CURRICULUM M.Sc. CYBER SECURITY

myStudies, 120 ECTS Credits

Month	Model 1: Programme Start October – Courses			Model 2: Programme Start January – Courses			Model 3: Programme Start April – Courses			Model 4: Programme Start July – Courses		
Oct	Corporate Governance of IT, Compliance, and Law	Advanced Mathematics	Cyber Security and Data Protection									
Nov												
Dec												
Jan	Advanced Research Methods	Cyber Risk Assessment and Management	IT Systems: Software	Advanced Research Methods	Cyber Risk Assessment and Management	IT Systems: Software						
Feb												
Mar												
Apr	IT Systems: Hardware	Cyber Systems and Network Forensics	Theoretical Computer Science for IT Security	Corporate Governance of IT, Compliance, and Law	Advanced Mathematics	Cyber Security and Data Protection	Corporate Governance of IT, Compliance, and Law	Advanced Mathematics	Cyber Security and Data Protection			
May												
Jun	Lecture-Free Period											
Jul	Seminar: Advanced Cyber Security*	Seminar: Standards and Frameworks	Project: Current Challenges of Cyber Security*	Seminar: Advanced Cyber Security*	Seminar: Standards and Frameworks	Project: Current Challenges of Cyber Security*	Advanced Research Methods	Cyber Risk Assessment and Management	IT Systems: Software	Advanced Research Methods	Cyber Risk Assessment and Management	IT Systems: Software
Aug												
Sep	Lecture-Free Period											
Oct	Cryptology*		Secure Networking*	IT Systems: Hardware	Cyber Systems and Network Forensics	Theoretical Computer Science for IT Security	IT Systems: Hardware	Cyber Systems and Network Forensics	Theoretical Computer Science for IT Security	Corporate Governance of IT, Compliance, and Law	Advanced Mathematics	Cyber Security and Data Protection
Nov												
Dec												
Jan	Elective A Course a	Elective A Course b		Elective A Course a	Elective A Course b		Seminar: Advanced Cyber Security*	Seminar: Standards and Frameworks	Project: Current Challenges of Cyber Security*	Seminar: Advanced Cyber Security*	Seminar: Standards and Frameworks	Project: Current Challenges of Cyber Security*
Feb												
Mar												
Apr	Elective B Course c	Elective B Course d		Cryptology*	Secure Networking*		Cryptology*	Secure Networking*		IT Systems: Hardware	Cyber Systems and Network Forensics	Theoretical Computer Science for IT Security
May												
Jun	Lecture-Free Period											
Jul	Master Thesis			Master Thesis			Elective A Course a	Elective A Course b		Elective A Course a	Elective A Course b	
Aug												
Sep	Lecture-Free Period											
Oct				Elective B Course c	Elective B Course d		Elective B Course c	Elective B Course d		Cryptology*	Secure Networking*	
Nov												
Dec												
Jan							Master Thesis			Master Thesis		
Feb												
Mar												
Apr										Elective B Course c	Elective B Course d	
May												

INTERNATIONAL UNIVERSITY OF APPLIED SCIENCES

☑

Here you see the order in which you study your courses in presence depending on your personal study start in October, January, April or July. Each semester consists of two blocks. In each block, you attend classes on campus for usually three courses to deepen the content in direct exchange with your fellow students and lecturers.

You have lecture-free periods in both June and September, which you can spend reviewing and preparing for exams. Attending the courses on campus is mandatory and will be verified due to Visa regulations (not valid for DACH students).

Each block concludes with a two-week exam preparation phase. You can defer those exams to a later date that you do not want to take during this period. This way, your exam phases are always spread evenly over the year. Exceptions to this are courses that count as admission requirements for other courses.

☑

Note: You can already start with your thesis earlier than the designated block, once you have met the minumum amount of credit points required to enter.

Elective A~

Cyber Criminality
a) Attack Scenarios and Incident Response
b) Project: Cyber Forensics*

Blockchain and Quantum Computing
a) Blockchain
b) Quantum Computing

Secure Software Development
a) Secure Software Development
b) Project: Secure Software Implementation*

Elective B~

Organizational Transformation
c) Tools in Organizational Analysis
d) Management of IT Services and Architecture

IT Law for IT Security
c) International IT Law
d) Seminar: Legal Framework for IT Security*

Audit- and Security Testing
c) Attack Models and Auditing
d) Seminar: IT Security Tests*

Business Analyst
c) Business Intelligence I
d) Project: Business Intelligence*

AI and Mastering AI Prompting
c) Artificial Intelligence
d) Project: AI Excellence with Creative Prompting Techniques

Continuous and Lifecycle Security
c) Cyber Resilience
d) Seminar: Applying Threat Intelligence

Data Science and Big Data Technologies
c) Data Science
d) Big Data Technologies

Industrial Automation and Internet of Things
c) Industrial Automation
d) Internet of Things

Artificial Intelligence
c) Artificial Intelligence
d) Seminar: AI and Society

Internship

☑

Attention: Attendance times may vary slightly depending on public holidays and the federal state holidays the campus is located in.

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

* This course comes with admissions requirement. Please consult the module handbook for more information.

Note: Those elective modules where the minimum number of participants is not reached will only be offered online (distance learning). However, IU ensures that there are always electives on campus.

Course Information

Module	Course Code	Course	ECTS Credits	Type of Exam
Corporate Governance of IT, Compliance, and Law	DLMIGCR01-01_E	Corporate Governance of IT, Compliance, and Law	5	Exam
Advanced Mathematics	DLMDSAM01	Advanced Mathematics	5	Exam
Cyber Security and Data Protection	DLMCSITSDP01	Cyber Security and Data Protection	5	Oral Assignment
Advanced Research Methods	DLMARM01	Advanced Research Methods	5	Written Assessment: Written Assignment
Cyber Risk Assessment and Management	DLMCSECRAM01_E	Cyber Risk Assessment and Management	5	Exam
IT Systems: Software	DLMINITSS01_E	IT Systems: Software	5	Exam
IT Systems: Hardware	DLMINITSH01_E	IT Systems: Hardware	5	Exam
Cyber Systems and Network Forensics	DLMCSECSNF01_E	Cyber Systems and Network Forensics	5	Exam
Theoretical Computer Science for IT Security	DLMCSETCSITS01_E	Theoretical Computer Science for IT Security	5	Exam
Seminar: Advanced Cyber Security*	DLMCSEAITSC01	Seminar: Advanced Cyber Security*	5	Written Assessment: Research Essay
Seminar: Standards and Frameworks	DLMINSSF01_E	Seminar: Standards and Frameworks	5	Written Assessment: Research Essay
Project: Current Challenges of Cyber Security*	DLMCSEPCCCS01_E	Project: Current Challenges of Cyber Security*	5	Written Assessment: Project Report
Cryptology*	DLMCSEAITSC02	Cryptology*	5	Oral Assignment
Secure Networking*	DLMCSEESN01_E	Secure Networking*	5	Exam
ELECTIVE A~		e.g. Blockchain and Quantum Computing	10	
ELECTIVE B~		e.g. Data Science and Big Data Technologies	10	
Master Thesis		Master Thesis	27	Master Thesis
		Thesis Defense	3	Presentation: Colloquium

☑

If you are studying Model 2 or 4 you will have to start your Master Thesis before completing your Elective B courses.