

CURRICULUM B.Sc. CYBER SECURITY

myStudies, 180 ECTS

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	Operating Systems, Computer Networks, and Distributed Systems	Mathematics: Analysis	Requirements Engineering																						
Nov																									
Dec																									
Jan	Introduction to Academic Work	Introduction to Programming with Python	Statistics - Probability and Descriptive Statistics	Operating Systems**	Introduction to Academic Work	Introduction to Programming with Python	Statistics - Probability and Descriptive Statistics																		
Feb																									
Mar																									
Apr	Intercultural and Ethical Decision-Making	Mathematics: Linear Algebra	System Pentesting Basics	Intercultural and Ethical Decision-Making	Mathematics: Linear Algebra	System Pentesting Basics	Operating Systems**	Intercultural and Ethical Decision-Making	Mathematics: Linear Algebra	System Pentesting Basics															
May																									
Jun											Semester Break														
Jul	Introduction to Data Protection & Cyber Security	Collaborative Work	Introduction to the Internet of Things	Introduction to Data Protection & Cyber Security	Collaborative Work	Introduction to the Internet of Things	Introduction to Data Protection & Cyber Security	Collaborative Work	Introduction to the Internet of Things	Operating Systems**	Introduction to Data Protection & Cyber Security	Collaborative Work	Introduction to the Internet of Things												
Aug																									
Sep														Semester Break											
Oct	Introduction to Network Forensics	Object-oriented Programming with Java	Cloud Computing	Mathematics: Analysis	Requirements Engineering	Mathematics: Analysis	Requirements Engineering	Mathematics: Analysis	Requirements Engineering	Mathematics: Analysis	Requirements Engineering	Mathematics: Analysis	Requirements Engineering												
Nov																									
Dec																									
Jan	Algorithms, Data Structures, and Programming Languages	IT Law	Host and Software Forensics	Algorithms, Data Structures, and Programming Languages	IT Law	Host and Software Forensics	Introduction to Academic Work	Introduction to Programming with Python	Statistics - Probability and Descriptive Statistics	Introduction to Academic Work	Introduction to Programming with Python	Statistics - Probability and Descriptive Statistics	Introduction to Academic Work												
Feb																									
Mar																									
Apr	Theoretical Comp. Sciences & Mathematical Logic	IT Project Management	IT Service Management	Theoretical Comp. Sciences & Mathematical Logic	IT Project Management	IT Service Management	Theoretical Comp. Sciences & Mathematical Logic	IT Project Management	IT Service Management	Theoretical Comp. Sciences & Mathematical Logic	IT Project Management	IT Service Management	Intercultural and Ethical Decision-Making												
May																									
Jun														Semester Break											
Jul	DevSecOps and Common Software Weaknesses	Cryptography	Information Security Standards	DevSecOps and Common Software Weaknesses	Cryptography	Information Security Standards	DevSecOps and Common Software Weaknesses	Cryptography	Information Security Standards	DevSecOps and Common Software Weaknesses	Cryptography	Information Security Standards	DevSecOps and Common Software Weaknesses												
Aug																									
Sep														Semester Break											
Oct	Artificial Intelligence	Advanced Data Analysis	Elective (online)	Elective (online)	Introduction to Network Forensics	Object-oriented Programming with Java	Cloud Computing	Introduction to Network Forensics	Object-oriented Programming with Java	Cloud Computing	Introduction to Network Forensics	Object-oriented Programming with Java	Cloud Computing												
Nov																									
Dec																									
Jan	Project: Data Analysis	Elective (online)	Elective (online)	Project: Data Analysis	Elective (online)	Elective (online)	Algorithms, Data Structures, and Programming Languages	IT Law	Host and Software Forensics	Algorithms, Data Structures, and Programming Languages	IT Law	Host and Software Forensics	Project: Data Analysis												
Feb																									
Mar																									
Apr	Seminar: Current Topics in Computer Science	Elective (online)	Elective (online)	Seminar: Current Topics in Computer Science	Elective (online)	Elective (online)	Seminar: Current Topics in Computer Science	Elective (online)	Elective (online)	Theoretical Comp. Sciences & Mathematical Logic	IT Project Management	IT Service Management	Project: Data Analysis												
May																									
Jun														Semester Break											
Jul	Bachelor Thesis			Bachelor Thesis				Bachelor Thesis				Bachelor Thesis													
Aug	Semester Break																								
Sep	Semester Break																								
Oct	Artificial Intelligence	Advanced Data Analysis	Elective (online)	Elective (online)	Introduction to Network Forensics	Object-oriented Programming with Java	Cloud Computing	Artificial Intelligence	Advanced Data Analysis	Elective (online)	Elective (online)	Artificial Intelligence	Advanced Data Analysis												
Nov																									
Dec																									
Jan	Project: Data Analysis	Elective (online)	Elective (online)	Project: Data Analysis	Elective (online)	Elective (online)	Project: Data Analysis	Elective (online)	Elective (online)	Project: Data Analysis	Elective (online)	Elective (online)	Project: Data Analysis												
Feb																									
Mar																									
Apr	Seminar: Current Topics in Computer Science	Elective (online)	Elective (online)	Seminar: Current Topics in Computer Science	Elective (online)	Elective (online)	Seminar: Current Topics in Computer Science	Elective (online)	Elective (online)	Theoretical Comp. Sciences & Mathematical Logic	IT Project Management	IT Service Management	Project: Data Analysis												
May																									
Jun														Semester Break											

