COURSE OF STUDY
ELECTRICAL ENGINEERING, B.ENG.
E-MOBILITY AND LIFE SCIENCE ENGINEERING
Sustainable and looking towards the future!

Any development is sustainable if it ensures the quality of life of the current generation and at the same time preserves the freedom to live of future generations. The most important goals are the creation of social justice, ecological tolerability and economic performance ability. Graduates of the degree programme Electrical Engineering, with its two in-depth study options a) electromobility and b) life science engineering, are able to realise the three pillars of sustainability in their professional fields.
SRH University Heidelberg – Your Alma Mater
As one of the oldest and largest private universities nationwide, we set standards in the field of education. We impart knowledge that really lets you move ahead – practically, innovatively and creatively. A highly important part of this process is the close cooperation between students and tutors. Our concept for success: we offer new, practical courses of study, individual support and a fast track to the labor market. For our students, this means the best chance of an optimal start in professional life – with a tight network of connections to enterprises and educational institutions worldwide.

School of Engineering and Architecture – Your faculty
Whether in architecture or engineering, the School of Engineering and Architecture – part of the SRH University Heidelberg – offers you an excellent education that is subject-specific: You’ll be ready for take-off in working life, with a unique mix of theoretical basics, field trips and internships. We place great importance on the issues of energy efficiency and sustainability – so that you can meet future challenges successfully and responsibly.

Put Quality First!
Where economic processes take place, the quality must be right. In companies, certifications and quality management (QM) are measures that play an increasingly important role. In courses such as QM and Additional Qualification Options we prepare you to measure quality, to optimise processes and to design them in an innovative way.

Study for Practical Professional Life
Apart from the necessary expertise, we prepare you from the start for your entry into the professional world. Numerous practice sessions and interdisciplinary projects let you tackle real, practical problems on your own and in teams. After the obligatory internship, you will definitely be prepared for the challenges of the future.
Electromobility enables the practical combination of climate protection, resource protection and industrial policies. Electromobility, for example, permits the efficient and sustainable change of the volatile feed of electrical current from decentralised, regenerative energy sources, in particular wind energy, into mobility, by using intelligent networks and electricity supply meters (smart grids, smart metering) in the mobile electrical storage units of electric vehicles.

This is a fundamental change of system, in which technologies and applications are usefully and innovatively combined with each other. Electric vehicles, traffic networks, electricity networks, and ICT networks will grow together in the future. Electromobility is thus much more than a further development of the automobile to an electric vehicle. The question is not whether this technological jump forward will be made, but when, how, and by whom first.
The life science industry is a growing branch with a future, offering you excellent professional opportunities. Research and teaching in the major Life Science Engineering are characterised by three central areas of work:

- consistent orientation towards the challenges of daily life in the areas of health, safety, mobility, communication, and the environment;
- a theoretically and methodologically sound approach to these areas;
- the design of learning processes with an intensive mutual exchange of ideas between scientists in different disciplines and people from politics, the business world and society in general.

This trans-disciplinary approach enables people to study in the interaction of the technical disciplines of Electrical Engineering and electronics, information science and information technology, mechatronics, system technology and sustainability. Emphasis is placed on applications and case studies from medical technology, technical assisting systems and communications. The goal is the design and further development of interfaces of comprehensive knowledge, theories and methods, and the practical applications between human sciences, natural sciences, and technical sciences; between science and society; qualitative and quantitative research and various human and environmental systems. Technical realisation and use in industry, environmental technology, medical technology, and everyday practical applications are in the foreground.
DISCOVER THE CORE-PRINCIPLE: A NEW STYLE IN LEARNING
The “CORE-Principle” – Competence Oriented Research and Education – places the acquisition of occupational competence at the center of your studies. This approach goes far beyond the delivery of theoretical knowledge. After your graduation, you will start your career with a great sense of self-confidence. Our students possess everything needed for a successful career: knowledge, competence, expertise and key skills.

I The competence model
The term occupational competence denotes all the skills that enable you to act independently and successfully in the labor market! Occupational competence can be attained at many levels by acquiring professional competence, methodological competence, self-competence and social competence

I Subject-Oriented 5-Week Blocks
Instead of having to deal with numerous subjects at the same time, you can focus entirely on a maximum of two subjects within one 5-week period.

I Activating Teaching and Learning Methods
To ensure that students remember what they are learning, we take a practical approach to teaching, using case studies, seminars, team projects, role plays and presentations.

I Competence-Based Examination Methods
From the profusion of examination methods available we choose the method that best fits the skills taught in a particular module. Scheduling a great number of exams within a short period of time is now a thing of the past thanks to the new program.

I Personal responsibility
Only if you take responsibility for your own actions and how you study, will you be able to excel and take on responsibility in business life – for yourself and for others.

I Best Employability
Our graduates are capable of proving themselves in a real business environment after their studies.

I Learning partnership
In their roles as mentors and coaches, the teaching staff assist the students in every way possible, be it subject-specific content, study organization or in personal matters.
Our academic year is divided into eight 5-week blocks. In each block, two parallel classes at the most may be taken. For the entire duration of studies, these blocks build on each other with regard to content. Studies begin with a 14-day introductory module. Targeted learning is on offer from day one with a university-wide preparatory phase to acquire basic study skills.

