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Universität Rostock

MATHEMATISCH-NATURWISSEN-SCHAFTLICHE FAKULTÄT

Studienfachberatung
Dr. Franziska Fennel und Dr. Christian Peltz
Institut für Physik
Albert-Einstein-Str. 23
18059 Rostock
studienberatung.physik@uni-rostock.de
+49 (0)381 498 - 6963
+49 (0)381 498 - 6817

INSTITUT FÜR PHYSIK

Studienbüro
studienbuero.physik@uni-rostock.de
www.physik.uni-rostock.de

STUDENT SERVICE CENTER

Allgemeine Studienberatung & Careers Service
Parkstraße 6
18057 Rostock
+49 (0)381 498 - 1230
studium@uni-rostock.de

www.uni-rostock.de/studium

Stand: August 2024

Universität Rostock
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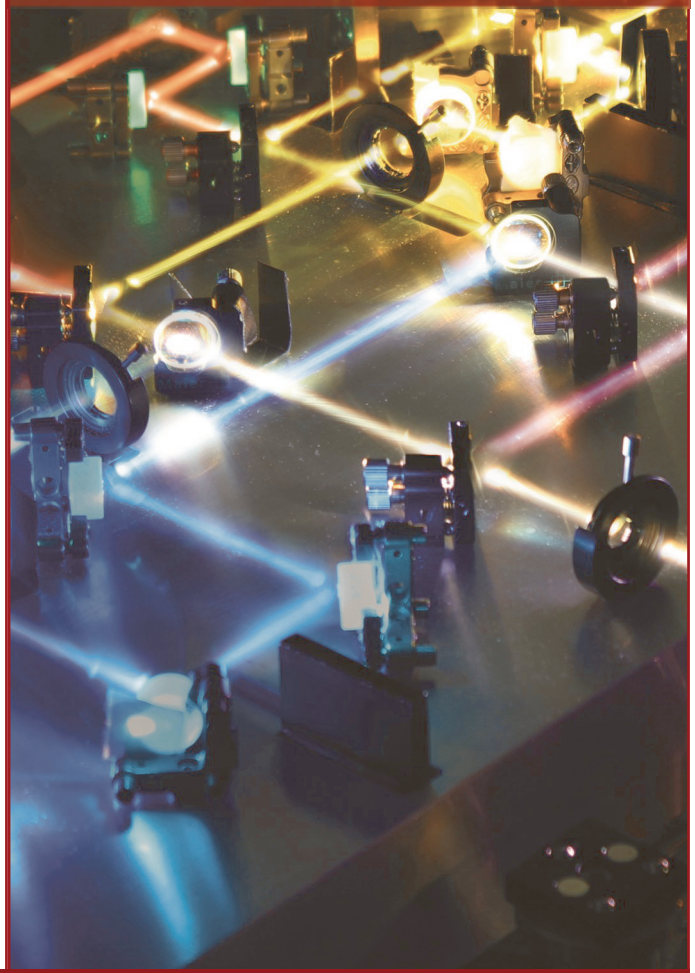
Physik

Master of Science



MATHEMATISCH-NATURWISSEN-SCHAFTLICHE FAKULTÄT

Physik (M.Sc.)
Physik (M.Sc.)

ABSCHLUSS & REGELSTUDIENZEIT

- Master of Arts (M.Sc.) | 4 Semester

STUDIENFORM & SPRACHE

- Weiterführend (setzt einen ersten berufsqualifizierenden Studienabschluss voraus)
- Ein-Fach-Studium (kann nicht kombiniert werden)
- Hauptunterrichtssprache: Englisch
- Weitere Unterrichtssprache: Deutsch

STUDIENBEGINN

- zum Wintersemester (1. Oktober)
- zum Sommersemester (1. April)

STUDIENFELDER

- Mathematik/ Naturwissenschaften

FORMALE VORAUSSETZUNGEN

- Fachverwandter Hochschulabschluss von min. 180 LP
  – davon min. 25 LP auf dem Gebiet der Theoretischen Physik
  – 25 LP Mathematik
  – 40 LP auf dem Gebiet der Experimentellen Physik
  (Details regelt die Studien- und Prüfungsordnung)
- Englischkenntnisse B2 nach GER

WEITERQUALIFIKATION

- Der Masterabschluss berechtigt zur Promotion.

OBJECTIVES OF STUDY

The Master's course expands on the substantive and metho dological principles covered in the Bachelor's degree. It gives students the tools to understand and apply fundamental know ledge of physics. The content and forms of study are largely defined by the fusion of teaching and research. The aim of the course is to encourage students to undertake indepen dent research. Students learn to address complex problems and solve them with scientific methods – including beyond the current limits of what we know. Graduates therefore acquire the skills as scientists that are required to complete a PhD.

ADMISSION REQUIREMENTS

There should be a strong interest in dealing with scientific and abstract issues. In addition to these qualities, students should have a very good logical and mathematical understanding and a good deal of perseverance.
A theoretical approach to issues as well as a practical disposition and a results-orientated way of working and thinking are required during the course. High demands are placed on self-organisation. Good time management and self-discipline are prerequisites for a successful degree programme.

CURRICULUM

The first two semesters focus on teaching and deepening student's knowledge of advanced scientific concepts and methods in physics. In the chosen field of study, compul sory modules (dark red in the figures) and modules from a compulsory elective catalog (light red) must be completed. Afterwards, the students work in a research group on a prob lem of current research. The third semester concentrates on introducing students to challenging scientific research work in two in-depth modules: "Research Phase 1: In-depth Know ledge Acquisition" (12 CP) and "Research Phase 2: Method Training" (12 CP). In the fourth semester, the master's thesis (30 CP) is written on a current scientific topic.

Tracks

- Quantum Optics and Technology (QOT)
- Ultrafast Optics and Spectroscopy (UOS)
- Nano and Surface Physics (NSP)
- Intense Laser-Matter Interaction and High Energy Density Physics (ILMI/HED)
- Physics of Life, Light, and Matter (LLM)
- Physics of Ocean, Atmosphere, and Space (OAS)

These tracks provide a broad spectrum of basic and spe cialized Masters' courses closely linked to the research fields of the professors at the Institute of Physics as well as other institutions such as the Leibniz Institute for Baltic Sea Research, Leibniz Institute of Atmospheric Physics, Leibniz Institute for Plasma Science and Technology and DLR Institute for Solar-Terrestrial Physics

CAREER PROSPECTS

The knowledge and skills acquired during the Master's degree in Physics open up a wide range of careers to graduates, including: Basic research at universities and institutes; applied research and development in industry; the development and application of measuring and testing technology; support for diagnostic and therapeutic medical procedures; management in innovative companies; careers as experts and consultants; planning and administrative roles in government.