

Course Catalogue

for students who started their studies at the earliest in spring semester 2020

Required Modules (39 ECTS Credits)						
Module Code	Module Name	ECTS	Recommended semester	lang.	Head	Form
W.MSCIDS_SA01.18	Statistical Analysis for Data Science	6	1	E	Peter Büchel	RC
W.MSCIDS_DDE01.18	Design for Data Experiments	3	1	E	Jürg Schwarz	RC
W.MSCIDS_DE_INT01.20	Domain Experience - Introduction	3	1	E	Patricia Feubli	RC
W.MSCIDS_MPM02.18	Applied Machine Learning and Predictive Modelling 1	3	2	E	Matteo Tanadini, Antoine Buetti, Daniel Meister	RC
W.MSCIDS_RTP02.18	Discrete Response, Time Series and Panel Data	3	2	E	Philip Schütz	RC
W.MSCIDS_MPM03.19	Applied Machine Learning and Predictive Modelling 2	3	3	E	Fabio Sigrist	RC
W.MSCIDS_CSC01.18	Computer Science Concepts for Data Scientists	3	1	E/E	Martin Zimmermann, Halldor Janetzko	RC
W.MSCIDS_PDS01.18	Python for Data Science	6	1	G/E	Erwin Mathis, Bruno Grossniklaus	RC
W.MSCIDS_DBM02.18	Database Management for Data Scientists	3	2	G/E	Michael Kaufmann, Luis Teran	RC
W.MSCIDS_CIP02.18	Data Collection, Integration and Preprocessing	3	2	G/E	Erwin Mathis, Bruno Grossniklaus	RC
W.MSCIDS_SW04.18	Study Week	3	4	E	Andreas Brandenburg	RC_BS

Master-Thesis-Project (30 ECTS Credits)						
Module Code	Module Name	ECTS	Recommended semester	lang.	Head	Form
W.MSCIDS_PMT03.18	Preliminary Study	6	3	G/E	Andreas Brandenburg	IW
W.MSCIDS_MT04.18	Master Thesis	24	4	G/E	Andreas Brandenburg	IW

General Core Elective Modules (21-33 ECTS Credits)						
Module Code	Module Name	ECTS	Recommended semester	lang.	Head	Form
W.MSCIDS_RB01.19	R-Bootcamp	3	open	E	Matteo Tanadini	BS
W.MSCIDS_GSERM01.19	Kurs Global School of Empirical Research Methods	4	open	E	Andreas Herrmann	external
W.MSCIDS_SAV01.20	SAS Visual Business Analytics	3	open	E	Markus Grau	external
W.MSCIDS_SAM01.20	SAS Machine Learning Specialist	3	open	E	Markus Grau	external
W.MSCIDS_DI01.18	Data Ideation	3	1	E	Michael Lewrik	BS
W.MSCIDS_KLA02.19	KLARA - Working in a living Eco-System	3	2	G	Patricia Feubli	RC
W.MSCIDS_DC03.20	Hackdays	3	3	G	Andreas Liebrich	RC
W.MSCIDS_HCD02.18	Human Centered Design	3	2	E	Peter Horvath	RC
W.MSCIDS_DVN03.18	Data Visualisation and Narration	3	3	E	Axel Vogelsang	RC
W.MSCIDS_DDB01.18	Data-Driven Business Models	3	1	E	Schreiber Florian	RC

Abbreviations:

BS: block seminars

G: teaching language German

E: teaching language English

IW: individual work

RC: regular courses (weekly)

RC_BS: block seminars during
time of regular courses

W.MSCIDS_MDE02.18	Management of Digital Enterprise	3	2	E	Axel Uhl	RC
W.MSCIDS_EBD03.20	Ethical Issues of Big Data	3	3	E	Bruno Frischherz	RC
W.MSCIDS_LBD03.20	Legal Issues of Big Data	3	3	E	Reto Fanger	RC
W.MSCIDS_DL04.18	Digital Leadership	3	4	E	Stephanie Kaudela-Baum	RC_BS
W.MSCIDS_DDP01.18	Designing Data Science Projects	3	1	E	Mike Zehnder	RC
W.MSCIDS_DDP02.18	Managing Data Science Projects	3	2	E	Mike Zehnder	RC
W.MSCIDS_CW03.18	Professional Communication and Scientific Writing	3	3	G/E	Vinzenz Rast, Richard Abplanalp	RC
W.MSCIDS_DIT04.21	Interview Training for Data Scientists	3	4	E	Laurent Meyer, Nitin Kumar	BS
W.MSCIDS_NET02.20	Collaborative Innovation Networks	3	3	E	Peter Gloor (M.I.T)	RC
W.MSCIDS_WDS02.20	Web and Data Scraping with R	3	3	E	Reto Hofstetter	RC

Core Elective Modules "Advanced Analytics and Engineering" (9-15 ECTS Credits)

Module Code	Module Name	ECTS	Recommended semester	lang.	Head	Form
W.MSCIDS_AMS03.19	Analysis and Modelling of Social Interactions	3	3	E	Nicolas Perony	RC
W.MSCIDS_CTA03.19	Computational Language Technologies	3	3	E	Manuel Doemer	RC
W.MSCIDS_DLV03.19	Deep Learning in Vision	3	3	E	Mirko Birbaumer	RC
W.MSCIDS_PRA03.19	Pattern Recognition in Audio-Signals	3	3	E	Kilian Schuster	RC
W.MSCIDS_REC03.20	Recommender Systems	3	3	E	Guang Lu	BS
W.MSCIDS_DLB03.19	Deep Learning Bootcamp	3	3	E	Claus Horn	BS
W.MSCIDS_BDL03_1.19	Big Data Lab 1	3	3	E	Bruno Grossniklaus, Erwin Mathis	RC
W.MSCIDS_BDL03_2.19	Big Data Lab 2	3	3	E	Bruno Grossniklaus, Erwin Mathis	BS
W.MSCIDS_ETL03.20	Modern Data Engineering in the Cloud	3	3	E	Christian Dollfus, Pavlin Mavrodiev	BS

Core Elective Modules "Domaine Experience" (9-15 ECTS Credits)

Module Code	Module Name	ECTS	Recommended semester	lang.	Head	Form
W.MSCIDS_DE_MKT01.18	Digital and Marketing Analytics	3	open	E	Ingo Gächter	RC
W.MSCIDS_DE_GD01.18	Geospatial Data Analysis for Smart Communities	3	open	E	Timo Ohnmacht	RC
W.MSCIDS_DE_TSA01.18	Time Series Analysis in Finance	3	open	E	Thomas Ankenbrand	RC
W.MSCIDS_DE_CRA01.18	Customer Data Analytics	3	open	E	Dominik Georgi	RC
W.MSCIDS_DE_DAE01.19	Data Analytics for Energy Systems and IoT	3	open	E	Philipp Schütz	RC
W.MSCIDS_DE_HEA01.18	Data Science in Healthcare	3	open	E	Philip Hochuli	RC
W.MSCIDS_DE_ODS01.18	Tourism and Open Destination Data Space	3	open	E	Andreas Liebrich	RC
W.MSCIDS_DE_SDA01.20	Sport Data Analytics	3	open	E	Martin Rumo	BS
W.MSCIDS_DE_FRD01.20	Fraud Detection	3	open	E	Peter Fischer	RC