CURRICULUM B.SC. APPLIED ARTIFICIAL INTELLIGENCE

DISTANCE LEARNING

Semester FT	Semester PT I	Semester PT II	Module	Course Code	Course	ECTS credits	Type of Exam
1. Semester	1. Semester	1. Semester	Artificial Intelligence	DLBDSEAIS01-01	Artificial Intelligence	5	Exam
			Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	Exam
			Mathematics: Analysis	DLBDSMFC01	Mathematics: Analysis	5	Exam
		2. Semester	Introduction to Academic Work	DLBCSIAW01	Introduction to Academic Work	5	Basic Workbook
			Project: Object Oriented and Functional Programming in Python	DLBDSOOFPP01	Project: Object Oriented and Functional Programming in Python	5	Portfolio
	2. Semester		ELECTIVES D		Internship or modules to choose	5	
2. Semester		3. Semester	Mathematics: Linear Algebra	DLBDSMFLA01	Mathematics: Linear Algebra	5	Exam
			Statistics: Probability and Descriptive Statistics	DLBDSSPDS01-01	Statistics: Probability and Descriptive Statistics	5	Exam
			Statistics - Inferential Statistics	DLBDSSIS01-01	Statistics - Inferential Statistics	5	Exam
	3. Semester	4. Semester	Cloud Computing	DLBDSCC01	Cloud Computing	5	Exam
			Project: Cloud Programming	DLBSEPCP01_E	Project: Cloud Programming	5	Portfolio
			ELECTIVES D		Internship or modules to choose	5	
3. Semester		5. Semester	Machine Learning - Supervised Learning	DLBDSMLSL01	Machine Learning - Supervised Learning	5	Exam
			Machine Learning - Unsupervised Learning and Feature Engineering	DLBDSMLUSL01	Machine Learning - Unsupervised Learning and Feature Engineering	5	Case Study
	4. Semester		Neural Nets and Deep Learning	DLBDSNNDL01-01	Neural Nets and Deep Learning	5	Oral Assignment
		6. Semester	Introduction to Computer Vision	DLBAIICV01	Introduction to Computer Vision	5	Exam
			Project: Computer Vision	DLBAIPCV01	Project: Computer Vision	5	Project Report
			ELECTIVES D		Internship or modules to choose	5	
4. Semester	5. Semester	7. Semester	Introduction to Reinforcement Learning	DLBAIIRL01	Introduction to Reinforcement Learning	5	Exam
			Introduction to Data Protection and Cyber Security	DLBCSIDPITS01	Introduction to Data Protection and Cyber Security	5	Exam
			Ethics and Legal Aspects in AI	DLBAIBEELAAI01	Ethics and Legal Aspects in AI	5	Exam
		8. Semester	Introduction to NLP	DLBAIINLP01	Introduction to NLP	5	Exam
			Project: NLP	DLBAIPNLP01	Project: NLP	5	Project Report
	6. Semester		ELECTIVES D		Internship or modules to choose	5	
5. Semester		9. Semester	Seminar: Ethical Innovation	DLBAIBESEI01	Seminar: Ethical Innovation	5	Research Essay
			ELECTIVES A*		e. g. Introduction to Robotics	5	
			ELECTIVES B*		e. g. Mobile Robotics Embedded Systems	10	
			Project: Edge AI	DLBAIPEAI01	Project: Edge AI	5	Project Report
	7. Semester		ELECTIVES D		Internship or modules to choose	5	
6. Semester		10.	ELECTIVES C*		e. g. Project: Applied Robotics with Robotic Platforms Seminar: Human-Robot Interaction	10	
			Model Engineering	DLBDSME01	Model Engineering	5	Case Study
	8.	11.	ELECTIVES D		Internship or modules to choose	5	
		12.	Bachelor Thesis	DLBBT01 DLBBT02	Bachelor Thesis Thesis Defense	9 1	Bachelor Thesis Presentation: Colloquium
Total 180 ECTS credits							

INTERNATIONAL UNIVERSITY OF APPLIED SCIENCES

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You've already planned out exactly how your course schedule should look? Wonderful!
The IU International University of Applied Sciences offers you the flexibility to choose any available module you like from any semester. You can work on a number of modules at the same time or one by one.

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At the beginning, choose modules that particularly interest you or that you can use directly in your job. This motivates you and gives you success right from the start.

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Information about electives D:
Decide at the beginning between an internship at a company or modules from electives D. You will complete the internship with a practical reflection. If you decide on the modules from electives D, all modules from this area must be completed. Mixed forms of internship and compulsory electives D are not possible.

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* Electives: One or two modules per elective to choose from, each elective module can only be chosen once.

FT: Full-Time, 36 months
PT I: Part-Time I, 48 months
PT II: Part-Time II, 72 months

Recommended Elective Combination	Electives A:	Electives B:	Wahlpflichtbereich C:
AI & Robotics	Introduction to Robotics	Mobile Robotics Embedded Systems	Project: Applied Robotics with Robotic Platforms Seminar: Human-Robot Interaction
AI & XR	Augmented, Mixed and Virtual Reality	Project: X-Reality User Experience	Introduction to Motion Capture and Tracking Project: AI in XR
AI, Data & Cloud Engineering	Data Engineering	Project: AWS - Cloud Essentials Project: AWS - Cloud Advanced	Data Science Software Engineering Project: From Model to Production Environment
AI, Ethics & Society	Ethics and Sustainability in IT	Experience Psychology Human Computer Interaction	Intercultural and Ethical Decision-Making Seminar: Ethical and Social Aspects of XR
AI & Data Analytics	Data Quality and Data Wrangling	Business Intelligence Project: Business Intelligence	Advanced Data Analysis Project: Data Analysis
AI, Production & Automation	Production Engineering Industry 4.0	Automation and Robotics Digital Signal Processing	Self-Driving Vehicles Seminar: Current Topics and Trends in Self-Driving Technology

All Electives	Electives A:	Electives B:	Electives C:	Electives D:
	Introduction to Robotics Augmented, Mixed and Virtual Reality Data Engineering Ethics and Sustainability in IT Data Quality and Data Wrangling Production Engineering Industry 4.0 Mechanics - Kinematics IT Architecture Management	Mobile Robotics Embedded Systems Project: X-Reality User Experience Project: AWS - Cloud Essentials Project: AWS - Cloud Advanced Experience Psychology Human Computer Interaction Business Intelligence Project: Business Intelligence Automation and Robotics Digital Signal Processing UX-Project Sensor Technology Database Modeling and Database Systems Big Data Technologies	Project: Applied Robotics with Robotic Platforms Seminar: Human-Robot Interaction Introduction to Motion Capture and Tracking Project: AI in XR Data Science Software Engineering Project: From Model to Production Environment Intercultural and Ethical Decision-Making Seminar: Ethical and Social Aspects of XR Advanced Data Analysis Project: Data Analysis Self-Driving Vehicles Seminar: Current Topics and Trends in Self-Driving Technology Studium Generale I Studium Generale II	Internship: Bachelor Data Science and AI **or** Collaborative Work Project: AI Excellence with Creative Prompting Techniques Digital Business Models Project: Digital Business Models Project: Generative AI in an Enterprise Context Project: Digitalization and Automation Hackathon