

CURRICULUM M.Sc. CYBER SECURITY

myStudies, 120 ECTS Credits

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

Elective A-	Elective B-
<p><i>Cyber Criminology</i></p> <p>a) Attack Scenarios and Incident Response</p> <p>b) Project: Cyber Forensics*</p> <p><i>Blockchain and Quantum Computing</i></p> <p>a) Blockchain</p> <p>b) Quantum Computing</p> <p><i>Secure Software Development</i></p> <p>a) Secure Software Development</p> <p>b) Project: Secure Software Implementation*</p> <p><i>Internship</i></p>	<p><i>Organizational Transformation</i></p> <p>c) Tools in Organizational Analysis</p> <p>d) Management of IT Services and Architecture</p> <p><i>IT Law for IT Security</i></p> <p>c) International IT Law</p> <p>d) Seminar: Legal Framework for IT Security*</p> <p><i>Audit and Security Testing</i></p> <p>a) Attack Models and Auditing</p> <p>d) Seminar: IT Security Tests*</p> <p><i>Business Analyst</i></p> <p>c) Business Intelligence I</p> <p>d) Project: Business Intelligence*</p> <p><i>AI and Mastering AI Prompting</i></p> <p>c) Artificial Intelligence</p> <p>d) Project: AI Excellence with Creative Prompting Techniques</p>

Course Information	Course Code	Course	ECTS Credits	Type of Exam
Model 1				
Corporate Governance of IT, Compliance, and Law	DLMGCR01-01_E	Corporate Governance of IT, Compliance, and Law	5	Exam
Advanced Mathematics	DLMDSAM01-01	Advanced Mathematics	5	Exam
Cyber Security and Data Protection	DLMCSITSDP01	Cyber Security and Data Protection	5	Oral Assignment
Advanced Research Methods	DLMARM01-01	Advanced Research Methods	5	Written Assessment: Written Assignment
Cyber Risk Assessment and Management	DLMSECRAM01_E	Cyber Risk Assessment and Management	5	Exam
IT Systems: Software	DLMIMITS01_E	IT Systems: Software	5	Exam
IT Systems: Hardware	DLMIMITSH01_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*	DLMCSEATS01	Seminar: Advanced Cyber Security*	5	Written Assessment: Research Essay
Seminar: Standards and Frameworks	DLMIMSSF01_E	Seminar: Standards and Frameworks	5	Written Assessment: Research Essay
Project: Current Challenges of Cyber Security*	DLMCSEPCCS01_E	Project: Current Challenges of Cyber Security*	5	Written Assessment: Project Report
Cryptography*	DLMCSEATS02	Cryptography*	5	Oral Assignment
Secure Networking*	DLMCSESN01_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



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 minimum amount of credit points required to enter.

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.

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