Hochschule Augsburg
University of Applied Sciences

CAREER EXPECTATION

Are complex production networks in the industry safe from hacker attacks? What kind of security loopholes exist in remote maintenance in the field of plant and machine construction? How do you protect companies from spear phishing and social engineering? These are just a few of the questions that professionals may encounter in their career. Following the completion of this degree program, graduates can take on positions with a high level of responsibility, such as the position of security analyst in the IT sector, developer of secure production and assembly lines, and "Safety and Security Consultant" at management and process consulting firms.

GENERAL STUDY-RELATED QUERIES

Faculty academic advisor
Prof. Dr. Helia Hollmann
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Start of studies
Summer semester (15 March)

Application
The application period starts on 15 November and ends on 15 December. Within the application process, the final grade of the Bachelor program and a selection interview will be considered.
Further information at hs-augsburg.de/Elektrotechnik/Industrielle-Sicherheit-Master

Normal duration of studies
3 semesters

Degree
Master of Science (M. Sc.)

General study-related queries
Student counseling service
studienberatung@hs-augsburg.de

Industrial Security and Safety
MASTER OF SCIENCE

PROFILE

This degree program is the only one of its kind in Bavaria, and is offered as an interdisciplinary program at the Faculties of Electrical Engineering, Computer Science and Business. It is aimed at graduates of Bachelor programs in the fields of technology and computer science, as well as graduates of business-related degree programs with a focus on technology. Over the course of three semesters, students acquire the skills necessary to come up with interdisciplinary solutions to security and safety problems in the areas of industrial automation, control systems and critical infrastructure. This practical degree program focuses on a range of subjects including IT security, data protection, functional security, IT law and employee management.

In the "Industrial Security" lab, students are given practical training in using a networked automated and control system. Security issues that may arise in companies, such as a large-scale hacker attack on sensitive IT data, are simulated directly in this lab. The students also work in close cooperation with scientists from the HSA_innos research institute for innovative security, and the HSA_ops research group for optimized value creation. Scientists from the technology transfer center in Nördlingen, who carry out research on various aspects of the production industry, are also participating in this degree program.

STUDY PLAN

CPs	1 2 3 4 5	6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	21 22 23 24 25	26 27 28 29 30
Semester 1	**IS1G1** Introduction into Safety and Human Machine Interaction (Language: English)	**IS1G2** Cryptography and Security (Language: English)	**IS1G3** Management, Mitarbeiterführung und IT Recht (Management, Employee Management and IT Law) (Language: German)	**IS1G4** Seminar (Language: English)	**2 Crossover modules** with 5 CPs each	
					IS1C1 Systemarchitektur und Netzwerktechnik (System Architecture and Network Technology) (Language: German)	**IS1C2** Industrieanlagen, Automatisierung und Steuerung (Industrial Plants, Automation and Control) (Language: German)
					IS1C3 Informations-management und Geschäfts-prozesse (Information Management and Business Processes) (Language: German)	**IS1C4** IT-Sicherheit (IT Security) (Language: German)
Semester 2	**IS2S1** Zertifizierungsmodul (Certification Module) (Language: German)	**IS2S7** Major Project (Language: English)			**2 Elective modules** with 5 CPs each	
					IS2S2 Sichere Geschäftsprozesse (Secure Business Processes) (Language: German) **IS2S3** Safety (Language: German) **IS2S4** Embedded Security (Language: English) **IS2S5** Sichere Konzepte und Protokolle (Secure Concepts and Protocols) (Language: German) or **IS2S6** Subject-specific elective	
Semester 3	**IS3A1** Master Thesis (Language: English)				**2 Elective modules** with 5 CPs each taken from the elective catalog of the faculties involved in the Master program **IS3A2** **IS3A3**	

The basics of industrial security and safety from a technical, organizational and legal point of view are covered in the first semester of this Master program. In the second semester, students acquire within their subject area more in-depth knowledge about security and safety (specialization) and strengthen this knowledge by carrying out a large-scale interdisciplinary project at an industrial plant. In the third semester, students demonstrate with their Master thesis their ability to independently and scientifically investigate a complex topic from the field of security and safety, taking the current standards and frameworks into consideration. They also have the option to specialize even further by taking elective modules.