Course-specific structure

1. Semester
33 LP

2. Semester
30 LP

3. Semester
27 LP

4. Semester
30 LP

Elective Modules

- Language Skills
  12 LP

Course-specific structure for the specialization Computational Electrical Engineering starting in the summer semester and the specializations Computational Mechanical Engineering and Computational Physics are available on www.ief.uni-rostock.de/?L=1 - section "Studies"
Premises for the Study
You have profound knowledge in mathematics and natural sciences as well as advanced English language skills. You are particularly interested in scientific-technical and engineering-based issues as well as research-oriented work.

Content of the Master Program
In the first three semesters, you deepen your knowledge in numerical analysis, partial differential equations, as well as high-performance computing and your classes from the respective module catalog. There are compulsory German courses for all majors. German-speaking students select another language. The fourth semester is reserved for the master thesis.

Advanced Qualification Options
graduate to Dr.-Ing. or Dr. rer. nat.

Purpose and Objective
Computational Science and Engineering is a new, rapidly growing field that is, in addition to the major subject, based on Applied Mathematics and Computer Science. The aim of the course is the acquisition of skills to carry out computer simulations of technical and natural systems in Electrical or Mechanical Engineering as well as Physics based on a sound knowledge of numerical methods. Numerical Simulations allows the work on fields that are inaccessible to conventional tests and investigation methods. As computers get more powerful, the scope for modeling and simulation is constantly expanding. In many cases, the design process is already happening only inside the computer.

Three specializations offered:
- Computational Electrical Engineering (CEE)
- Computational Mechanical Engineering (CME)
- Computational Physics (CP)

Career Prospects
Within this course, you will acquire a broad range of skills that is indispensable for engineers and physicists with a focus on simulation and numerical computing methods. The university master's degree offers best possibilities for a leading or researcher position in the field of engineering in Germany and abroad, or to enter a doctoral program. The ever-growing demand for engineers and physicists with profound knowledge of computational mathematics opens up prospects for the future with excellent career opportunities.