SRH University Heidelberg

Information Technology Master of Engineering

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Your motivation

Research, develop and shape our future!

Cutting-edge specialization in the areas of Artificial Intelligence, Communication Networks, Robotics, Image Processing, Real-Time Programming, Information and Coding Theory, Transmission Technology, and Blockchain Technology is available in this study programme. The increasingly rapid development of high-performance technology and ongoing global automation are creating unexpected opportunities – both technically and job-wise. Come and explore this field, and design our future!

Your prospects

Countless possibilities for your personal career!

After completing the Master's programme, you will be able to responsibly handle various tasks in the area of technical development and system implementation. At the same time, you will know what to purchase to manage systems.

With the qualifications you acquire in Machine Learning, Computer Vision, Deep neural networks, Image and Digital Signal Processing, Information and Coding Theory, Transmission Systems, Embedded Systems and Robotics, Smart contract programming, and Blockchain Technology, you will have various areas to personally focus on a career and knowledge in an exciting and developing business.

After successfully completing your studies, you will have a very good chance of finding a job in a company.

Course content and skills

Study in small working groups and with practice-oriented projects.

The content is taught in input sessions, which are then practised and applied within the learning sessions. You will be given subject-related homework assignments on a weekly basis. You must complete a certain number of these assignments (academic performance), helping you to self-assess your learning progress and prepare for your examinations. On completion of the course, you will be able to design and program appropriate software to solve a specific problem in the area of IT and deal with the content taught in the different modules.

Enhance your knowledge in one of the following specialization tracks:

- Information Technology
- Blockchain Technology
- Artificial Intelligence

Apply now!

Scan the QR code

At a glance

Degree

Master of Engineering (M.Eng.)

Course language

English

Credit points

90 ECTS

Start of academic programme

Summer and winter semester

Duration of study

3 semesters

Tuition fees

EEA students:

- € 770 per month
- One-time enrolment fee of € 750

Non-EEA students (without permanent residence permit):

- € 6,450 per semester
- One-time enrolment fee of € 1,000

State-accredited university

State-accredited

Admission requirements

- A degree in the field of electrical engineering, information technology, communication technology or technical informatics
- English language proficiency: IELTS 6.5 / TOEFL 80 / Duolingo Certificate 120 / PTE Academics 58 or a comparable test
- Successful completion of the university's own application process

Your study programme.

Your Master's programme in Information Technology is a full-time programme and lasts three semesters (18 months). Your schedule includes theoretical knowledge that you will obtain within practice-oriented projects. The programme requires a high degree of independence.

Semester

01	Information and Coding Theory	Transmission Technology	Project	Specialization IT & AI: DSP in Image Processing Specialization Blockchain: Communication Networks
Examination & Credits	TPS, WE & Te I 8 ECTS	TPS, WE & Te I 8 ECTS	PW I 8 ECTS	TPS & TPS, TPS & TPS I 8 ECTS
02	Specialization IT: Real-Time Programming	♥ Electives	♥ Electives	♥ Electives
	Specialization Blockchain: Introduction to Blockchain Technologies	♥ Electives	♥ Electives	♥ Electives
	Specialization AI: Deep neural networks	♥ Electives	♥ Electives	♥ Electives
Examination & Credits	TPS & TPS I 8 ECTS	TPS I 8 ECTS	TPS I 8 ECTS	TPS I 8 ECTS
03	Master's Thesis and Colloquium			
Examination & Credits	Th & Co I 26 ECTS			

The university reserves the right to make changes.

Explanation

TPS: Technical Problem Solving
WE: Written Exam
Te: Test
PW: Project Work

Th: Thesis
Co: Colloquium
♥ Electives: In these modules, you choose from various courses to sharpen your profile.

Information Technology Track

Engineers have an excellent carreer opportunity in the the field of information technology due to the growing importance of information technology and the correspondingly increasing need for junior staff member. They are not only sought after in the classic core sectors, but also in more and more user sectors in the industrial and service sectors. In recent years, the graduate cohorts have always been smaller than the annual demand for information technology engineers estimated by the Electrical Engineering Society VDE.

Module	ECTS
Embedded Systems	8
Artificial Intelligence	8
Robotics	8
Communication Networks	8
Embedded Security	8

Blockchain Technology Track

There is a growing demand for professionals with skills in blockchain technology, particularly in the finance, healthcare, insurance, supply chain management and energy industries. You will sharpen your profil with technical expertise in the field of blockchain technology focused on cryptography, decentralized systems, programming of smart contracts and knowledge of various blockchain protocols and technologies such as Ethereum, Bitcoin, Hyperledger and more.

Module	ECTS
Blockchain Security and Cryptography	8
Blockchain and Smart Contract Programming	8
Blockchain Applications and Use Cases	8
Robotics	8

Electives Sharpen your profile.

Optimize your personal career planning:
You choose your specialization (16 ECTS) according to your individual interest. In addition, you complete elective courses (24 ECTS) that interest you most from the table on the left. This allows you to sharpen your profile and specialize in your favourite fields.

Artificial Intelligence Track

An Artificial Intelligence (AI) master's degree opens up diverse and promising career opportunities across various industries. Design and develop machine learning algorithms and models. Responsibilities include data preprocessing, model training, and deploying AI solutions. Work on AI systems for image and video analysis, object recognition, and visual data interpretation. Develop AI-powered robots and autonomous systems for industries like manufacturing, healthcare, or agriculture. The demand for AI professionals is growing rapidly in diverse sectors like healthcare, finance, cybersecurity, automotive, retail, and more. As AI continues to evolve, the need for skilled AI specialists with a solid understanding of machine learning, deep learning, data analysis, and ethical considerations will remain high.

Module	ECTS
Machine Learning / Comp. Vision	8
Deep Neural networks	8
Current Topics in AI	8
Robotics	8