

# Electrical Engineering

Apply now

## WHAT DO ELECTRICAL ENGINEERS DO?

Was the hour of electrical engineering's birth when Benjamin Franklin invented the lightning conductor in 1750 or was it in 1897 when Thomas Edison patented the invention of the light bulb? The year is not so important. Without what electrical engineers have invented the world would definitely have remained fairly dark and silent. Your study program at the Hamburg University of Technology will involve working with electrical currents and voltages. There are electrotechnical components and products in nearly everything we use today. There are electronic circuits in cell phones, the motors of electric automobiles, the CPUs of computers, and the satellite dish on the roof of your house. The flat-screen TV in the parlor wouldn't work without electronics and the coffee machine wouldn't brew your Java. Electrical engineering has an incredible number of uses. That is why it is divided into so many areas of vocational training and specialization. In Germany well over 500,000 people work in the electrical industry: [Verband der Elektrotechnik Elektronik Informations-technik \(VDE\)](#).

## HOW CAN I SHAPE THE FUTURE WITH ELECTRICAL ENGINEERING?

From your first semester on you can put your ideas into practice at the TU Hamburg's Student Workshop: <https://www2.tuhh.de/zll/angebot/studierendenwerkstatt/>. Join in with projects and find out which drive technology is best for driving a self-built concrete boat or try out how

you can get a real airship to fly. Or would you like to design electrically powered racing cars? Then join the e-ognition-AG (<https://www.egognition.com/>). Mobility especially is envisioned as eco-friendly and sustainable in the future. As an electrical engineer your ideas and skills are in demand.

## WHAT DO I LEARN ON THE COURSE AND WHERE DO I LATER FIND A JOB?

Along with mechanical engineering electrical engineering is one of the largest engineering disciplines in Germany with roots in physics, math and the neighboring disciplines of mechatronics, information technology and computer science. In your studies you will come across many areas in which you can work in the future: automation, mechanical engineering, energy supply, telecommunications, microelectronics or medical technology. In medical technology, for example, electrical engineers develop all of the processes with which images are made. Die Jobmöglichkeiten sind besonders vielfältig, du kannst sowohl in Unternehmen als auch in Forschungseinrichtungen arbeiten.

## HOW IS THE PROGRAM STRUCTURED?

Along with electrical engineering studying at the TU Hamburg teaches you the basics of math and computer science and other scientific and non-technical subjects such as business administration.

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## Electrical Engineering at a Glance

**DURATION OF STUDY:**  
6 SEMESTERS, FULL-TIME  
**DEGREE: BACHELOR OF SCIENCE (B.SC.)**

Electrical Engineering is the right study program for you if you would like to find out how the electronic devices that you use work. Math and physics are your favorite subjects but in English too you are well above average. You like working with a computer and computer programs.

→ [Link](#)

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You will take two practical laboratory courses on, say, three-phase current. In your fourth semester there will be a project-based project course. You will work in a group on your first functioning systems that emit signals, such as vehicle distance radar.

## FURTHER STUDIES?

With a B.Sc. in electrical engineering you can go on to study for the following master's courses (4 semesters):

- [Electrical Engineering \(M.Sc.\)](#)
- [Information and Communication Systems \(M.Sc.\) – an internationally oriented, mainly English-language study program including an optional structured exchange with Aalborg Universitet und Politecnico di Torino](#)
- [Microelectronics and Microsystems \(M.Sc.\)](#)

