



PROFILE

Germany is digitizing its production. Hence, the industry needs experts to securely link operational technology (OT) and information technology (IT) and protect networked factories and plants from hackers and cybercriminals.

From IT security and data protection to functional security, IT law, and employee management – the Master's program in Industrial Safety and Security (M. Sc.) covers various topics that prepare you for leadership positions and research and development projects in this field.

This degree program is one of its kind in Bavaria, offering interdisciplinary education from the Faculties of Electrical Engineering, Computer Science, and Business. After three semesters, you will be able to solve security problems of industrial automation and control systems as well as critical infrastructures in an interdisciplinary manner.

Following the completion of this degree program, you can take on positions with a high level of responsibility, such as the position of security analyst in the IT sector, as developer of secure production and assembly lines or as safety and security advisor for management and process consulting firms. You will be the link between IT, technology, and management.

STUDY PLAN: INTERNATIONAL SPECIALIZATION

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
TERM	01	Introduction to Safety and Human Machine Interaction <ul style="list-style-type: none"> ➤ Requirements ➤ Regulations ➤ Human Factors 					Cryptography and Security <ul style="list-style-type: none"> ➤ Network Security ➤ Protocols ➤ Authentication 					German 1 on level B 2.1 <ul style="list-style-type: none"> ➤ Improving language skills ➤ understanding culture 					Scientific Seminar <ul style="list-style-type: none"> ➤ Research methods ➤ Writing papers ➤ Presentation skills 					Choose a Crossover module Expand your know-how beyond the boundaries of your Bachelor's degree					Choose a Crossover module Expand your know-how beyond the boundaries of your Bachelor's degree				
	02	German 2 on level B 2.2 <ul style="list-style-type: none"> ➤ Further German language and culture skills 					Major Project <ul style="list-style-type: none"> ➤ Put your knowledge into action ➤ Work in an interdisciplinary team ➤ Use real machines in our laboratory 										Choose a compulsory elective module Deepen your know-how of safety and security in your chosen specialization					Choose a compulsory elective module Deepen your know-how of safety and security in your chosen specialization									
	03	Master Thesis <ul style="list-style-type: none"> ➤ Create innovative solutions ➤ Plan, monitor, implement and communicate your project ➤ Work in an interdisciplinary environment ➤ Use real machines in the laboratory for industrial safety and security 																									German 2 on level B2 + / C1 <ul style="list-style-type: none"> ➤ Final course on German language and culture skills 				

Within the specialization "International", all modules are taught in English only. However, a proven knowledge of German at B1 level and in-depth German courses are compulsory. The "Security and Safety" specialization is taught partly in German and partly in English, and can also be studied part-time. For this specialization, proof of German language skills at B2 level is required.

IT Security

You receive practical training on a networked automation and control system. Security-critical situations in companies, such as a large-scale attack on sensitive data, will be simulated and you will work closely with researchers at the Institute for Innovative Safety and Security at the Technical University of Applied Sciences Augsburg (THA_innos).

Functional Safety

You will protect users of products and systems from the consequences of failures or malfunctions. For example, you will design models for hazard and threat analysis or security specifications for the security of subsequent hardware and software development. You will also be an expert in the security life cycle of products and ultimately responsible for decommissioning.

Leadership

You will be able to see security from a business management perspective. For example, you will evaluate risks within a company organization and employee management. You will integrate these findings into measures that enable or support security concepts. These include escalation paths, assignment of rights, guidelines (for communication), business rules or training.

Designed for Working Professionals

Use your new skills directly with your employer. The Master's program in Industrial Safety and Security has been designed to fit into the lives of working professionals. You can continue working and complete the Master's degree program – to take the next step in your career.

REQUIREMENTS AND ADMISSION

Admission Requirements

Applicants need an above-average Bachelor's degree (grade average of at least 2.6 in accordance with the German grading system) from a recognized university with at least 210 ECTS credit points in the fields of technology and computer science, or a business-related degree program with a focus on technology. Applicants with a foreign degree certificate must provide a uni-assist evaluation (which may take four to six weeks). Further information is available online.

Language Proficiency

Applicants require language skills at B1 level for German and B2 level for English (according to the European Framework of Reference for Languages, CEFR). For the International specialization, the language of instruction is English only, with compulsory German language courses each semester. Please refer to the study plan for further information.

Important Dates and Deadlines

Applications can be submitted annually from November 15 to December 15. There is one intake per academic year (summer semester).

Further Information

Downloads, documents and additional information is available on our website:

[www.tha.de/en/Electrical-Engineering/
Industrial-Safety-and-Security-MSc](http://www.tha.de/en/Electrical-Engineering/Industrial-Safety-and-Security-MSc)



CONTACT INFORMATION

Course Director

Prof. Dr. Helia Hollmann
Institute for Innovative Safety and Security
Faculty of Electrical Engineering
Helia.Hollmann@tha.de

Senior Mentor for Industrial Safety and Security and Further Education

Philipp Schurk, M. Sc.
Institute for Innovative Safety and Security
Faculty of Computer Science
Philipp.Schurk@tha.de

The Institute for Innovative Safety and Security at the Technical University of Applied Sciences Augsburg supports organizations of all sizes to operate securely, sustainably, and successfully in a networked world. The institute's innovative approaches make systems, products, and personnel resilient to digital threats to the economy and society.

www.innos.tha.de

Technical University
of Applied Sciences Augsburg
Institut für innovative Sicherheit (THA_innos)
Am Technologiezentrum 8, MRM-Gebäude
86159 Augsburg

INDUSTRIAL SAFETY AND SECURITY

Master of Science | IT,
Technology, Management