CURRICULUM B.Sc. DATA SCIENCE

nyStudies, 1				1												
	Model 1: Programme Start October		Model 2: Programme Start January				Model 3: Programme Start April			Model 4: Programme Start July						
Month		Courses			Cour	rses			Course	es			Cou	urses		
Oct		Introduction to Academia	A gilo Droject													INTERNATIONAL
Nov	Introduction to Data Science	Introduction to Academic Work	Agile Project Management													
Dec			Statistics				Statistics -									APPLIED SCIENCES
Jan Feb	Introduction to Programming with	Mathematics: Analysis	Statistics - Probability and	Introduction to	ntroduction to Programming	Mathematics										\checkmark
Mar	Python	Mathematics, Anatysis	Descriptive Statistics		with Python	Analysis	Descriptive Statistics									
Apr	Object Oriented &	Mathematics: Linear	Statistics -					Introduction to	o Introduction to	Academic	Agile Project					
Мау	Functional Programming with	Algebra	Inferential Statistics	Introduction to Ac	ademic Work	Agile Proje	ect Management	Data Science	Work		Management					Here you see the order in which you car study your courses in presence depend
Jun		Semester Break										on your personal study start in October,				
Jul	Intercultural and Ethical Decision-	Collaborative Work	Introduction to Data Protection &	Intercultural and Ethical Decision-	Collaborat	ive Work	Introduction to Data Protection &	Introduction to Programming wit			Statistics - Probability and Descriptive	Introduction to	ntroduction to Programming	Mathematics	: Statistics - Probability and	January, April or July. IU International University of Applied
Aug	Making		Cyber Security	Making			Cyber Security	Python			Statistics	Data Science	with Python	Analysis	Descriptive	Sciences offers you the flexibility to swi from campus to online studies or the
Sep Oct				Object Oriented and	1		Semes	ter Break Object Oriented a	ind							other way around. You decide which
Nov	Database Modeling and Database	Project: Build a Data Mart	Cloud Computing	Functional	Mathemati		Statistics -	Functional	Mathematics		Statistics -	Introduction to Aca	ademic Work	Agile Proje	ect Management	semester you want to spend on campu or online.
Dec	Systems	in SQL		Programming with Python	Algel	bra	Inferential Statistics	Programming wit Python	ith Algebra	a I	Inferential Statistics				<u> </u>	The above is only valid for DACH studer
Jan	Maliation	Machine Learning -	Data Science		Machine Le	earning -	Data Science	Intercultural and	d		Introduction to	Intercultural and			Introduction to	For INT Students: attending the courses
Feb	Machine Learning - Supervised Learning	Unsupervised Learning and	d Software Engineering	Machine Learning - Supervised Learning	Unsupervised I	0	Software	Ethical Decision	1- Collaborative	e Work	Data Protection &	Ethical Decision- Making	Collabora	ative Work	Data Protection &	on Campus in presence is mandatory a will be verified due to VISA regulations.
Mar		Feature Engineering	Engineering		² Feature Eng		Engineering	Making			Cyber Security	Object Oriented &	<u> </u>		Cyber Security	Ŭ
Apr	Business Intelligence ¹	Project: Business Intelligence ¹	Data Quality and Data Wrangling	Business Intelligence ¹	Project: B Intellige		Data Quality and Data Wrangling	Business Intelligence ¹	Project: Bus Intelligen		Data Quality and Data Wrangling	Functional		itics: Linear sebra	Statistics - Inferential Statistics	
May Jun	intelligence	intelligence	2000 1100.88	intelligence	intellig	chee		ter Break	intelligen		2444 1141.8.1.8	Programming with		,		\checkmark
Jul	Explorative Data			Explorative Data		_		Explorative Data				Explorative Data				
Aug	- Analysis and Visualization	Time Series Analysis	Model Engineering	Analysis and Visualization	Time Series	s Analysis	Model Engineering	Analysis and Visualization	Time Series A	nalysis	Model Engineering	Analysis and Visualization	Time Serie	ies Analysis	Model Engineering	Each semester consists of two blocks th conclude with a two-week exam
Sep							Semes	ter Break								preparation phase. You can also defer those exams to a later date that you do
Oct	Big Data Nei	ural Nets and Elective	Elective	Database Modeling	Project: Build	a Data Mart		Database Modelin	^o I Project [•] Build a	Data Mart		Database Modeling	Project: Buil	d a Data Mart		not want to take during this period. This
Nov	Ũ	eep Learning (online)	(online)	and Database Systems	in SC		Cloud Computing	and Database Systems	in SQL		Cloud Computing	and Database Systems		SQL	Cloud Computing	way, your exam phases are always spre evenly over the year.
Dec Jan				-												In each block, you attend classes on
Feb	Seminar: Ethical Considerations in	Elective	Elective	Seminar: Ethical Considerations in	Elect		Elective	Machine Learning		0	Software	Machine Learning -	Illnsunervised	Learning - d Learning and	Data Science Software	campus for usually three courses to
Mar	Data Science	(online)	(online)	Data Science	(onlin	ne)	(online)	Supervised Learni	Feature Engir	neering	Engineering	Supervised Learning		ingineering	Engineering	deepen the content in direct exchange with your fellow students and lecturers.
Apr	Project: From Model	Elective	Elective	Project: From Mode			Elective	Project: From Mod			Elective	Business	Project:	Business	Data Quality and	You have semester breaks in June and
Мау	to Production	(online)	(online)	to Production	(onli	ne)	(online)	to Production	(online)	(online)	Intelligence ¹	Intelli	igence ¹	Data Wrangling	September.
Jun							Semes	ter Break								
Jul	Bachelor Thesis Bachelor Thesis					Bachelor Thesis				Bachelor Thesis						
Aug Sep	Semester Break									Attention: Attendance times may vary						
Oct							Jenies									slightly depending on public holidays a the federal state holidays the campus is
Nov				Ũ	eural Nets and Deep Learning	Elective (online)	Elective (online)	Big Data Technologies	Neural Nets and Deep Learning	Elective (online)	Elective (online)	U	eural Nets and Deep Learning	Elective (online)	Elective (online)	located in.
Dec						(ontine)		recimologies		(ontine)	(ontine)		cep Learning	(online)	(online)	
Jan								Seminar: Ethica	el Electivo		Elective	Seminar: Ethical	Flo	ctive	Elective	\checkmark
Feb								Considerations i Data Science	in (online		(online)	Considerations in Data Science		nline)	(online)	If you are studying Model 2, 3 or 4 you v
Mar Apr																have to start your Bachelor Thesis befo
Anr												Project: From Model	I Fle	ctive	Elective	completing your final courses.

