

# Entrepreneurial Cybersecurity

Universität des Saarlandes  
Master of Engineering



## Introduction

### Start your company while studying Cybersecurity!

The Master's Program Entrepreneurial Cybersecurity teaches advanced techniques and state-of-the-art research in Cybersecurity and enables students to apply and put this knowledge into practice by developing a cybersecurity project, write a proof of concept, and develop a market-ready product.

Thus, it combines our strong research at Saarland Informatics Campus, top-ranked in CHE rankings, especially in the area of Cybersecurity with a market-oriented application. Students will work in close collaboration with Cybersecurity researchers at CISPA – Helmholtz Center for Information Security on campus, who will support and guide students in finding and developing their project ideas.

One half of the programme consists of lectures and seminars in cybersecurity and computer science. In the other half, students work in groups over a period of three semesters to develop a business idea in the field of cybersecurity. The ultimate objective is enable students to turn current research topics into marketable products by launching a company either during the Master's programme or immediately after graduating. The business concept will be developed by the students themselves with the support of mentors from the world of science and business. All start-up ventures will receive sustainable support from the university and CISPA.

The Saarbrücken Computer Science Faculty is an international hub for research in computer science. It is one of Germany's highest ranking faculties and is considered one of the most prestigious names in informatics research worldwide. The scientists at the university departments work in close collaboration with the numerous research institutes on campus. The new CISPA Helmholtz Center for IT Security will be one of the largest research centres for cybersecurity in the world.

Interested? If you like this degree programme but are not sure if it is really the right one for you, take a look at our Master's programme [Cybersecurity](#).

### Particularities

- Lectures, tutorials on state-of-the-art research in Computer Science and Cybersecurity/ Cryptography
- Supervision & mentoring by CISPA cybersecurity experts & successful entrepreneurs
- Develop your own startup project in three semesters– from state-of-the-art research to market-ready products
- Computer Science: top CHE ranking, 6 internationally renowned computer science institutions
- Excellent working conditions: coworking spaces, support by IT-Security Incubator, option to pitch for additional funding.
- Acquire relevant knowledge in business administration, accounting, and soft skills

## Course details

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Saarland University is the first university to combine Cybersecurity Research with the foundation of a startup leading to a degree of „**Master of Engineering (M.Eng.)**“. 50% of the program is



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#### [Website >](#)

dedicated to lectures and seminars in „**Cybersecurity**“ and „**Computer Science**“ complemented by courses in „**Business Administration**“ teaching you the basics to found a successful company. The other 50% of the program consist of a „**Cybersecurity Project**“ which is developed in small groups of 3 students, closely supervised by our mentors. Finally, your contribution is summarized in your „**Master's Thesis**“.

We provide excellent working conditions. You can work in groups in our coworking spaces and meeting rooms. You will present your cybersecurity project in pitches both in front of an internal and, later on, external audience, thus, enabling you to compete for additional external funding for your product. Our IT-Security Incubator offers additional guidance and support during your studies. There is an option to join the incubator program after you finished your studies. Below you will find an overview of the program structure that spans four semesters.

### Semester 1

- Lectures in Cybersecurity, related areas of Computer Science, optional courses (30 ECTS)
- Lecture Series "Perspectives of Cybersecurity" on current research topics
- Find your scientific mentor and form small groups of 2-4 students.

### Semester 2

- Lectures in Cybersecurity, related areas of Computer Science, optional courses (15 ECTS)
- Cybersecurity Project: first prototype, internal sales pitch (15 ECTS)

### Semester 3

- Lectures in Cybersecurity, related areas of Computer Science, optional courses (15 ECTS)
- Cybersecurity Project: Refine your prototype, sales pitch in front of an external audience (15 ECTS)

### Semester 4

- Master's Thesis: based on your project, typically, a description of your contribution to the proof of concept. (15 ECTS)
- Cybersecurity Project: Proof of Concept, Business plan, Sales pitch in front of investors and supporters. (15 ECTS)

## Application

### Admission requirements

- A Bachelor's degree from a German university or an equivalent qualification from a foreign university in cybersecurity, computer science or a related field
- Proof of advanced proficiency in English (typically level C1 of the Common European Framework of Reference for Languages)
- Supporting documents demonstrating the applicant's particular interest in the subject

The applicant's suitability for the programme will be determined either by the presentation of satisfactory academic references or by means of an oral interview conducted by two examiners from the Faculty of Mathematics and Computer Science.