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<thead>
<tr>
<th>1. Year</th>
<th>Module 1</th>
<th>Module 2</th>
<th>Module 3</th>
<th>Module 4</th>
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<tbody>
<tr>
<td>Course</td>
<td>Engineering Fundamentals I</td>
<td>Engineering Fundamentals</td>
<td>Basics of Informatics</td>
<td>Business studies</td>
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<th>2. Year</th>
<th>Module 9</th>
<th>Module 10</th>
<th>Module 11</th>
<th>Module 12</th>
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<tr>
<td>Course</td>
<td>Construction Elements / Layout Design</td>
<td>System Analysis</td>
<td>Automatic Control Technology with Simulation</td>
<td>Project</td>
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<th>Module 15</th>
<th>Module 16</th>
<th>Module 17</th>
<th>Module 18</th>
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<tr>
<td>Course</td>
<td>Networks</td>
<td>Quality and Statistics</td>
<td>Bus Systems</td>
<td>Study Major I</td>
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<th>4. Year</th>
<th>Module 23</th>
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<tbody>
<tr>
<td>Course</td>
<td>Thesis and Thesis Seminar</td>
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<td>Course</td>
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<td>Module 5</td>
<td>Module 6</td>
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<td>Electrical Engineering</td>
<td>Electrical Engineering / Measuring Technology</td>
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<td><strong>Module 13</strong></td>
<td><strong>Module 14</strong></td>
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<tr>
<td>Sensor- and Actuator-Systems</td>
<td>Internship</td>
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<td><strong>Module 19</strong></td>
<td><strong>Module 20</strong></td>
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<tr>
<td>Study Major II</td>
<td>Study Major III</td>
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**210 ECTS**
FOCAL POINTS

Course Focus on Electromobility
- Digital Technology
- Power Electronics
- Vehicle Technology
- Transmission Processes
- Embedded Systems

Course Focus on Life Science Engineering
- Anatomy and Physiology
- Biomedical Signal Acquisition
- Telemedical Applications
- Modelling and Simulation
- Applied Life Science
# Electrical Engineering, B.Eng.

<table>
<thead>
<tr>
<th><strong>Duration of study</strong></th>
<th>3.5 years</th>
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<tr>
<td><strong>Start</strong></td>
<td>Every year on 1st October</td>
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<tr>
<td><strong>Admission requirements</strong></td>
<td>General university entrance qualification or</td>
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<td></td>
<td>University of applied sciences entrance qualification or</td>
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<td></td>
<td>Extended university entrance qualification effective in Baden-Württemberg</td>
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<td>For foreign applicants: university entrance qualification or equivalent</td>
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<td>Documented English skills (TOEFL or similar), personal interview</td>
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<td><strong>Degree</strong></td>
<td>Bachelor of Engineering (210 CP)</td>
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<tr>
<td><strong>Tuition Fees</strong></td>
<td>620,- Euro, a registration fee: 650,- Euro</td>
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The Electrical Engineering Bachelors program starts 1 October.
You can apply directly online at http://service.hochschule-heidelberg.de

For application the following documents are required
- Curriculum vitae
- Proof of English skills

In the selection procedure, your academic performance, professional experience and personal phone or video interviews are taken into account.

Why not visit us?

Still have Questions?
Check our website, alternatively we would be glad to advise you by phone or in person (by appointment).
You can reach us by phone +49 6221 88-2538, Silke Wunsch or e-mail: silke.wunsch@hochschule-heidelberg.de
Tuition fees – Invest in your future!
We are a private, officially recognized university. The tuition fees enable us to offer you excellent teaching and an optimal study environment. The current tuition fees can be found on our website:
www.hochschule-heidelberg.de/en/

Ways of funding
Besides the classic German BAFöG grant, there are numerous other ways to finance your studies. We can advise you as to which of the following models might be an option for you:
- BAFöG
- Student loan from the KfW Group (subsidies bank)
- Student Educational Fund
- Scholarship programs
Learn to reach beyond frontiers and qualify for interdisciplinary tasks at the School of Engineering and Architecture. New insights arise when researchers and students from different disciplines work together. One of our strengths is that we forge cooperative links across different disciplines.

**Our Bachelor courses**
- Architecture
- Industrial Engineering
- Mechanical Engineering
- Electrical Engineering
- Property and Facility Management

**Our Master courses**
- Architecture
- Information Technology
- International Business and Engineering
- Construction Management
**Unique learning**
The contents of the course address the current and future needs of all modern industries using information systems – from business to consumer applications. The CORE principal insures a high level of knowledge, competencies, expertise and key skills.

**Multiple perspectives**
You finish your studies with a „Bachelor of Engineering“ degree. This enables you not only to do a master course – it also opens up attractive, worldwide and diversified fields of activity in companies.

**Intercultural competencies**
Business behavior that respects cultural differences, knowledge of international business relations and markets, proficiency in two foreign languages – we help you become globally mobile.