Elective A*	Elective B*	Elective C*		
<i>Data Engineer</i> Data Engineering Project: Data Engineering	International Marketing and Branding International Marketing International Brand Management	Data Engineer Data Engineering Project: Data Engineering	Smart Factory Smart Factory I Smart Factory II	
<i>Data Analyst</i> Advanced Data Analysis Project: Data Analysis	Applied Sales Applied Sales I Applied Sales II	Data Analyst Advanced Data Analysis Project: Data Analysis	Automation and Robotics Production Engineering Automation and Robotics Autonomous Driving Self-Driving Vehicles Seminar: Current Topics and Trends in Self-Driving Technology Foreign Language German, Italian, French or Spanish Studium Generale	
<i>Al Specialist</i> Artificial Intelligence Project: Artificial Intelligence	Supply Chain Management Supply Chain Management I Supply Chain Management II	AI Specialist Artificial Intelligence Project: Artificial Intelligence		
	<i>Managerial Economics and Corporate Finance and Investment</i> Managerial Economics Corporate Finance and Investment	International Marketing and Branding International Marketing International Brand Management		
	Smart Factory Smart Factory I Smart Factory II	Applied Sales Applied Sales I Applied Sales II		
	Automation and Robotics Production Engineering Automation and Robotics	Supply Chain Management Supply Chain Management I Supply Chain Management II		
	Autonomous Driving Self-Driving Vehicles Seminar: Current Topics and Trends in Self-Driving Technology	<i>Managerial Economics and Corporate Finance and Investment</i> Managerial Economics Corporate Finance and Investment		

Course Information				
Module	Course Code	Course	ECTS	Type of Exam
Introduction to Data Science	DLBDSIDS01	Introduction to Data Science	5	Oral Assignment
Intercultural and Ethical Decision-Making	DLBCSIDM01	Intercultural and Ethical Decision-Making	5	Case Study
Agile Project Management	DLBCSAPM01	Agile Project Management	5	Project Report
Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	Exam
Mathematics: Analysis	DLBDSMFC01	Mathematics: Analysis	5	Exam
Statistics - Probability and Descriptive Statistics	DLBDSSPDS01	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
Introduction to Academic Work	DLBCSIAW01	Introduction to Academic Work	5	Basic Workbook (pass / not pass)
Collaborative Work	DLBCSCW01	Collaborative Work	5	Oral Assignment
Introduction to Data Protection and Cyber Security	DLBCSIDPITS01	Introduction to Data Protection and Cyber Security	5	Exam
Database Modeling and Database Systems	DLBCSDMDS01	Database Modeling and Database Systems	5	Exam
Project: Build a Data Mart in SQL	DLBDSPBDM01	Project: Build a Data Mart in SQL	5	Portfolio
Cloud Computing	DLBDSCC01	Cloud Computing	5	Exam
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
Data Science Software Engineering	DLBDSDSSE01	Data Science Software Engineering	5	Exam
Business Intelligence	DLBCSEBI01	Business Intelligence	5	Exam
Project: Business Intelligence	DLBCSEBI02	Project: Business Intelligence	5	Project Report
Data Quality and Data Wrangling	DLBDSDQDW01	Data Quality and Data Wrangling	5	Written Assignment
Explorative Data Analysis and Visualization	DLBDSEDAV01	Explorative Data Analysis and Visualization	5	Written Assignment
Time Series Analysis	DLBDSTSA01	Time Series Analysis	5	Exam
Model Engineering	DLBDSME01	Model Engineering	5	Case Study
Big Data Technologies	DLBDSBDT01	Big Data Technologies	5	Exam
Neural Nets and Deep Learning	DLBDSNNDL01	Neural Nets and Deep Learning	5	Oral Assignment
Seminar: Ethical Considerations in Data Science	DLBDSSECDS01	Seminar: Ethical Considerations in Data Science	5	Research Essay
Project: From Model to Production	DLBDSMTP01	Project: From Model to Production	5	Oral Project Report
ELECTIVE A*		e.g. Data Analyst	10	
ELECTIVE B*		e.g. International Marketing and Branding	10	
ELECTIVE C*		e.g. Smart Factory	10	
Bachelor Thesis		Bachelor Thesis	9	Bachelor Thesis
		Thesis Defense	1	Presentation: Colloquium