



## Programme: Embedded Systems, 180 credits

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The computer engineering programme with a specialization in embedded systems aims to provide students with the combination of programming skills and knowledge of electronics necessary to be able to develop software for complex embedded systems. The programme will also give students the general programming skills that data engineers are expected to possess in order to be able to develop applications on, e.g., a PC. Therefore, the programme will cover everything from the basics of analog and digital electronics and computer technology to programming, data communications and embedded systems, including relevant knowledge of optimization, operating systems and the management of safety-critical applications. This course of study also aims to prepare students to participate in the entire product development process. This is accomplished through project work, language training, and studies in economics and leadership, as well as by developing students' creativity and problem-solving abilities. Business related projects, guest lecturers and an industrial placement course will ensure that students are well-prepared for the requirements of the workplace.

**Before the industrial placement course during semester 4, the students will have taken the following courses:**

### Programming/Computer Science

- Introductory course in computer science
- Introduction to programming (C)
- Object-oriented programming (C++/Java)
- Datastructures and algorithms (C/C++)
- Android and interface design

### Electronics/Embedded Systems

- Introduction to electronics
- Single-chip computers (C/Cortex-M4)
- Operating systems
- Digital technology with VHDL
- Electrical interface

### Mathematics

- Discrete mathematics
- Linear algebra
- Single-variable calculus