CURRICULUM B.Sc. APPLIED ARTIFICIAL INTELLIGENCE

myStudies, 180 ECTS Credits

Month	Model 1: Programme Start October – Courses						Model 2: Programme Start April – Courses					
Oct	Artificial Intelligence	Introduction to Academic Work	Mathematics: Analysis									
Nov												
Dec												
Jan	Introduction to Programming with Python	Collaborative Work	Statistics - Probability and Descriptive Statistics									
Feb												
Mar												
Apr	Object Oriented and Functional Programming with Python	Mathematics: Linear Algebra	Statistics - Inferential Statistics*				Artificial Intelligence	Introduction to Academic Work	Mathematics: Analysis			
May												
Jun	Lecture-Free Period											
Jul	Cloud Programming	Machine Learning - Supervised Learning*	Machine Learning - Unsupervised Learning & Feature Engineering*				Introduction to Programming with Python	Collaborative Work	Statistics - Probability and Descriptive Statistics			
Aug												
Sep	Lecture-Free Period											
Oct	Cloud Computing	Neural Nets and Deep Learning*	Data Science Software Engineering*				Object Oriented and Functional Programming with Python	Mathematics: Linear Algebra	Statistics - Inferential Statistics*			
Nov												
Dec												
Jan	Introduction to Computer Vision	Project: Computer Vision	Introduction to Reinforcement Learning*				Cloud Programming	Machine Learning - Supervised Learning*	Machine Learning - Unsupervised Learning & Feature Engineering*			
Feb												
Mar												
Apr	Introduction to NLP	Project: NLP	Agile Project Management				Introduction to NLP	Project: NLP	Agile Project Management			
May												
Jun	Lecture-Free Period											
Jul	Introduction to Data Protection & Cyber Security	User Experience	UX-Project[1]				Introduction to Data Protection & Cyber Security	User Experience	UX-Project[1]			
Aug												
Sep	Lecture-Free Period											
Oct	Introduction to Robotics	Intercultural and Ethical Decision-Making	Elective A Course a	Elective A Course b			Cloud Computing	Neural Nets and Deep Learning*	Data Science Software Engineering*			
Nov												
Dec												
Jan	Seminar: Ethical Considerations in Data Science	Elective B Course c		Elective B Course d			Introduction to Computer Vision	Project: Computer Vision	Introduction to Reinforcement Learning*			
Feb												
Mar												
Apr	Project: From Model to Production*	Elective C Course e		Elective C Course f			Project: From Model to Production*	Elective C Course e	Elective C Course f			
May												
Jun	Lecture-Free Period											
Jul	Bachelor Thesis						Bachelor Thesis					
Aug												
Sep	Lecture-Free Period											
Oct							Introduction to Robotics	Intercultural and Ethical Decision-Making	Elective A Course a	Elective A Course b		
Nov												
Dec												
Jan							Seminar: Ethical Considerations in Data Science	Elective B Course c		Elective B Course d		
Feb												
Mar												

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 or April. 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.

☑

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, you will have to start your Bachelor Thesis before completing your final 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~

Autonomous Driving
- a) Self-Driving Vehicles
- b) Seminar: Current Topics and Trends in Self-Driving Technology

Production Engineering, Automation and Robotics
- a) Production Engineering
- b) Automation and Robotics*

Data Engineer
- a) Data Engineering
- b) Project: Data Engineering

Digital Signal Processing and Sensor Technology
- a) Digital Signal Processing
- b) Sensor Technology

Database Developer
- a) Database Modeling and Database Systems
- b) Project: Build a Data Mart in SQL

Business Intelligence
- a) Business Intelligence
- b) Project: Business Intelligence

Data Analyst
- a) Advanced Data Analysis
- b) Project: Data Analysis

Augmented, Mixed and Virtual Reality
- a) Augmented, Mixed and Virtual Reality
- b) X-Reality Project

Elective B~

International Marketing and Branding
- c) International Marketing
- d) International Brand Management

Applied Sales
- c) Applied Sales I
- d) Applied Sales II

Supply Chain Management
- c) Supply Chain Management I
- d) Supply Chain Management II

IT project and architecture management
- c) IT Project Management
- d) IT Architecture Management

Psychology of Human Computer Interaction
- c) Experience Psychology
- d) Human Computer Interaction

Elective C~

Autonomous Driving
- e) Self-Driving Vehicles
- f) Seminar: Current Topics and Trends in Self-Driving Technology

Production Engineering, Automation and Robotics
- e) Production Engineering
- f) Automation and Robotics*

Data Engineer
- e) Data Engineering
- f) Project: Data Engineering

Digital Signal Processing and Sensor Technology
- e) Digital Signal Processing
- f) Sensor Technology