Applicants should be able to demonstrate a level of knowledge and competence that corresponds to that acquired in the Bachelor's degree programmes in cybersecurity and computer science taught at Saarland University. Specifically, this requires applicants to show that they have the necessary level of expertise in the following areas:

- Mathematics and theoretical informatics (discrete mathematics, analysis, linear algebra, numerical methods, stochastic processes, formal methods, formal logic, computability, complexity)
- Applied informatics and cybersecurity (programming, data structures and algorithms, software development methodologies, data protection, cryptography, security)

The criteria listed above will be used to assess the suitability of the applicant in terms of the academic profile and requirements of the Master's degree programme in Entrepreneurial Cybersecurity. For further details, please refer to the subject-specific regulations.

### How to apply

Students can join the programme at the beginning of the winter semester or, when appropriate, at the beginning of the summer semester. Applications should be received by 15 July for students wishing to begin in the winter semester or, when applicable, by 15 January for students who want to start in the summer semester. Applications should be submitted via the [online application portal](#) managed by the Department of Computer Science.

## CISPA

## About CISPA

The CISPA - Helmholtz Center for Information Security is a German national Big Science Institution within the Helmholtz Association. Its research agenda comprises all aspects of Information Security.

With its ongoing growth, CISPA will have the critical mass of researchers (500+) to provide a comprehensive, holistic treatment of the pressing grand cybersecurity and privacy research challenges that our society faces in the age of digitalization. CISPA seeks to play a prominent international role on research, transfer, and innovation by combining cutting-edge, often disruptive foundational research with innovative application-oriented research, corresponding technology transfer, and societal outreach. Thematically, it strives to cover the full spectrum from theory to empirical research. It is deeply grounded in computer science and works interdisciplinarily with researchers in adjacent fields such as medicine, law, and the social sciences.

[Website >](#)

## Place of study

## Why Saarbruecken?

Our Computer Science courses are rated as excellent in CHE rankings. There are no tuition fees and the cost of living in a smaller city with a vibrant cultural scene is moderate. Sounds too good to be true? Saarland University's study courses are state-funded so there are no tuition fees for bachelor' and consecutive master's degree courses. Students only have to pay an administrative fee of €286 per semester. This includes a pass for free public transport throughout the state of Saarland, payment of premiums for insurance coverage as well as access to university facilities that entitles students to eat at the university canteens at reduced prices.

Situated in the region where the borders of France, Luxembourg, and Germany meet, everyday life in Saarland has traditionally been international in character. Investigate our Center for International Students.

## Five more reasons to live and study in Saarbruecken or its surroundings:

1. The open and down-to-earth nature of the people from Saarland (the Saarländers) has always made it easy for newcomers to settle in quickly. Whether you come from Germany, an EU country or other regions of the world - you are always welcome in Saarland!
2. Saarland is located in the heart of Europe. In only 1h and 50 minutes, you can reach Paris by train and we have 4 international airports within easy reach. (Saarbrücken, Luxembourg, Frankfurt-Main, and Frankfurt-Hahn)
3. Saarland is green! It has the highest proportion of public forest with over 70% and the most natural forest in Germany. It can come up with no less than 3,545 kilometres of rivers and creeks. So: go out into nature, recharge your batteries, and simply leave the stress of everyday life behind you. With its varied landscapes and extensive forests, Saarland is the number one address for health-conscious people from everywhere.
4. We love festivals and one event follows another, no matter if you are looking for street food, French-German theater, rock music or classical music: everyone finds an event matching his or her own taste. The festival year begins in Saarbrücken with the Max Ophüls festival for talented German-language filmmakers, which marks the discovery of young talents from Austria, Germany and Switzerland for 36 years. It is followed in early summer by the PERSPECTIVES festival with theatre, acrobatics, dance and performance and in summer, there are several open-air events.
5. We are enthusiastic about sports! No surprise, because there could not be a better framework. More than 390,000 people take part in sports in app. 2,200 Saarland clubs. With 40 percent of the population, the state is the absolute leader in a nationwide comparison. Popular sports include hiking, cycling, running, tennis, horseback riding, etc.

## Wirtschaftsinformatik