CURRICULUM M.Sc. ARTIFICIAL INTELLIGENCE
myStudies, 120 ECTS

Month	Model 1: Programme Start October			Model 2: Programme Start April		
	Courses			Courses		
Oct	Artificial Intelligence	Advanced Mathematics	Programming with Python			
Nov	Artificial Intelligence	Advanced Mathematics	Programming with Python			
Dec	Artificial Intelligence	Advanced Mathematics	Programming with Python			
Jan	Seminar: AI and Society	Advanced Statistics	Machine Learning			
Feb	Seminar: AI and Society	Advanced Statistics	Machine Learning			
Mar	Seminar: AI and Society	Advanced Statistics	Machine Learning			
Apr	Use Case and Evaluation[1]	Project: AI Use Case[1]	Inference and Causality	Artificial Intelligence	Advanced Mathematics	Programming with Python
May	Use Case and Evaluation[1]	Project: AI Use Case[1]	Inference and Causality	Artificial Intelligence	Advanced Mathematics	Programming with Python
Jun	Semester Break					
Jul	Deep Learning	NLP and Computer Vision	Software Engineering for Data Intensive Sciences	Seminar: AI and Society	Advanced Statistics	Machine Learning
Aug	Deep Learning	NLP and Computer Vision	Software Engineering for Data Intensive Sciences	Seminar: AI and Society	Advanced Statistics	Machine Learning
Sep	Semester Break					
Oct	Reinforcement Learning	Seminar: Current Topics in AI		Use Case and Evaluation[1]	Project: AI Use Case[1]	Inference and Causality
Nov	Reinforcement Learning	Seminar: Current Topics in AI		Use Case and Evaluation[1]	Project: AI Use Case[1]	Inference and Causality
Dec	Reinforcement Learning	Seminar: Current Topics in AI		Use Case and Evaluation[1]	Project: AI Use Case[1]	Inference and Causality
Jan	Elective A Course a	Elective A Course b		Deep Learning	NLP and Computer Vision	Software Engineering for Data Intensive Sciences
Feb	Elective A Course a	Elective A Course b		Deep Learning	NLP and Computer Vision	Software Engineering for Data Intensive Sciences
Mar	Elective A Course a	Elective A Course b		Deep Learning	NLP and Computer Vision	Software Engineering for Data Intensive Sciences
Apr	Elective B Course c	Elective B Course d		Reinforcement Learning	Seminar: Current Topics in AI	
May	Elective B Course c	Elective B Course d		Reinforcement Learning	Seminar: Current Topics in AI	
Jun	Semester Break					
Jul	Master Thesis			Elective A Course a	Elective A Course b	
Aug	Master Thesis			Elective A Course a	Elective A Course b	
Sep	Semester Break					
Oct				Elective B Course c	Elective B Course d	
Nov				Elective B Course c	Elective B Course d	
Dec				Elective B Course c	Elective B Course d	
Jan				Master Thesis		
Feb				Master Thesis		
Mar				Master Thesis		

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Here you see the order in which you can study your courses in presence depending on your personal study start in October or April.
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.

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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.

Elective A*

UI/UX Expert	Artificial Intelligence in FinTech	AI in E-Commerce, Marketing and Demand Forecast
a) User Interface and Experience	a) Concepts of FinTechs and Artificial Intelligence	a) Introduction to AI in E-Commerce and Marketing
b) Project: Human Computer Interaction	b) Fraud Detection FinTechs	b) Demand Forecast and Inventory Control
Technical Project Lead	*Applied Autonomous Driving*	*Industrial AI*
a) IT Project Management	a) Architectures of Self-Driving Vehicles	a) AI in Production
b) Project: Technical Project Planning	b) Case Study: Localization, Motion Planning and Sensor Fusion	b) Project: Industrial Internet of Things
AI Specialist	*Artificial Intelligence in Supply Chain Management*	*Natural Language Processing and Voice Assistants*
a) Advanced NLP and Computer Vision	a) Concepts of Artificial Intelligence in Supply Chain Management	a) Natural Language Processing
b) Project: NLP and Computer Vision	b) Multi-Agent Systems	b) Voice Assistants
Data Engineer	*AI in Healthcare and Medical Imaging*	*Foundational Computer Vision*
a) Data Engineering	a) AI in Healthcare	a) Image Processing and Low Level Vision
b) Project: Data Engineering	b) AI in Medical Imaging and Diagnostics	b) Mid-Level Vision and Video

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* Electives: Choose one module from the Elective A and one module from the Elective B.

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.

Elective B*

Management	Advanced Robotics 4.0	AI for Analytics, Personalization and Recommender Systems
c) Leadership	c) Industrial and Mobile Robotics	c) AI in Marketing and Analytics
d) Strategic Management	d) Project: Collaborative Robotics	d) Personalization and Recommender Systems
Sales, Pricing and Brand Management	*Robo Advisory and AI in FinTech*	*Industrial Automation & Computer Vision for Autonomous Systems*
c) Global Brand Management	c) Robo Advisory	c) Industrial Automation
d) Sales and Pricing	d) AI in FinTech	d) Computer Vision for Autonomous Systems
Consumer Behaviour and Research	*Functional Security and Computer Vision for Autonomous Systems*	*NLP and Innovative Technologies in Education*
c) International Consumer Behavior	c) Functional Security	c) NLP in Education
d) Applied Marketing Research	d) Computer Vision for Autonomous Systems	d) NLP for Accessibility
Corporate Finance	*AI and its Application in Demand Forecast and Procurement*	*Cognitive Computer Vision*
c) Corporate Finance	c) Demand Forecast and Inventory Control	c) High-Level Vision
d) Advanced Corporate Finance	d) Artificial Intelligence in Procurement	d) Project: Computer Vision
Innovate and Change	*Medical NLP and Medical Robotics*	
c) Change Management	c) Medical NLP	
d) Innovation and Entrepreneurship	d) Medical Robotics and Devices	

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

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[1] These courses take place one after another within the same quarter.

Course Information

Module	Course Code	Course	ECTS	Type of Exam
Artificial Intelligence	DLMDSAIAI01	Artificial Intelligence	5	Exam
Advanced Mathematics	DLMDSAM01	Advanced Mathematics	5	Exam
Programming with Python	DLMDSPWP01	Programming with Python	5	Written Assignment
Seminar: AI and Society	DLMAISAIS01	Seminar: AI and Society	5	Research Essay
Advanced Statistics	DLMDSAS01	Advanced Statistics	5	Advanced Workbook
Machine Learning	DLMDSML01	Machine Learning	5	Exam
Use Case and Evaluation	DLMDSUCE01	Use Case and Evaluation	5	Oral Assignment
Project: AI Use Case	DLMAIPAIUC01	Project: AI Use Case	5	Portfolio
Inference and Causality	DLMAIIAC01	Inference and Causality	5	Advanced Workbook
Deep Learning	DLMDSDL01	Deep Learning	5	Oral Assignment
NLP and Computer Vision	DLMAINLPCV01	NLP and Computer Vision	5	Oral Assignment
Software Engineering for Data Intensive Sciences	DLMDSSEDIS01	Software Engineering for Data Intensive Sciences	5	Oral Assignment
Reinforcement Learning	DLMAIRIL01	Reinforcement Learning	5	Written Assignment
Seminar: Current Topics in AI	DLMAISCTAI01	Seminar: Current Topics in AI	5	Research Essay
ELECTIVE A*		e.g. UI/UX Expert	10	
ELECTIVE B*		e.g. Robo Advisory and AI in FinTech	10	
Master Thesis		Master Thesis	27	Master Thesis
		Thesis Defense	3	Presentation: Colloquium