Database Developer
- e) Database Modeling and Database Systems
- f) Project: Build a Data Mart in SQL

Business Intelligence
- e) Business Intelligence
- f) Project: Business Intelligence

Data Analyst
- e) Advanced Data Analysis
- f) Project: Data Analysis

Augmented, Mixed and Virtual Reality
- e) Augmented, Mixed and Virtual Reality
- f) X-Reality Project

International Marketing and Branding
- e) International Marketing
- f) International Brand Management

Applied Sales
- e) Applied Sales I
- f) Applied Sales II

Supply Chain Management
- e) Supply Chain Management I
- f) Supply Chain Management II

IT project and architecture management
- e) IT Project Management
- f) IT Architecture Management

Psychology of Human Computer Interaction
- e) Experience Psychology
- f) Human Computer Interaction

Foreign Language Italian
- e) Certificate Course Italian
- f) Foreign Language Italian

Foreign Language French
- e) Certificate Course French
- f) Foreign Language French

Foreign Language Spanish
- e) Certificate Course Spanish
- f) Foreign Language Spanish

Foreign Language German
- e) Certificate Course German
- f) Foreign Language German

Career Development
- e) Personal Career Plan
- f) Personal Elevator Pitch

Studium Generale

Internship

☑

~ 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.

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

1 Alternatively, you can choose the course "Project: Edge AI".

Note: 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
Artificial Intelligence	DLBDSEAIS01	Artificial Intelligence	5	Exam
Introduction to Academic Work	DLBCSIAW01	Introduction to Academic Work	5	Basic Workbook
Mathematics: Analysis	DLBDSMFC01	Mathematics: Analysis	5	Exam
Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	Exam
Collaborative Work	DLBCSCW01	Collaborative Work	5	Oral Assignment
Statistics - Probability and Descriptive Statistics	DLBDSSPDS01-01	Statistics - Probability and Descriptive Statistics	5	Exam
Object Oriented and Functional Programming with Python	DLBDSOOFPP01	Object Oriented and Functional Programming with Python	5	Portfolio
Mathematics: Linear Algebra	DLBDSMFLA01	Mathematics: Linear Algebra	5	Exam
Statistics - Inferential Statistics*	DLBDSSIS01	Statistics - Inferential Statistics*	5	Exam
Cloud Programming	DLBSEPCP01_E	Cloud Programming	5	Portfolio
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	Written Assessment: Case Study
Cloud Computing	DLBDSCC01	Cloud Computing	5	Exam
Neural Nets and Deep Learning*	DLBDSNNDL01	Neural Nets and Deep Learning*	5	Oral Assignment
Data Science Software Engineering*	DLBDSDSSE01	Data Science Software Engineering*	5	Exam
Introduction to Computer Vision	DLBAIICV01	Introduction to Computer Vision	5	Exam
Project: Computer Vision	DLBAIPCV01	Project: Computer Vision	5	Written Assessment: Project Report
Introduction to Reinforcement Learning*	DLBAIIRL01	Introduction to Reinforcement Learning*	5	Exam
Introduction to NLP	DLBAIINLP01	Introduction to NLP	5	Exam
Project: NLP	DLBAIPNLP01	Project: NLP	5	Written Assessment: Project Report
Agile Project Management	DLBCSAPM01	Agile Project Management	5	Written Assessment: Project Report
Introduction to Data Protection and Cyber Security	DLBCSIDPITS01	Introduction to Data Protection and Cyber Security	5	Exam
User Experience	DLBMIUEX01_E	User Experience	5	Exam
UX-Project[1]	DLBMIUEX02_E	UX-Project	5	Written Assessment: Project Report
Project: Edge AI[1]	DLBAIPEAI01	Project: Edge AI	5	Written Assessment: Project Report
Introduction to Robotics	DLBROIR01_E	Introduction to Robotics	5	Exam/Written Assessment: Written Assignment
Intercultural and Ethical Decision-Making	DLBCSIDM01	Intercultural and Ethical Decision-Making	5	Written Assessment: Case Study
Seminar: Ethical Considerations in Data Science	DLBDSSECDS01	Seminar: Ethical Considerations in Data Science	5	Written Assessment: Research Essay
Project: From Model to Production*	DLBDSMTP01	Project: From Model to Production*	5	Oral Project Report
ELECTIVE A~		e.g. Autonomous Driving	10	
ELECTIVE B~		e.g. Psychology of Human Computer Interaction	10	
ELECTIVE C~		e.g. Production Engineering, Automation and Robotics	10	
Bachelor Thesis		Bachelor Thesis	9	Bachelor Thesis
		Thesis Defense	1	Presentation: Colloquium