Elective A*	Elective B*	Elective C*
IT Security Consulting Technical and Operational IT Security Concepts Project: Configuration and Application of SIEM Systems Social Engineering Social Engineering and Insider Threats Project: Social Engineering Host Forensics Static and Dynamic Malware Analysis Seminar: Sandbox Interpretation DevSecOps Techniques and methods for agile software development Project: Agile DevSecOps Software Engineering Security in Complex Networks IT Architecture Management Project: IT Security Architecture Network Forensics Protocols, Log- and Dataflow-Analysis in Depth Seminar: Threat Hunting, Analysis and Incident Response	Business Intelligence Business Intelligence I Business Intelligence II Future Threats Threat Modeling Project: Threat Modeling Cloud Security Security Controls in the Cloud Project: Security by Design in the Cloud Pentesting Principles of Ethical Hacking Project: Pentesting Industrial Systems Technology Software Engineering Principles Internet of Things Security Cyber Threat Intelligence Attack Models and Threat Feeds Project: Defense against APTs Mobile Threats Wireless and Telecom Security Software Architectures of Mobile Devices	IT Security Consulting Technical and Operational IT Security Concepts Project: Configuration and Application of SIEM Systems Social Engineering Social Engineering and Insider Threats Project: Social Engineering Host Forensics Static and Dynamic Malware Analysis Seminar: Sandbox Interpretation DevSecOps Techniques and methods for agile software development Project: Agile DevSecOps Software Engineering Security in Complex Networks IT Architecture Management Project: IT Security Architecture Network Forensics Protocols, Log- and Dataflow-Analysis in Depth Seminar: Threat Hunting, Analysis and Incident Response Business Intelligence Business Intelligence I Business Intelligence II

Module	Course Code	Course	ECTS	Type of Exam
Operating Systems, Computer Networks, and Distributed Systems**	DLBIBRVS01_E	Operating Systems, Computer Networks, and Distributed Systems	5	Exam
Mathematics: Analysis	DLBDSMF01	Mathematics: Analysis	5	Exam
Requirements Engineering	DLBDSRE01	Requirements Engineering	5	Exam
Introduction to Academic Work	DLBDSIAW01	Introduction to Academic Work	5	Exam
Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	Exam
Statistics - Probability and Descriptive Statistics	DLBDSPPS01	Statistics - Probability and Descriptive Statistics	5	Exam
Intercultural and Ethical Decision-Making	DLBDSIDM01	Intercultural and Ethical Decision-Making	5	Case Study
Mathematics: Linear Algebra	DLBDSMLA01	Mathematics: Linear Algebra	5	Exam
System Pentesting Basics	DLBDSSEPB01_E	System Pentesting Basics	5	Exam
Introduction to Data Protection and Cyber Security	DLBDSIDPITS01	Introduction to Data Protection and Cyber Security	5	Exam
Collaborative Work	DLBDSCW01	Collaborative Work	5	Oral Assignment
Introduction to the Internet of Things	DLBDSIEIT01_E	Introduction to the Internet of Things	5	Exam
Introduction to Network Forensics	DLBDSINF01_E	Introduction to Network Forensics	5	Exam
Object-oriented Programming with Java	DLBDSOOPJ01	Object-oriented Programming with Java	5	Exam
Cloud Computing	DLBDSOCP01	Cloud Computing	5	Exam
Algorithms, Data Structures, and Programming Languages	DLBDSAL01	Algorithms, Data Structures, and Programming Languages	5	Exam
IT Law	DLBDSITL01	IT Law	5	Case Study
Host and Software Forensics	DLBDSHSF01_E	Host and Software Forensics	5	Exam
Theoretical Computer Sciences and Mathematical Logic	DLBDSCTCSML01	Theoretical Computer Sciences and Mathematical Logic	5	Exam
IT Project Management	DLBDSITPAM01	IT Project Management	5	Exam
IT Service Management	DLBDSITSM01_01	IT Service Management	5	Exam
DevSecOps and Common Software Weaknesses	DLBDSSEDCSW01_E	DevSecOps and Common Software Weaknesses	5	Written Assignment
Cryptography	DLBDSCT01	Cryptography	5	Exam
Information Security Standards	DLBDSSEISS01_E	Information Security Standards	5	Case Study
Artificial Intelligence	DLBDSSEAI01	Artificial Intelligence	5	Exam
Advanced Data Analysis	DLBDSSEDA01	Advanced Data Analysis	5	Exam
Project: Data Analysis	DLBDSSEDA02	Project: Data Analysis	5	Portfolio
Seminar: Current Topics in Computer Science	DLBDSSECTCS01	Seminar: Current Topics in Computer Science	5	Research Essay
ELECTIVE A*		e.g. Security in Complex Networks	10	
ELECTIVE B*		e.g. Cloud Security	10	
ELECTIVE C*		e.g. Smart Factory	10	
Bachelor Thesis		Bachelor Thesis	9	
		Thesis Defense	1	Presentation: Colloquium

* 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.

Note: The Electives are only offered in distance learning (online).



Here you see the order in which you can study your courses in presence depending on your personal study start in October, January, April or July. IU International University of Applied Sciences offers you the flexibility to switch from campus to online studies or the other way around. You decide which semester you want to spend on campus or online.

The above is only valid for DACH students. For INT Students: attending the courses on Campus in presence is mandatory and will be verified due to VISA regulations.

Each semester consists of two blocks that conclude with a two-week exam preparation phase. You can also 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.

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 semester breaks in June and September.

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

If you are studying Model 2, 3 or 4 you will have to start your Bachelor Thesis before completing your final courses.