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BACHELOR (B.SC.) CYBER SECURITY

Cyber security is an area of expertise in great demand, as cyber-attacks can affect all areas of IT. Defence measures are based on the systematic documentation of TTPs (Tactics, Techniques and Procedures). A cyber security expert masters the basics of modern operating systems and is also familiar with distributed applications in the cloud as well as methods of software forensics and data analysis. In our practice-oriented distance learning programme for cyber security, you will be trained to detect cyberthreats and demonstrate leadership potential. You will acquire up-to-date knowledge in the area of cyber security and deal with the architecture, programming and maintenance of security systems. In addition to incident response and digital forensics, you'll learn aspects of penetration testing and reverse engineering in order to get to know the perspective of cyber criminals and protect against them.

Degree
Bachelor of Science (B.Sc.)

Study start
Online: Anytime
On Campus: October 2022 *
(then 4 times a year; Oct, Jan, Apr or July

Study model available
Online, or On Campus

Duration
Online: 36, 48, or 72 months
On Campus: 36 months

Credits
180 ECTS

Ultimate flexibility
Our On Campus model means that…

- You can start your degree online for distance learning while taking care of visa issues and join us later in Germany to experience campus life. You say which semester you want to spend on campus or online.
- You want to go on a trip during your studies? No problem. You can study online at your own pace without missing any classes.

Fees
Online: From €75 per month
On Campus: From €349 per month

Study Content (180 ECTS)

PRESENCE TIMEFRAME	MODULE TITLE	SEMESTER	CREDITS (ECTS)	TEST TYPE
		1		
Oct/Nov/Dec	Operating Systems, Computer Networks, and Distributed Systems		5 ECTS	E
Oct/Nov/Dec	Mathematics: Analysis		5 ECTS	E
Oct/Nov/Dec	Requirements Engineering		5 ECTS	E
Jan/Feb/Mar	Introduction to Academic Work		5 ECTS	BWB
Jan/Feb/Mar	Introduction to Programming with Python		5 ECTS	E
Jan/Feb/Mar	Statistics – Probability and Descriptive Statistics		5 ECTS	E
		2		
Apr/May	Intercultural and Ethical Decision-Making		5 ECTS	WACS
Apr/May	Mathematics: Linear Algebra		5 ECTS	E
Apr/May	System Pentesting Basics		5 ECTS	E
Jul/Aug	Introduction to Data Protection and Cyber Security		5 ECTS	E
Jul/Aug	Collaborative Work		5 ECTS	OA
Jul/Aug	Introduction to the Internet of Things		5 ECTS	E
		3		
Oct/Nov/Dec	Introduction to Network Forensics		5 ECTS	E
Oct/Nov/Dec	Object-oriented Programming with Java		5 ECTS	E
Oct/Nov/Dec	Cloud Computing		5 ECTS	E
Jan/Feb/Mar	Algorithms, Data Structures, and Programming Languages		5 ECTS	E
Jan/Feb/Mar	IT Law		5 ECTS	WACS
Jan/Feb/Mar	Host and Software Forensics		5 ECTS	E
		4		
Apr/May	Theoretical Computer Sciences and Mathematical Logic		5 ECTS	E
Apr/May	IT Project Management		5 ECTS	E
Apr/May	IT Service Management		5 ECTS	E
Jul/Aug	DevSecOps and Common Software Weaknesses		5 ECTS	WAWA
Jul/Aug	Cryptography		5 ECTS	E
Jul/Aug	Information Security Standards		5 ECTS	WACS
		5		
Oct/Nov/Dec	Artificial Intelligence		5 ECTS	E
Oct/Nov/Dec	Advanced Data Analysis		5 ECTS	E
Online	Elective A		10 ECTS	
Jan/Feb/Mar	Project: Data Analysis		5 ECTS	PO
Online	Elective B		10 ECTS	
		6		
Apr/May	Seminar: Current Topics in Computer Science		5 ECTS	WARE
Online	Elective C		10 ECTS	
Online	Bachelor Thesis		10 ECTS	WABT & PC

E = Exam, OA = Oral assignment, PC = Presentation: Colloquium, WB = Workbook, BWB = Basic Workbook, AWB = Advanced Workbook, WABT = Written assessment: Bachelor thesis, WACS = Written assessment: Case study, WAMT = Written assessment: Master thesis, WAPR = Written assessment: Project report, WARE = Written assessment: Research essay, WAWA = Written assessment: Written assignment, OPR = Oral project report, P = Portfolio, POP = Proof of Participation

CHOOSE YOUR ELECTIVES

Choose one elective from "Electives A" list*:

- DevSecOps
- Host Forensics
- IT Security Consulting
- Network Forensics
- Security in Complex Networks
- Social Engineering

Choose one elective from "Electives B" list*:

- Business Intelligence
- Cloud Security
- Cyber Threat Intelligence
- Future Threats
- Industrial Systems Technology
- Mobile Threats
- Pentesting

Choose one elective from "Electives C" list*:

- Automation and Robotics
- Business Intelligence
- Cloud Security
- Cyber Threat Intelligence
- DevSecOps
- Future Threats
- Host Forensics
- Industrial Systems Technology
- IT Security Consulting
- Mobile Software Engineering
- Mobile Threats
- Network Forensics
- Pentesting
- Security in Complex Networks
- Smart Factory
- Social Engineering
- Studium Generale
- Supply Chain Management

*Electives: Choose one module with two courses from the Elective A, one module from the Elective B and one module from the Elective C. Every elective module can only be chosen once.